THE VIRUS AFTERMATH: A SOCIO-ECONOMIC TWIST?

Editors

Polona Domadenik, Matjaž Koman, Tjaša Redek

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Authors

School of Economics and Business, University of Ljubljana

Andreja Cirman
Barbara Čater
Tomaž Čater
Polona Domadenik
Eva Erjavec
Daša Farčnik
Ada Guštin Habuš
Tanja Istenič
Marko Jakšič
Matjaž Koman
Mateja Kos Koklič
Mitja Kovač
Denis Marinšek
Irena Ograjenšek
Marko Pahor
Lejla Perviz
Tjaša Redek
Miha Škerlavaj
Katja Zajc Kejžar
Nada Zupan
Vesna Žabkar

Faculty of Public Administration, University of Ljubljana

Valentina Franca

Biotechnical Faculty, University of Ljubljana

Aleš Kuhar

University of Campania Luigi Vanvitelli

Francesco Pastore

Faculty of Social Sciences, University of Ljubljana

Tej Gonza

Poligon, Institute for Development of Creative Industries

Polona Černič
Eva Matjaž

Students of International Full Time Master Programme in Business and Organisation - IMB, School of Economics and Business, University of Ljubljana

Žiga Agostini
Tjaša Anžič
Ramon Babič
Nik Badovinac
Julija Barbič
Tea Bela Kočar
Ida Brcar
Nika Drobnič
Jana Franziska Fireoved
Elena Galevska
Gaber Gašperlin
Anja Hladnik
Siyuan Huo
Karin Javornik
Jan Jazbec
Nikola Jordović
Igor Kalajanović
Maj Lenaršič
Carolina Lourenço
Marija Marash
Aljaž Martinčič
Ana Mihelič
Doroteja Minjovič
Jelena Mugoša
Matija Mulej
Nina Mušič
Angela Palevska
Lucija Perne
Lejla Perviz
Katarina Pivko
Filip Jakob Pogačnik
Ula Pucelj
Mark Radmelič
Anita Rangus
Žan Sterle
Nina Strmljan
Peter Suhodolčan
Žiga Verbič
Nuša Zidarn

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PREFACE

"The virus aftermath: A socio-economic twist?" is the result of an entire year's work of a selected research team *(Andreja Cirman, Barbara Čater, Tomaž Čater, Polona Domadenik, Eva Erjavec, Daša Farčnik, Ada Guštin Habuš, Marko Jakšič, Matjaž Koman, Mateja Kos Koklič, Aleš Kuhar, Mitja Kovač, Denis Marinšek, Marko Pahor, Irena Ograjenšek, Tjaša Redek, Nada Zupan and Vesna Žabkar)*, and the students of the XXVIIth generation of the International Master in Business and Organisation Programme (IMB) at the School of Economics and Business, University of Ljubljana. We would especially like to thank authors *(Polona Černič, Valentina Franca, Tej Gonza, Tanja Istenič, Eva Matjaž, Francesco Pastore, Lejla Perviz, Miha Škerlavaj and Katja Zajc Kejžar)* who have enriched the content of the book with their own contribution.

The book addresses the problem of the COVID-19 pandemic and the consequences it will have on countries, industries, companies and the society as a whole. As EU countries are currently facing a second wave of the pandemic, the book will undoubtedly be an interesting read for both economic policy makers and companies facing the challenges of the "new reality" during the epidemic. Now is the time to do things differently, to rethink business practices and reconsider the role of the state and its policies. Unless we use this crisis to step off the beaten path, we'll diminish our chances of overcoming the next one.

Students from the XXVIIth IMB generation dedicated their hard work, knowledge and time to the writing of this book. Their contributions and the committed mentorship of our aforementioned colleagues were invaluable in the book's production. Our special gratitude goes to *Urška Habjan* from LOTRIČ Metrology and *Matjaž Grm* from Adria Mobil for excellent support in preparing case studies. Many thanks to *Tanja Povhe* for proofreading the work, and *Ciril Hrovatin* for the technical editing and graphic design, as well as *Laura Pompe Sterle* for the cover design. *Anita Rangus* provided us with invaluable technical assistance. Many thanks also to colleagues from the newspaper *Finance* for handling the final execution of the book.

Ljubljana, November 2020

Editors

I.

WORLD VS VIRUS: GOVERNANCE DURING THE PANDEMIA

Polona Domadenik, Matjaž Koman, Tjaša Redek

DANCING WITH THE VIRUS: A TEST OF RESILIENCE TO THE GLOBAL ECONOMY

Introduction

The coronavirus pandemic represents a major shock for the global and EU economies and is expected to bear unpredictable, yet severe and long-lasting socio-economic consequences. Public health measures, aiming at containing the spread of the disease, focused on social distancing and the Great Lockdown in April 2020. As a result, the contagion was temporarily decelerated but economic activity was stalled or even halted for several billion people around the world. Health crises provoked economic contagion and is now, it seems, spreading as fast as the disease itself. With the continuing spread of the COVID-19 pandemic many countries have slowed the reopening and several countries are now, in the Autumn 2020, reinstating partial lockdowns to protect the most vulnerable populations.

During the crisis, national economies found themselves in a free fall with different velocities. In general, it is expected that COVID-19 will take much higher toll in terms of GDP if compared with three main crises in past 100 years: the great depression in 1930s, first OPEC oil crises in the 1970s and the recent financial crises in the period of 2007-2009. Global GDP is projected to contract by about 4.4 percent this year, which is a sharper downturn than during the Global Financial Crisis in 2008-2009 (IMF, 2020). It is then expected to rebound by 5.2 percent in 2021, implying that global output should recover above it 2019 level but remain well below the level projected in the autumn 2019 forecast (European Commission, 2020b)[1]. The toll in terms of GDP de-

1 The forecasts by different institutions are unanimous in the evaluation that the crisis will be severe, however the exact estimates differ (e.g. OECD, IMF, European Commission).

cline is projected to be the highest in Latin America and the Caribbean and the advanced economies (-8.1 and -5.8 percent, respectively), while Asian emerging and developing countries are projected to shrink by 1.7 percent in 2020 and expected to grow by eight percent in 2021 (IMF, 2020). The recovery in China has been faster than expected as it is the only country in the world which expects 1.9 percent growth in 2020 and 8.2 percent in 2021. In the case of the US the IMF predicts that supply and demand shocks will cause a reduction of GDP by 4.3 percent in 2020 and recovery of 3.1 percent in 2021. In April 2020 the unemployment rate in the US increased by 10.3 percentage points to 14.7 percent that corresponds to the largest over-the month increase since fifties. The number of unemployed people increased by 15.9 million to 23.1 million. After reaching the peak the unemployment rate starts to decrease and in September, the unemployment rate declined to 7.9 percent and the number of unemployed fell to 12.6 million (Bureau of Labor Statistics, 2020).

Already before the second lockdown in Autumn it had been expected that the EU economy will in 2020 experience the most severe recession in past decades with uncertain recovery in the coming period despite the significant policy response at both EU and national levels. A set of indicators suggests that the Eurozone has operated at between 25—30 percent below its capacity in the period of the Spring lockdown and shrank by 3.8 percent in first quarter in 2020. It is expected that reduction of GDP will be around 8.7 percent in Eurozone and 8.3 percent in EU in 2020. The projections are the worst for Spain (-12.8 percent) and Italy (-10.6 percent in 2020) (European Commission, 2020a).

The health and economic crisis has led to a significant job crisis that will increase the inequality and widen the gap in social structures. Despite the implemented fiscal and monetary stimulus aimed to support labour market measures (e.g. short-time work schemes, wage subsidies and support for business), the unemployment rate in the EU is forecast to rise from 6.7 percent in 2019 to 9 percent in 2020 and then fall to around 8 percent in 2021.[2] Some Member States will witness more significant increases in unemployment than others. Projections for Greece, Spain and Italy are reporting that that almost every fifth person will become unemployed in 2020. Those with a high proportion of workers on short, fixed-term contracts and those where a large proportion of the workforce dependent on tourism are particularly vulnerable. Young people entering the workforce at this time will also find it harder to secure their first

2 The unemployment rate in the euro area is forecast to rise from 7.5 percent in 2019 to 9.5 percent in 2020 before declining again to 8.5 percent in 2021.

job.[3] The strength of the rebound in 2021 will depend on the speed of lifting up lockdowns, the structure of economy,[4] its resilience and the fiscal capacity to respond with stabilizing policies. Given the interdependence of EU economies, the dynamics of the recovery in each Member State will also affect the strength of the recovery of others. All EU members have reacted decisively with fiscal measures and automatic stabilizers, to limit the economic damage caused by the pandemic.[5]

The speed of post-COVID recovery will depend on resilience of the business sector and public-private collaboration. In order to face the current situation and recent challenges, companies need to develop a long term vision while solving short-term problems. A corporate strategy aimed to improve resilience should be the combination of collaboration, digitalization and sustainability in order to ensure corporate longevity, increase efficiency and be more responsive to the societal challenges. In terms of collaboration between governments and private institutions, the current situation should prioritize the co-design and co-creation of the future between them, to develop a robust and inclusive economy ensuring that partnerships are driven by public interests and not on a premise of parasitism (Mazucatto, 2020). Public policy should support investment in critical infrastructure, decrease bureaucracy and improve the quality of public administration to pursue public interest by co-designing and co-creating promising projects.[6]

The purpose of this chapter is to present the role of business and societal resilience in highly uncertain world facing the war with Sars-Cov2 virus. In continuing, first a brief overview of recent data on uncertainty and economic situation is provided, followed by an overview of the literature that relates to resilience during the crisis time. A societal perspective that starts with the "Monde d'après"[7] initiative and brief discussion about challenges we are going to have in the future concludes.

3 Several academic studies suggest that corona shocks are likely to hit the poorest workers the hardest. (e.g. Adams-Prassl et al. 2020) Breaking down shocks by wage quartile for US economy indicates that the bottom 25 percent of earners could face employment reductions of 42 percent, while the top 25 percent are only expected to face a 7 percent decrease (del Rio-Canona et al, 2020).

4 One of the most affected sector, tourism, made 11.8 percent of GDP (13.5 percent of employment) in Spain, 8.0 percent (9.8 percent in Portugal, 7.4 percent (7.5 percent in France and 6.8 percent(10.0 percent) in Greece in 2018 (OECD, 2020b).

5 As a result, the aggregate government deficit of the euro area and the EU is expected to surge from just 0.6 percent of GDP in 2019 to around 8.5 percent in 2020, before falling back to around 3.5 percent in 2021 (European Commission, 2020a) The public debt-to-GDP ratio in the euro area is forecasted to increase from 86 percent in 2019 to 102.75 percent in 2020 and to decrease to 98.75 percent in 2021.

6 In a nutshell, the idea of a state increasing investment in critical infrastructure and taking part in co-creation of future value and as such making significant impact to higher productivity growth is embodied also in the policy paper on higher productivity growth in Slovenia (Mramor et al, 2020).

7 It refers to "Next World" initiative.

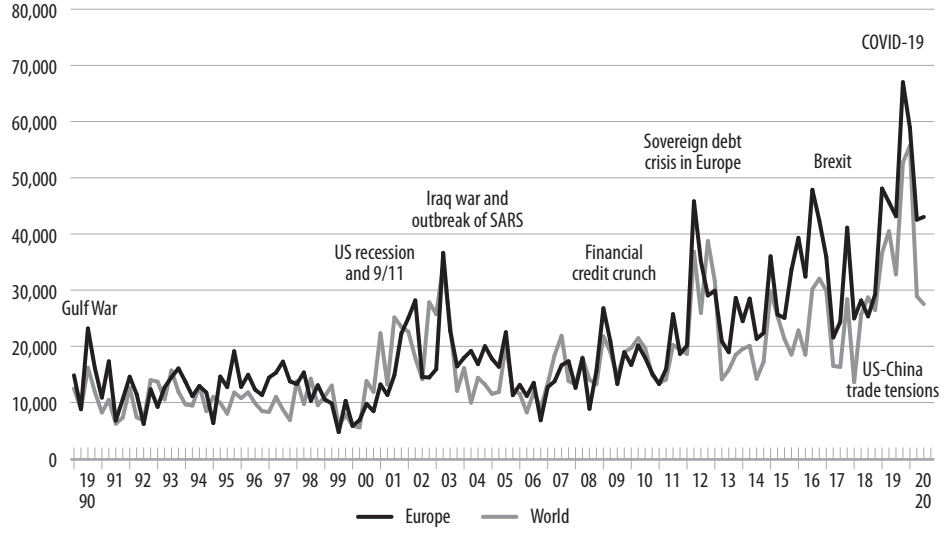
1 World vs. virus: increase in uncertainty provoked social and economic crisis

In the first weeks after the COVID-19 outbreak had been declared in China, the economic effects for the EU economy were perceived as moderate, although the large downside risks were recognized. In January and February 2020, the spread of the virus in China with shutdowns in some regions caused the first round of relatively mild COVID-19 effects, affecting the EU economy via several channels. The first channel was the impact on supply of key manufacturing inputs sourced from China and other manufacturing hubs, affected by the virus. These disruptions in the global supply chains acted as a supply shock to the EU economy. The most vulnerable companies were those which relied heavily or solely on factories in China for parts and materials. They experienced bottlenecks in their supply chains. Lean manufacturing, offshoring and outsourcing as a part of wider cost-cutting measures in global competitive landscape in general contributed to increased vulnerability to supply-chain disruptions. The second channel was the impact of Chinese lockdown on consumer and investment demand in China (acting as a demand shock to their suppliers from the EU) and the businesses and commodities reliant on it. The third channel was the impact on private consumption (e.g. via transport and tourism) and investment demand outside China. As Chinese authorities did not manage to contain the virus inside the country, COVID-19 rapidly spread to neighboring countries (e.g. South Korea), which then faced problems similar to those in China, and the spread to Korea also had similar implications for the EU economy; even accelerating the overall impact of COVID-19 (European Commission, 2020a).

However, the destructive tsunami reached Europe already in January with the first COVID-19 related death. The COVID-19 pandemic has triggered shocks to the demand and the supply-side of the economy. These shocks are compounded by a number of additional shocks, such as a liquidity shock (e.g. via interrupted cash flows), an uncertainty shock (e.g. via the impact of increased fear on consumer and investor/business sentiment) and/or a shock to the financial sector (e.g. via repricing of riskier assets). In the past, high uncertainty has coincided with periods of lower growth and tighter financial conditions. At the firm level, higher uncertainty can delay decisions that imply long-term commitments (i.e. hiring new employees, investment). The pandemic has increased uncertainties regarding investment returns, raised risk premiums, which caused firms to either postpone investment plans, or cancel them altogether. For consumers, higher uncertainty reduced spending as precautionary savings are increased, for example to prepare for potential unemployment. Thus, by lowering the con-

sumption and investment, the increase in uncertainty lead to lower aggregate demand and deteriorate the employment situation[8].

Figure 1. World and Europe Uncertainty Index in the period 1990-2020



Source: Ahir et al., 2018.

The World's and Europe's Uncertainty Index increased during COVID-19 pandemic outbreak much more than during financial and sovereign debt crises a decade ago (Figure 1) causing a fear that might raise risk premium on sovereign debt and thereby increase the cost of additional public debt. Through the uncertainty channel, the pandemic is likely to weigh on the economy persistently, depressing economic activity and inflation well beyond the near term (see Baker et al., 2020). Moreover, as recent research and firm level studies show the uncertainty postponed investment decisions in the EU economy (e.g. Buchheim et al., 2020) and other countries, further dampening demand prospects and delaying a full recovery.

The direct economic and social costs caused by COVID-19 crises in different regions depend on the structure of national economies, resilience and global connectedness. In order to disentangle the causes and depth of the external shock caused by COVID-19 crisis, the main impacts in their order of appearance could be presented as following (European Commission, 2020a):

8 See Leduc and Liu (2016).

- **Increased uncertainty** among customers and firms with consequences on spending and saving decisions (e.g. precautionary savings), as well as recruitment and investment decisions.
- **Labor supply reductions** caused by the closure of non-essential workplaces where remote working is not possible, sickness and absence of workers who need to take care of relatives, friends or children where schools and kindergartens are closed due to lockdown measures.
- **Sectoral disruptions.** The first sectors that were hit by containment measures were travel and tourism due to interrupted intra-country and cross border movements. Disruptions also led to production halts in other sectors due to lockdowns and other reasons.
- **Lower consumption** due to income losses and forced savings as people have restricted opportunities to go out and spend, for instance on non-essential retail goods and services.
- **Liquidity shocks and financial market implications.** Distortions to manufacturing, services and retail have long term implications for the financial health and the profit expectations of companies that led to a sharp drop in equity prices and a fall in the yields of sovereign bonds. If companies' liquidity problems turn into solvency problems, the financial and banking systems could face significant problems.[9]

The monetary and fiscal policy response to the crisis, both globally and in the EU, has been swift and strong with unprecedented measures taken to contain the macroeconomic fallout and alleviate liquidity pressures. In the EU, policy announcements contributed to the stabilization of financial markets with spreads narrowing for corporates and sovereigns and recovering equity markets. In the euro area, the ECB began to take a broad range of monetary and credit policy measures to ensure (bank) credit flows to non-financial firms to avoid temporary liquidity shortages leading to solvency crises. The Pandemic Emergency Purchase Programme (PEPP), announced by the ECB, aims to prevent the fragmentation of credit markets and the impairment of monetary policy transmission. In response to these liquidity constraints, EU Member States have also implemented a number of liquidity support measures, such as partial or total guarantees on bank loans. These liquidity measures amount to 22 percent of EU GDP and were complemented by existing EU budget instruments offering support of up to about 4.5 percent of EU GDP (European Commission, 2020c).

9 Some of these effects are heterogeneous (i.e. country-specific), often depending on the public finances and the ability of the state to support corporate entities that have fundamentally sound balance sheets but face a drop in demand and value of equity. Moreover, the banking sector situation of the countries affected and/or their specific economic structure (e.g. size of the tourism sector) might add to the risk of structural divergences that may weaken and fragment the EU Single Market and threatens fiscal sustainability of different economies.

The COVID-19 pandemic's economic impact is likely to be highly complex and widely varied. In addition, the economic effects differ with respect to their relevance for demand and supply and with respect to the time horizon of their impact (Redek et al., 2020, in this book). The duration of the effects depends on the duration of the pandemic, but also on whether changes to trade policies and globalization attitudes, consumer behavior, working methods and value chains result in new, different business models, i.e. the "new normal". Moreover, debt, accumulated during the downturn, may result in higher probability of bankruptcies, increased investor risk perception and increased share of non-performing loans in the banking sector. The EU economy is not expected to fully make up for this year's losses by the end of 2021. Effective policy measure will be crucial to facilitate a swift turnaround. Moreover, the recovery of Member States will critically depend on joint European actions, e.g. a new Marshall plan to revive the economy in Europe, the 750-billion euros Recovery Fund.

2 Economic contagion and business resilience

The impact of COVID-19 crisis on national economies will depend on its effect on particular industries and workers. At the corporate level, such a crisis requires developing effective change or crisis management[10] strategies and practices in order to deal with the need to move to more desired states what resembles the concept of resilience.[11] In the case of companies, this implies being more flexible and supportive for product and process innovation, mitigating the risk induced by outdated products (Khan et al., 2012).

The resiliency in its nutshell recognizes the complexity and interconnectedness of social, economic, environmental, and other systems (Connelly et al., 2017). Ecological, social, psychological, organizational, and engineering perspectives all contribute to understand resilience as a challenging problem for society. Resilience engineering, for example, is studying "the ability of systems to anticipate and adapt to the potential for surprise and failure" and has been associated with a shift in safety paradigm acknowledging that system coping is important when prevention is impossible (Hollnagel et al., 2006). Ecological resilience refers to the ability of the system to absorb and withstand shocks, with an emphasis on persistence (Holling, 1996).

10 Crisis management is the set of activities dedicated to perform: (a) prevention; (b) preparation; (c) response; (d) recovery. Often, adopting crisis management means focusing on protecting the present while the future receives less attention.

11 The National Academy of Sciences (National Research Council, 2012) defines resilience as "the ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events." The resiliency means the ability of a company to be able to return to its original state or, to move towards a new more desirable state after being disturbed (Christopher and Peck, 2004).

Business resilience, on the other hand, is being often used to describe many challenging problems companies face. Bhattacharya et al. (2013) uses supply chain resiliency by incorporating a mechanism to reduce the impact of supply chain network failure in the unprecedented event which could potentially shut a supply chain network down for a considerable period. Manufacturing supply chain resilience occurs as a result of the implementation of both operational and strategic capabilities (Ismail et al., 2011). In terms of operational resilience, key literature suggests the integration of the traditional strategic manufacturing requirements of Lean and Agility with other business functions such as marketing as well as developing and integrating ICT, communication and manufacturing technologies and developing product innovation in order to achieve a more competitive manufacturing environment (Pham et al., 2008). Interestingly, some research argues that resilience and sustainability need to co-exist in an organisation and that just having one or the other is insufficient for long-term success (Burnard and Bhamra, 2011).

Today's supply chains in selected industries (mainly manufacturing) are highly globalized and even more complex, so the impact of bullwhip effect could be much more persistent also due to low supply chain resilience. Companies in global value chains are among the most affected by the crisis (Jakšič et al., 2020, in this book). In service sector the supply chains are shorter and more localized.

The necessary measures to be taken in order to improve business resilience vary according to the period of implementation. Lower cost products, manufactured by agile production processes were essential to become more resilient during the Great Recession and most of companies implement plant savings strategies reducing thus their workforce, CAPEX and investments in R&D and innovation (Flammer and Ioanou, 2018; Pham et al., 2008). When traced the paths of more than 1,000 publicly traded companies across a wide range of industries and geographies, with revenue exceeding $1 billion since the Great Recession, Hirt et al. (2019) found that during the last downturn, about 10 percent of those companies (resilients) fared materially better than the rest. In the three boom years before 2007, the resilients actually reported lower economic profit but by 2017, the cumulative economic profit lead of the typical resilient had grown to more than 150 percentage points over the non-resilients. This lead was tough to reverse: nearly 70 percent of the resilients remained top-quintile performers in their sector, with just a small fraction of the non-resilients joining them. During the crisis, the resilients lost nearly as much revenue as industry peers during the early stages of the slowdown, but their earnings had risen by 10 percent, while industry peers had lost nearly 15 percent. As the global competition in the past decade trimmed most of the fat in firms' operations, the cost-cutting measures aimed to reducing digitalization efforts, underinvestment in human re-

sources, R&D and layoffs during the recent COVID crisis would not yield similar results. Early research evidence reports that digital and analytics-driven productivity improvements are the main divide between resilients and non-resilients in the COVID crises (Hirt et al., 2019).

Although it's straightforward that during a crisis mature company must work to: (1) increase its resilience; and (2) develop its capacity to create radical innovations, empirical studies show, that most applied innovation strategy is that of incremental process innovation. It therefore appears that these incremental changes initiated within organizations during the crisis may ultimately bring about new ways of working. The crisis did not appear to be 'The opportunity' for these companies to initiate new disruptive projects based on eventual new business models challenging the dominant design. (Lecossier and Pallot, 2020)

The prospects of implementing suggested strategy are poor. Business investment is likely to take a very severe double-digit plunge this year, as many businesses, including the already fragile investment-intensive car industry, are experiencing a series of incremental supply, demand and financial shocks. Faced with severe uncertainty about future sales prospects, firms are likely to postpone or even cancel their investment plans (Redek et al., 2020, in this book). Moreover, the lack of revenue during the lockdowns may constrain their ability to finance investment projects in the near term, or even longer if the increase in debt triggers a need to deleverage. A sharp fall in capacity utilization is going to reduce the need for capacity expansion investment and will lower incentives for upgrading the capital stock. The cumulated shortfall in investment in the EU is expected to amount to almost EUR 850 billion at current prices, or 6 percent of EU GDP (European Commission, 2020a). Once the adverse impact of the COVID-19 pandemic abates, investment should find support from a highly accommodative monetary policy and 750-billion Euros deep New Generation Fund (European Commission, 2020c), lower uncertainty and some recovery in profits. The expected rebound of euro area and EU investment by slightly more than 10 percent next year, however, should only help to recover some of the lost ground.

3 The "Next World" in the post-COVID-19 era

At the policy and societal level, the COVID-19 crisis has brought about a will to question the current functioning of economy and society with citizens' initiatives, often mentioned as the "Monde d'après" (Next World) (Lecossier and Pallot, 2020). The economic system supporting the increasing share of

precariat workers due to gig economy and deterioration of workers' bargaining power, eroding the public institutions by austerity measures and siphoning value out of the economy by rewarding shareholders through stock-buyback schemes, rather than supporting investment in research and development, wages, and worker training, has proven to be ineffective to combat serious exogenous shocks (Mazzucato, 2020). In France, the more than 1.7 million people digitally supported the ideas of (1) promoting local consumption and proximity circuits, (2) move towards an agricultural alternative, (3) limit the production of waste, in particular plastic packaging, and encourage recycling, (4) relocate certain strategic economic sectors in France and in Europe, (5) rethinking education favoring humans and the environment, and (6) put the environment and the social at the heart of public policies and taxation (Lecossier and Pallot, 2020).

The current state of emergency could be used as a start to building a more inclusive and sustainable economy by structuring the government support properly. Laplane and Mazzucato (2020) suggest that state should go beyond the "market correction" role by playing a leading role especially in the case of critical public infrastructure and highly risky projects, delivering immediate solutions that serve long term public interest. An entrepreneurial state should invest more in innovation in combating different societal challenges, from artificial intelligence to public health, electric mobility and others, and overcome often parasitic relationship in public-private partnerships by not only contributing in costs of innovation but also negotiating the public investment return.[12] The current crisis calls for a new policy approach, based on theoretical foundations of (i) the developmental state, (ii) legal institutionalism and (iii) the entrepreneurial state.

The developmental state approach, that draws on Karl Polanyi's insights,[13] recognizes the public agencies as an engaging business partner (Block and Keller, 2011). Public officials who have a problem-solving focus perform a range of activities[14] that do not fit under the market failure framework of neoclassical economics. Such proactive stances represent the key to the accumulation and diffusion of knowledge that drives technological change (Block, 2008).

The second approach, legal institutionalism, disentangles the collective processes through which legal arrangements frame, influence, and sustain

12 The effort to develop a COVID-19 vaccine could become yet another one-way relationship in which corporations reap massive profits by selling back to the public a product that was born of taxpayer-funded research (Mazzucato, 2020).

13 In explaining the emergence of capitalism, Polanyi (1944) emphasizes that policies are not "interventions", but that markets are embedded in social and political institutions, and largely influenced by them (Polanyi, 1944; Evans, 1995).

14 Those activities include targeting resources in promising areas, opening windows that enable support for other innovations, brokerage, and facilitation (such as providing infrastructure and standards) (Laplane and Mazzucato, 2020).

the organization of the economy and the state (Hodgson, 2015). Although we could agree that setting legal rules (so called rule of law) are important for well-functioning modern society, legal arrangements that structure markets and other institutions are outcomes rather than natural circumstances. Therefore, the formalization is imperfect because there are always gaps between written rules, their interpretation and practice. Anecdotal evidence shows that processes themselves become the arena of conflict and power relations, unraveling through negotiation, bargaining and compromising (Pistor, 2009). Law can (and must) be subject to intentional operationalization geared towards framing adequate and legitimate institutional arrangements in public policies (Laplane and Mazzucato, 2020).

The third approach, entrepreneurial state, refers to the public sector's "willingness to invest in, and sometimes imagine from the beginning, new high-risk areas before the private sector does" (Mazzucato, 2016). It supports an anecdotal evidence that most important contemporary technological breakthroughs (internet, touch screens GPR, etc.) has been developed by public funds in their early stages, absorbing major uncertainties and long-term risks. While the risk of implementing the new radical investment is being socialized, the profits that has been generated remain private. The risk-taking role of public actors are perceived as a driver of the rate and direction of innovation; however, it calls for a paradigm switch in allocating risk and profit in public-private partnerships. Occasional successes come through trial and error. The idea of conceiving public investments as a portfolio has been advocated by Mazzucato (2013), Rodrik (2015) and Stiglitz (2015). The main advantage is that the state can also benefit from the potential financial rewards, recover from losses and continue to fund further rounds.

During the recent COVID crisis the switch in policy paradigm will improve the resilience of the companies in order to be capable of managing future disruptions and handling the most important challenges we need to solve like climate change, inequalities or financial crises, by reaping the synergies between collaboration, digitalization and sustainability (Mazzucato, 2020). The "Monde d'après" paradigm has not yet been recognized as a game changer in the policy discussion.

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Tjaša Redek, Polona Domadenik, Matjaž Koman

THE MACROECONOMIC EFFECTS OF COVID-19 IN THE EUROPEAN UNION AND THE WORLD

Introduction

On 31st December 2019, WHO's office in China picked up some local media reports on clusters of atypical viral pneumonia cases and immediately requested additional information. On 9th January, WHO confirmed that China determined the disease was caused by a novel virus called SARS-CoV-2 (World Health Organization, 2020). While in mid-January only "limited human-to-human transmission" was acknowledged (World Health Organization, 2020), the disease spread exponentially fast. On 22nd October, 41.2 million cases were reported globally with 1.1 million deaths related to the virus (Johns Hopkins University & Medicine, 2020).

The COVID-19 related crisis is an extraordinary event in recent history. When the Spanish flu hit in 1918, the death toll was 71 million people and the economies lost around five percent of GDP due to the flu. COVID-19 is expected to bear a significantly higher toll on the economy, mounting to even eight percent of GDP (The Economist, 2020b). For comparison, the Great Recession in 1929 caused the US GDP to decline by 9.5 percent between 1929 and 1930, and further by seven percent and 13 percent in 1931 and 1932, respectively. The great crisis of 2007 caused the US GDP to decline by less than five percent between 2007 and 2008 (Johnston and Williamson, 2020). The corona crisis is expected to cause a decline significantly larger than the 2008 financial crisis. The Economist (2020b) reports that despite significant cross-country variations, in 2008, the global GDP was reduced only by 0.1 percent. However, the forecast for 2020 says that the world GDP will be reduced by about 5 percent, although it was initially expected to grow by around 3 percent.

The virus has impacted the economy through the following key channels: containment measures, and the supply and demand side problems caused by the disease (OECD, 2020b). Lockdowns, cessation of certain services and public life, problems in organizing work-processes, problems in logistics and value chains at large, increased uncertainty, increased unemployment, and many others caused a simultaneous crunch on both the supply and the demand side of the economy. As a result of the simultaneous shock to both sides, the impact has been very strong, causing an endogenous spiral and resulting in a much higher overall impact than initially expected.

The purpose of this chapter is to present the impact of the virus-related crisis on the economies, with the focus on the European economy and Slovenia, relying on most recent available statistical resources. In continuing, first a brief theoretical background is provided, explaining more in detail how the virus impacted the economy. This is followed by an overview of the macroeconomic data, including a reflection to the financial and economic crisis 10 years ago. A sectoral perspective is provided next. The chapter concludes with a selection of forecasts for the future.

1 Impact channels of COVID-19 on the economy

The novel SARS-CoV-2 virus, which causes the COVID-19 disease, has been having a pronounced impact on the economy due to its broad number of channels of influence, which simultaneously also reinforce one another, contributing to an even grimmer overall impact. The literature already provides several classifications of these channels. One of the first comprehensive classifications was provided by the OECD (2020b) in March 2020. The OECD divided the economic channels of influence into three groups. The first group comprises containment measures, primarily referring to quarantine, travel bans, and restrictions and closures of public places. These containment measures had an immediate impact on the supply side, first, on the organization of production and business processes in both manufacturing and services. This caused disruption in supply chains and cutbacks in services provision. Some factories have closed down due to both health issues as well as supply-related problems (supply chain and services/supply provision). Beside the business-to-business market (already accounted for in the supply chain disruptions), the demand side was also affected. The demand has in general been affected by the loss of confidence, which impacted aggregate demand. It has also been affected by the containment measures, which was in particular obvious in the hospitality

and travel industries, as well as in entertainment and education. For example, on 26th March 2020, COVID-19 restrictions were present in all EU economies and about half of them also declared a state of emergency (Frontex, 2020). At that time, land transport was limited not only in the UK, the Netherlands and Luxembourg, but also in other parts of Europe. Non-essential shops and services were fully allowed only in the Netherlands, while restricted elsewhere. Schools were closed in about two thirds of the European countries. They remained open under restrictions in the Netherlands, Denmark, Sweden, Czechia, Poland, Latvia, Finland, Bulgaria, and Greece. Many countries imposed lockdowns, with the situation deteriorating further in April, however, in May and mostly in June, the restrictions were gradually lifted, which reflected in a slight increase of optimism (Redek, 2020b).

Table 1. Economic channels of influence according to the OECD (2020)

Containment measures	Supply	Demand
• Quarantines • Travel bans and restrictions • Closure of public places	• Factory closures • Cutbacks in service provisions • Supply chain disruption	• Loss of confidence • Business and tourism travels • Education and entertainment provision

Source: OECD, 2020b.

Deloitte Insights (Bachman, 2020) also divides channels of influence into three channels. These are:

- ***Direct impact on production*** in countries as well as globally. Initially, COVID-19 caused problems in China and other Asian countries, followed by countries, which were strongly linked to those regions in terms of supply chain or as a target market (Bachman, 2020). After the virus spread to Europe and other world economies, the pandemic caused similar problems in all countries. However, the impact varied significantly across sectors, where primarily manufacturing, travel and transportation, and retail were affected the most (Statista, 2020a).
- ***Supply chain and market disruption.*** Due to reliance on imported intermediate goods and intermediate products and services from companies within the country, companies faced challenges of lockdowns of economies, transportation restrictions, or even closures of certain companies due to local restrictions. It is generally not easy to quickly find alternative suppliers, and the pandemic made the ability to switch even harder, especially in smaller and medium-sized firms and some sectors, where inputs are very specific (Bachman, 2020). The problems in supply chains have resulted in impacts

on production and employment, and will have long-lasting effects on firm survival, profitability, as well as investment patterns (Portes, 2020).

- ***Financial impact on firms and financial markets.*** Disruptions at different stages result as a consequence also in inadequate liquidity. The anticipation of liquidity problems and increasing debt could be observed from the very early stages of the crisis, in Slovenia already in March 2020 (Redek, 2020a), and continues to be one of the more pronounced effects at the firm level (Redek et al., 2020, in this book). Although the crisis was not caused by the crunch in the financial markets, as the 2008 crisis was, the increasing pressure on companies, especially in terms of liquidity and debt problems, could in turn affect the financial markets, consequently access to capital, as well as equity and corporate markets (Bachman, 2020).

The European Commission (2020) studied the effects of COVID-19 in a multidimensional context, referring both to supply-demand mechanisms as well as the time dimension (Table 2). The majority of supply and demand elements are closely related to the aforementioned OECD classification, however, the European Commission (2020) also stresses a divergent impact on economies depending on their development, primarily pointing to the emerging markets, as well as stressing the impact on financial markets, financial stability of firms and individuals, and lower quality of work (precariousness and rising unemployment). These are in the long run expected to result in limited financial resources, which will harm long-term development. They will be further accelerated by obsolete capital and competences arising in new business models. Besides these, in the long run, the already present protectionist agenda could strengthen further and damage the global long-run growth.

Table 2. Demand and supply shocks in the short and long term

	Short-term ◄——► Long-term		
Mostly supply side ▲	• Repricing of financial assets • Rising part time work and unemployment • Slowdown on emerging markets • Lockdown • New border and trade barriers • Lower labor supply (absence, sickness) • Bottlenecks, supply-chain disruptions	• Weaker external demand • Uncertainty (virus spread, new wave of contagion) • Hysteresis effects on the labor market • Liquidity shortages • More defaults among firms and households • Distortion of cross-border supply chains due to different pace of opening	• Increased protectionism • Change in consumer behavior • Crisis legacy (debt payments) • Reorganization of cross-border supply chains • "Obsolete" capital and competences in new business models • Localization of global value chains • Limited financial sources
▼ Mostly demand side			

Source: European Commission, 2020.

Portes (2020) similarly stresses that beside the immediate effects and sharp decline of GDP, which are largely dealt-with in the literature, it is important to understand the channels of long-term effects and, according to Baldwin and di Mauro Weder (2020), "reduce the accumulation of *economic scar tissue*", which refers to the long-term channels of influence and their long-lasting effects. Primarily, Portes (2020) stresses that it is important to consider the comparative importance of these long-term effects and address them in short-term policy responses as well. The effects with long-term scarring refer to:

- ***Labour market and unemployment.*** Due to the crisis, many workers have been unable to work normally. While in Europe furlough policy measures helped reduce the immediate impact on employment, there will still be an effect and the short-term unemployment will result also in higher long-term unemployment due to the duration of the effects. Furthermore, the labour market could be affected also by secondary demand-crisis, which could follow the immediate effects of the crisis caused by epidemic. As a consequence, human capital could depreciate, skills deteriorate, motivation decline, which will all have an adverse effect on both future employability as well as productivity and individuals' well-being. Unless immediate action is taken, the youth will be hit harder than adults in the immediate crisis and will also bear higher longer-term economic and social costs due to the COVID-19 pandemic (ILO, 2020).
- ***Loss of job-matching capital.*** Portes (2020) stresses that job destruction also destroys job-specific human capital, which refers to the fact that it takes time for workers to become as equally productive in their new job as they were in the previous one.
- ***Firm-specific capital.*** Firm specific capital is a particular form of intangible capital and intangible investment, which together with firm-specific human capital, organizational capital and other forms of intangible capital, contributes to up to a third of total productivity growth (Corrado et al., 2009; Roth and Thum, 2013; Roth, 2020). This capital is related to a specific set of employees, organizational structure, tacit knowledge, etc., which cannot be replicated. A significant proportion of the human capital will, in many aspects, be lost for good due to short-term labour adjustments as well as re-organizations of companies and bankruptcies. On the other hand, the crisis has prompted firms to invest heavily in digital skills development and ICT, which accelerated the adoption of new technologies of Industry 4.0 (Delotte, 2020; McKinsey, 2020).
- ***Education.*** According to Portes (2020) there will be a substantial loss of knowledge in standard education process due to school closures. Given that firm-specific knowledge, skills and competences present important compo-

nents of intangible capital, the long-term impact will be inevitable. School closures will have a negative long-term impact on learning outcomes of children due to possibly lower quality of online learning, and according to psychiatrists, on their social skills as well (Dhawan, 2020; Halupa, 2016; Suryaman et al., 2020). The crisis is also causing a pronounced effect on life-long learning (the training not related to digital skills) investment in education and training in firms (Redek, 2020c, 2020a), where the recent data for Slovenia (Redek et al., 2020, in this book) show a significant decline in this investment.

- ***Business investment*** in general is also expected to decline and negatively impact the potential output growth. Portes (2020) anticipates business fixed investments to decline from 14-18 percent to around 7-9 percent of GDP in G7 economies. Beside the immediate aggregate effect on the potential output, it is also important to consider the comparative effects on different industries, their international competitiveness, and the long-term development due to lower investment in general during the technological transformation and comparative delays (Bettiol et al., 2019; Pereshybkina et al., 2017; Piccarozzi et al., 2018). The competitive disruptions the virus could cause are thus quite unpredictable long-term effects and structural shifts nationally and internationally.

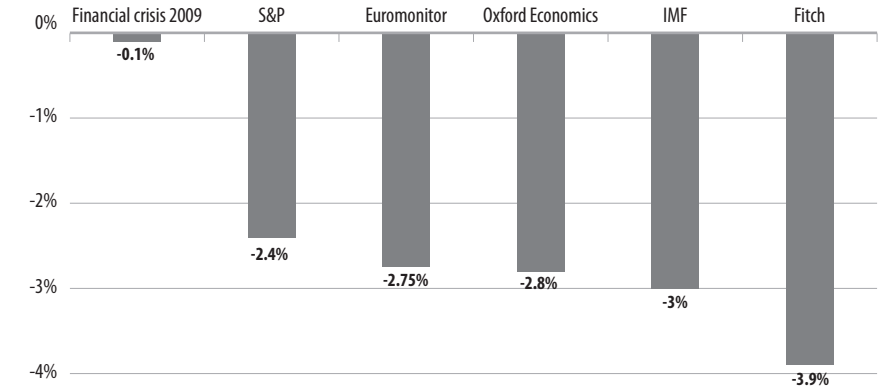
2 Macroeconomic effects of COVID-19

When in March 2020 the crisis began, the discussions in the literature already revolved around the possible depth and duration of the crisis. In general, several possibilities were explored: an L-shaped crisis with a steep decline and a slow recovery; a V-shaped crisis with a fast decline and a fast recovery; a U-shaped crisis with a long period between the decline and recovery (Rodeck, 2020); and even an I-shaped one, which is not commonly mentioned in the literature, but reflects a fast and deep plummeting of the economy in the real sector and financial markets, which could cause an economic depression (Roubini, 2020). Moreover, a K-shaped recovery is mentioned in the literature as well, stressing uneven recovery between industries and related social inequalities, where "many workers will ride the upper leg of the "K" onward and upward to the right, while those without digital skills will ride the bottom leg down" (Cook, 2020; Dutta, 2020).

When this crisis began, it soon became clear that it might be globally more severe than the 2009 financial crisis due to the simultaneous impact on all countries in a very similar manner, whereas the spread of the 2009 financial crisis was gradual, depending on the structure and development of the economy and

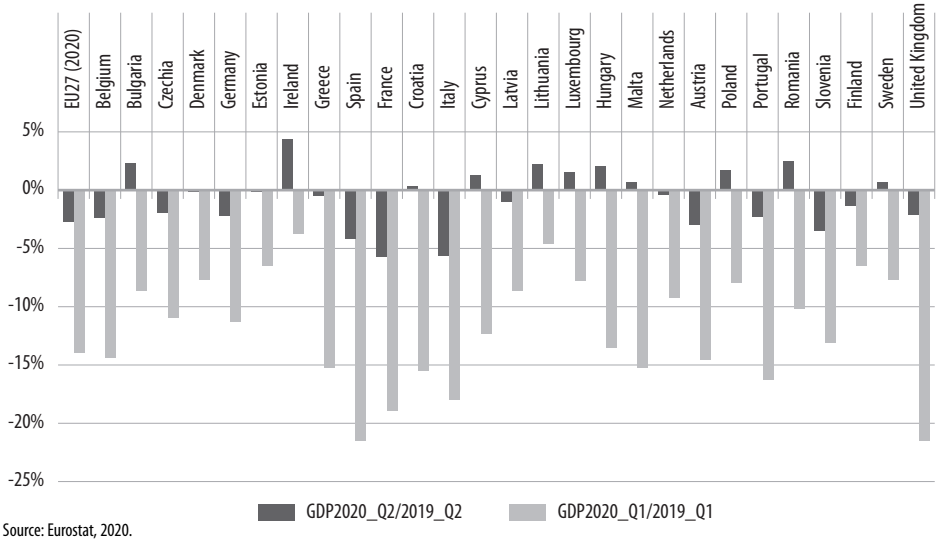
its connectedness to the global financial and trade markets. Overall, the 2009 crisis led to the loss of global GDP in the amount of 0.1 percent (Figure 1), while the initial spring 2020 forecasts from different institutions are significantly more negative, forecasting a global decline of 2 to 4 percent.

Figure 1. Spring 2020 forecasts for GDP growth in 2020*



*S&P (April 16, 2020), Euromonitor (average of high and low estimate, April 5, 2020), Oxford Economics (April 9, 2020), IMF (April 14, 2020), Fitch (April 22, 2020)
Source: Statista, 2020b.

Figure 2. Quarterly growth in 2020 in comparison to the same quarter in 2019, in percent

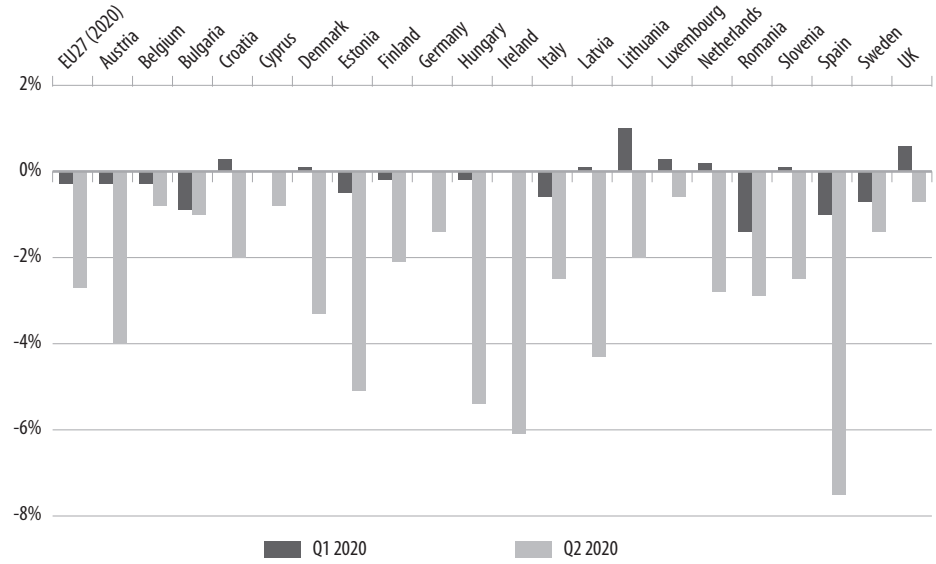


Source: Eurostat, 2020.

The first statistical data, which are at the moment (October 2020) available only for the first two quarters of 2020, show that the decline is severe, definitely more severe than in the financial crisis of 2009, when Europe on average lost 4.3 percent of GDP, and the most affected economies (Latvia, Lithuania, and Estonia) lost 14.4-14.8 percent. Slovenia lost 7.5 percent of GDP in 2009. In the first quarter of 2020, where only March was more significantly affected by the virus, EU27 (2020) on average already lost 2.7 percent in comparison to the first quarter of 2019 (Figure 2). In the second quarter, the decline was 13.9 percent in comparison to the same quarter of 2019. Cross-country differences were big. The most affected economies were the UK and Spain, where the decline in the 2nd quarter was even 21.5 percent on a yearly basis. France, Italy, Portugal, Malta, Greece and Croatia all lost more than 15 percent of GDP. The high decline resulted, on the one hand, from the fast spread of the virus (e.g. the UK, Spain) as well as the impact of travel bans, which in particular affected the Mediterranean countries due to the role of tourism in that region.

The data on the changes in the components of aggregate demand show that on average in the EU27 (2020) (Figure 3) the investment declined by almost 19 percent in the 2nd quarter of 2020 compared to the 2nd quarter of 2019, while both exports and imports declined by more than 20 percent.

Figure 3. Quarterly change in employment in the EU countries, 1st and 2nd quarter of 2020 in comparison to the previous quarter, in percent



Source: Eurostat, 2020.

Table 3. Growth of selected GDP components in the EU in the 2nd quarter of 2020 in comparison to 2nd quarter of 2019, in percent, sorted by largest GDP decline

	Gross domestic product at market prices	Final consumption expenditure of general government	Final consumption expenditure of households	Gross fixed capital formation	Exports of goods and services	Imports of goods and services
Spain	-21.5	3.2	-25.2	-25.8	-38.1	-33.5
United Kingdom	-21.5	-17.8	-26.2	-22.6	-14.8	-28.5
France	-18.9	-12.4	-16.1	-22.4	-30.5	-21.2
Italy	-18.0	-0.9	-17.3	-22.6	-33.0	-26.9
Portugal	-16.3	-3.4	-15.1	-9.0	-39.2	-29.4
Croatia	-15.5	0.5	-13.9	-14.7	-40.7	-27.4
Greece	-15.2	-3.2	-11.6	-10.3	-32.1	-17.2
Malta	-15.2	11.9	-20.1	-11.0	-11.4	-7.9
Austria	-14.5	1.1	-16.1	-10.9	-17.5	-16.8
Belgium	-14.4	-10.7	-17.3	-20.8	-14.2	-15.6
EU27 (2020)	-13.9	-2.0	n.a.	-18.9	-21.0	-20.2
Hungary	-13.5	-1.7	-8.3	-11.4	-24.1	-16.4
Slovenia	-13.1	-0.9	-17.5	-16.5	-23.5	-24.4
Cyprus	-12.3	16.5	-9.0	-43.8	-16.3	-14.2
Germany	-11.3	3.8	-12.7	-8.6	-22.2	-17.4
Czechia	-10.9	1.6	-7.6	-4.8	-23.3	-18.2
Romania	-10.2	2.9	-13.1	1.8	-28.7	-21.4
Netherlands	-9.2	-3.8	-13.1	-9.9	-10.4	-9.8
Bulgaria	-8.6	4.7	-3.0	-10.9	-18.4	-19.7
Latvia	-8.6	2.4	-21.2	-5.8	-12.5	-16.0
Poland	-7.9	3.9	-11.1	-11.0	-14.3	-18.4
Luxembourg	-7.8	6.1	-21.0	-19.6	-2.9	-3.6
Denmark	-7.7	-2.5	-7.5	-2.2	-17.0	-14.0
Sweden	-7.7	-1.7	-9.1	-5.2	-15.4	-14.5
Estonia	-6.5	3.3	-8.3	-15.4	-19.5	-21.5
Finland	-6.5	-0.9	-9.4	-2.2	-12.6	-13.9
Lithuania	-4.6	0.3	-7.7	-10.2	-10.7	-16.9
Ireland	-3.7	5.7	-22.3	-73.0	0.1	-37.1

Source: Eurostat, 2020.

For comparison, in Slovenia the investment declined a bit less, by "only" 16.5 percent, however, both exports and imports declined by almost a quarter. Also household consumption declined significantly. For example, the decline in Slovenia was 17.5 percent, while in Germany it was 12.7 percent. In other European economies, the decline of GDP components varied. Generally, the decline in investment was largest in Ireland, where the data suggests that investment practically halted (Table 3). The decline in investment was very severe also in Cyprus, Spain, the UK, France, and Italy. Exports and imports declined by more than a quarter in many EU economies. Exports declined by close to 40 percent in Croatia, Spain, and Portugal, and by more than 30 percent in Italy, France, and Greece. Imports also declined, but in general the decline was slightly less severe. The largest decline was recorded in Spain, where the imports declined by a third. Due to shop closures, household consumption declined a lot as well, most severely in Spain and the UK, by around 20 percent (Table 3).

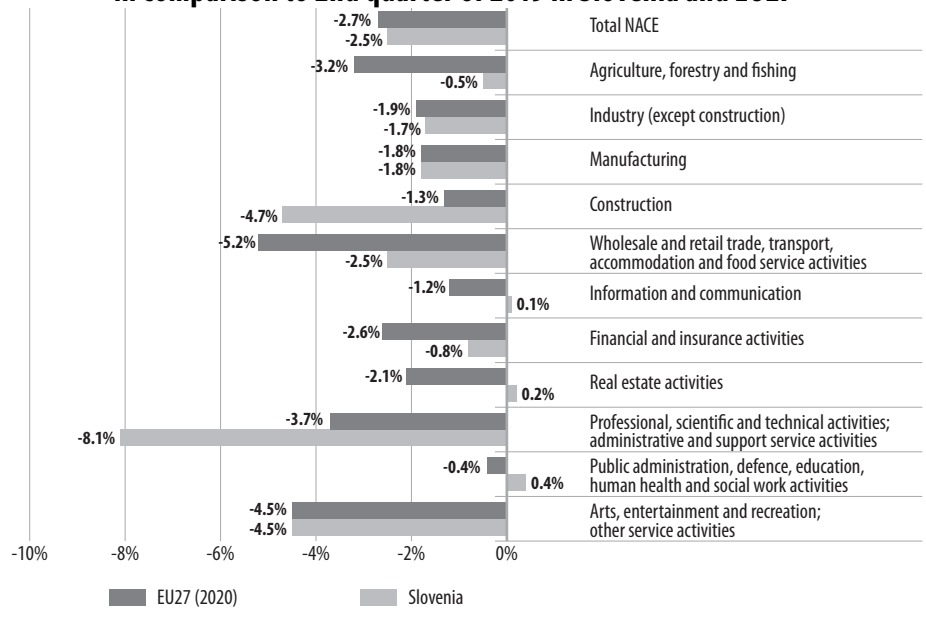
The decline in economic activity also put an immediate strain on the labour markets. The employment started to decline already in the first quarter of 2020 (in comparison to the last quarter of 2019) (season and calendar effects excluded). In aggregate, in the EU27 the employment declined by 0.3 percent in the first quarter of 2020 in comparison to the last quarter of 2019. In the 2nd quarter, the effect of the virus was even bigger despite the governments quickly adopting furlough schemes. The employment declined by further 2.7 percent in comparison to the first quarter of 2020. The Economist (2020a) reports that in July in France, Britain, Germany and Spain, 11 million workers or 9 percent of workforce was still on furlough schemes, primarily those working in the hospitality sector. The schemes have helped retain jobs for now, however, the peril of further job loss is big due to high number of workers still waiting to return to work, especially in view of the second wave of the virus. This, according to the Economist (2020a), also suggests that the actual unemployment rate is higher than the current data show, and that the unemployment rate might increase in the aforementioned countries by up to 20 percent. Possibly, a similar effect can be expected also in other countries, depending also on the sectoral structure.

3 Sectoral impacts

The severity of the immediate impacts of the crisis on both GDP and employment, as well as other economic categories, such as the long-lasting effects, depends also on the economic structure. Not only do timing, the extent of the decline and the pattern of recovery differ among countries, they vary

also across sectors. Already in the first quarter of 2020, the decline was quite evident. While manufacturing in the EU27 lost approximately 5 percent in comparison to the same quarter of 2019, manufacturing in Italy lost over 10 percent, while in Germany the loss was 7 percent. In Slovenia, manufacturing experienced a growth in the first quarter of 2020 in comparison to the same quarter of 2019, although the growth was only 1.2 percent. Wholesale and retail lost 7 percent or more in the first quarter of 2020 in comparison to the first quarter in 2019 in Malta, Austria, Spain and France, while in Italy the decline was over 9 percent. Arts, entertainment and recreation lost most in the first quarter in Greece, Spain, France, Austria, Finland, as well as in Slovenia, the decline in all being 8 percent or more, largest in Finland, where the decline was 12.4 percent (Eurostat, 2020).

Figure 4. Change in value added at the sectoral level in 2nd quarter of 2020 in comparison to 2nd quarter of 2019 in Slovenia and EU27

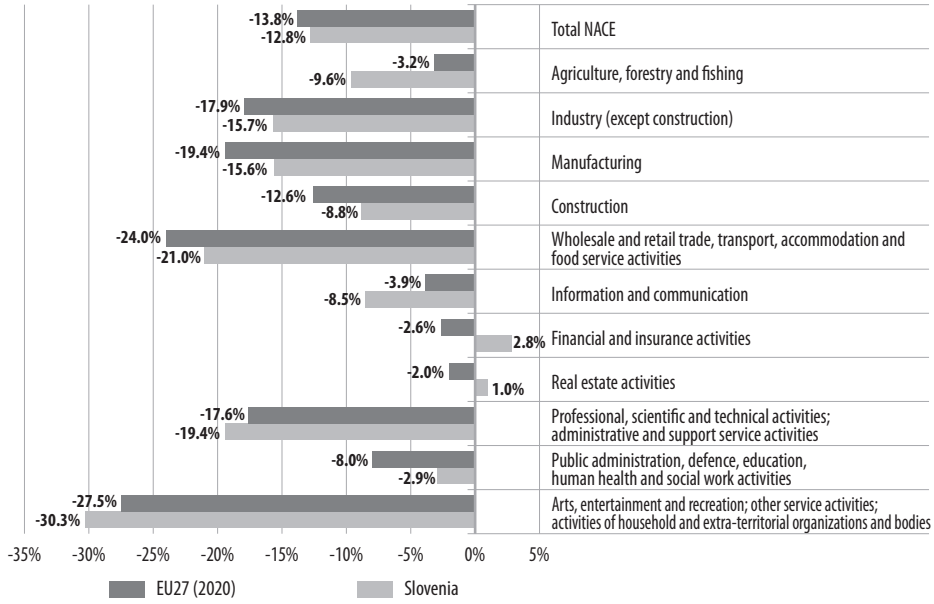


Source: Eurostat, 2020.

The situation swiftly deteriorated in the second quarter of 2020 (Figure 4, Tables A2 and A3 in the Appendix). For example, the decline in manufacturing in the second quarter of 2020 in comparison to the same quarter of 2019 was enormous, in Romania almost 30 percent, in Spain and France 27 and 26 percent, respectively. In manufacturing the EU27 lost on average almost 20 percent, while Slovenia lost around 15 percent (Figure 4). Wholesale and retail

declined by almost 50 percent in Malta, 45 percent in Spain, and between 30 and 36 percent also in the UK, Greece, Croatia, Cyprus, and Ireland. In the EU this sector on average declined by 24 percent, while in Slovenia the decline was lower, 21 percent. Arts, entertainment, and recreation (and other service activities) declined in the 2nd quarter of 2020 in comparison to the 2nd quarter of 2019 in Ireland by almost 68 percent, and between 45 to 50 percent in Romania, the UK, Poland, and Denmark. With the exception of few countries (Germany, Finland, Lithuania, Italy and Bulgaria) the decline was over 20 percent (Table A4). In Slovenia the sector declined by over 30 percent (Figure 4). Despite the need for ICT, this sector was also affected, however, the decline was smaller. The most affected were Spain (-12.8 percent), the UK (-12), Latvia (-9.9), and Slovenia (-8.5), while on average in Europe the decline was only 3.9 percent. Interestingly, financial services and real estate still grew in comparison to the same quarter of 2019 in Slovenia, while the overall decline in these two sectors was the lowest among all industries also in the EU (Figure 4, Table A2).

Figure 5. Change in employment at the sectoral level in 2nd quarter of 2020 in comparison to 1st quarter of 2020, in EU27 and in Slovenia



Source: Eurostat, 2020.

The change in output among sectors is also evident in the change in employment, to be more precise, in the rising unemployment in all European countries, despite the furlough schemes. While overall employment declined by 2.7 per-

cent in EU27 (2020) in the second quarter of 2020 in comparison to the first quarter of 2020, the decline in Slovenia was around 2.5 percent. However, there are significant differences between sectors and countries (Table A3, Figure 5). Both at the aggregate EU level as well as the country level, the wholesale and retail sector was among the more affected sectors. In Ireland and Spain, the employment in this sector declined by 13.6 and 12.8 percent, respectively, in Hungary by 8.7, Austria by 8.3 and in Bulgaria by 7.4 percent. In Slovenia, the employment in the wholesale and retail sector declined by 2.5 percent. Manufacturing was also seriously affected, most severely in Romania, where in the 2nd quarter of 2020 employment decreased by 8.2 percent, by 7.1 percent in Spain, and by 6.7 percent in Latvia. In Slovenia, employment in manufacturing declined by 1.8 percent in the same period (Table A1). Construction was affected significantly more. In this sector, employment declined by 4.7 percent in EU27, most in Ireland and Spain, where it declined by 13.6 and 12.8 percent, respectively. Employment in the arts and entertainment sector was also most deeply affected in Ireland, where the decline was 18.3 percent, followed by Latvia and Spain, where the employment declined by 11.1 and 10.2 percent, respectively. In Slovenia, employment in construction declined by 4.7 and in arts and entertainment by 4.5 percent (Figure 5).

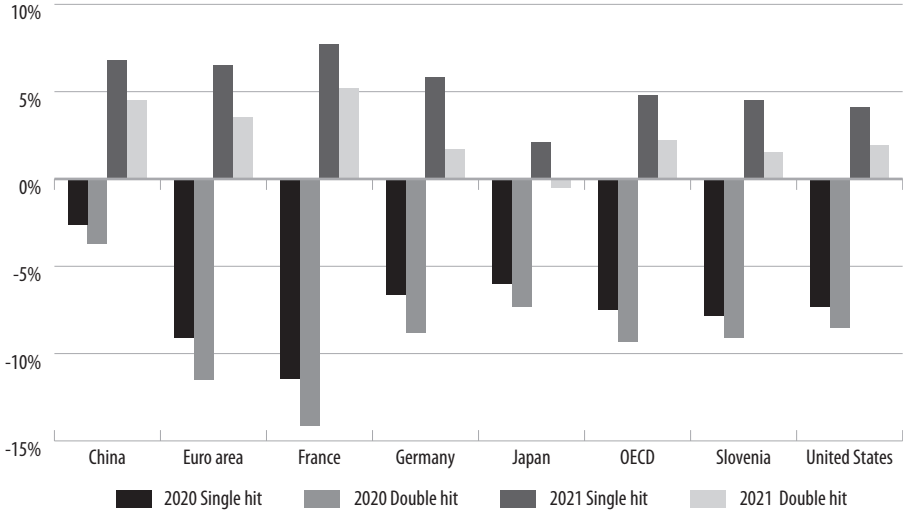
4 Conclusion: Future outlook

While the crisis has had a negative impact on the overall macroeconomic performance, significant sectoral as well as cross-country differences can be observed. Forecasting the future and overall impacts of the virus is at the moment very risky, however, the forecasts are unanimous in the evaluation that the crisis in 2020 will be significantly deeper than the crisis in 2009. Future effects and development of the crisis depend on a number of factors. Statista (2020b) summarizes the main factors that could impact the trajectory of the crisis in the future. They primarily stress the importance of (1) the duration and type of restrictions, (2) government aid programs, (3) consumer behaviour), (4) timing of medication/vaccine, (5) unemployment rates, and (6) impact on household budgets. Primarily, it is important to understand that these factors could have very different impacts on different industries and countries. The effects also depend on how strong the now already ongoing second wave of the COVID-19 pandemic will be (OECD, 2020a).

Nevertheless, the forecasts are at the moment still optimistic. For example, the OECD (2020a) generally forecasts an 11.5 percent GDP decline in 2020 in

case of a double-hit scenario, which now, in October 2020, is already a reality in all European economies. The OECD economies are on average expected to lose 9.3 percent of GDP, while Slovenia is expected to lose around 9.1 percent (Figure 6). Most effected countries in case of the double-hit scenario among the OECD economies are expected to be Spain with a 14.4 percent GDP decline, followed by France (14.1), Italy and the UK (a 14 percent decline in both economies). The global GDP is expected to decline by 7.6 percent in case of the double–hit scenario. Among the OECD economies, Korea is expected to lose least, "only" 2.5 percent of GDP. China is about to record a negative growth after more than 30 years of strong growth, and the decline is expected to be 3.7 percent. The US is expected to decline by 8.5 percent.

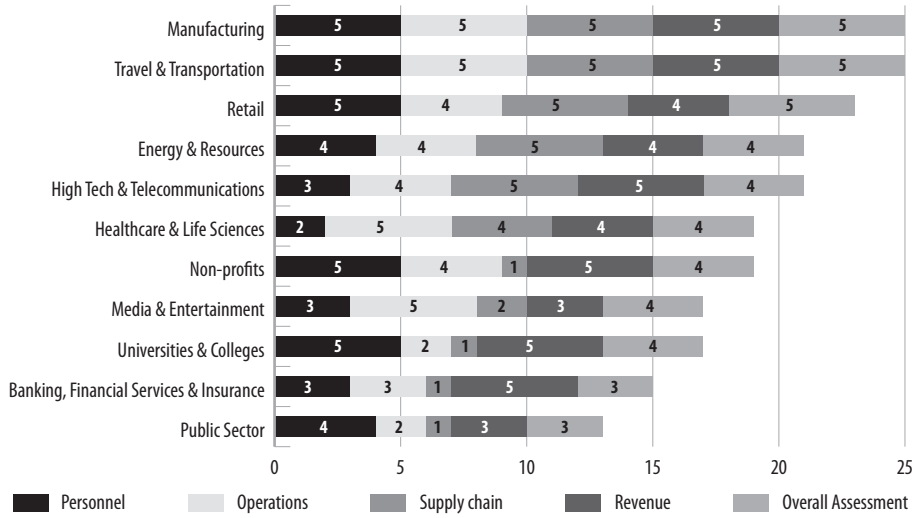
Figure 6. Forecasted economic growth for 2020 and 2021 in case of a single or doublehit scenario in the selected OECD countries



Source: OECD, 2020a.

Despite the overall very negative impact, there will be sectoral differences. Statista (2020a) showed that manufacturing, travel and transportation are expected to suffer most, due to severe impacts of the virus through several channels – from personnel, supply chains, through operations, revenue, as well as overall effects (Figure 7). All fields of influence are expected to have a severe impact on both manufacturing and travel and transportation. The financial sector and the public sector are expected to be least impacted by the virus, which is already evident from the sectoral growth data (Figure 5, Tables A2, A3).

Figure 7. Expected coronavirus impact index by industry and field - minor (1) to severe (5) in 2020*



Source: Statista, 2020a.

Table 3. Revenue adjustments due to the COVID-19 pandemic by consumer sectors

Hight impact Revenue loss by >10%	**Medium impact** Loss by 5-10%	**Small impact** Revenue loss by <5%	**Resilient** Unchanged in 2020	**Improved** Increase in 2020
• Alcoholic drinks • eServices • Hot drinks • Luxury goods • Mobility services • Motorcycles • Non-alcoholic drinks • Passenger cars • Travel and tourism	• Accessories • Advertising • Apparel • Consumer electronics • Digital advertising • Eyewear • FinTech • Footwear • Furniture Household appliances • OTC Pharmaceuticals • Smart Home	• Beauty & personal care • Home and laundry care • Media • Tissue and Hygiene paper • Tobacco • Toys and Hobby	• E-commerce	• Digital media • Food

Source: Statista, 2020b.

A comparative assessment of the impact of COVID-19 on consumer oriented sectors reveals further differences in the estimated impact on 2020 revenues (Table 3). While sales of drinks and travel and mobility goods (including cars,

motorcycles) are expected to lose more than 10 percent, in many sectors, the overall impact will be lower than 10 percent. In digital media and food, the impact is even expected to be positive (Table 3). As already said, the overall impact will depend on a number of factors, the effects of which are at the moment difficult to assess, since the outlook is still highly uncertain.

While the situation does seem grim at the moment, and will, no doubt, have a very strong impact on the economies as well as the societies and well-being of citizens, it will also open some opportunities and stimulate the technological change. Despite the tremendous short-term effects, *"the coronavirus crisis has given the European Union a historic opportunity to bring about economic structural change, especially with regard to green and digital technologies"* (Centeno, 2020), which is also the direction stimulated by the European Commission, which supports national policy-makers with its guidelines and financing to help fight the virus and build long-term resilience in the €1.8 trillion coronavirus response.

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Appendix

Table A1. Figure: Growth of selected GDP components in the EU, Germany and Slovenia in 2nd quarter of 2020 in comparison to 2nd quarter of 2019 and in 2nd quarter of 2020 in comparison to 2nd quarter of 2019, in percent

	Q1 2020/Q1 2019						Q2 2020/Q2 2019					
	GDP	Govern. expenditure	Household Consumpt.	Investment	EX of goods, services	IM of goods, services	GDP	Govern. expenditure	Household C	Investment	EX of goods, services	IM of goods, services
EU27 (2020)	-2.7	0.8	n.a.	1.2	-2.6	0.1	-13.9	-2.0	n.a.	-18.9	-21.0	-20.2
Belgium	-2.4	-1.7	-4.7	-2.8	-0.8	-1.5	-14.4	-10.7	-17.3	-20.8	-14.2	-15.6
Bulgaria	2.3	5.6	2.7	-8.4	2.8	2.8	-8.6	4.7	-3.0	-10.9	-18.4	-19.7
Czechia	-1.9	4.9	-0.2	-5.2	-1.9	-1.4	-10.9	1.6	-7.6	-4.8	-23.3	-18.2
Denmark	-0.1	0.1	-1.9	3.9	-3.4	-2.3	-7.7	-2.5	-7.5	-2.2	-17.0	-14.0
Germany	-2.2	2.6	-2.4	-1.1	-3.8	-2.0	-11.3	3.8	-12.7	-8.6	-22.2	-17.4
Estonia	-0.1	0.3	1.0	-6.9	0.4	-1.9	-6.5	3.3	-8.3	-15.4	-19.5	-21.5
Ireland	4.4	2.3	-2.7	162.4	6.6	48.3	-3.7	5.7	-22.3	-73.0	0.1	-37.1
Greece	-0.5	1.4	-0.7	-6.4	2.4	-1.1	-15.2	-3.2	-11.6	-10.3	-32.1	-17.2
Spain	-4.2	3.7	-6.2	-5.1	-5.6	-5.4	-21.5	3.2	-25.2	-25.8	-38.1	-33.5
France	-5.7	-1.9	-4.8	-7.5	-7.8	-5.7	-18.9	-12.4	-16.1	-22.4	-30.5	-21.2
Croatia	0.3	4.8	0.5	2.2	-1.9	-5.1	-15.5	0.5	-13.9	-14.7	-40.7	-27.4
Italy	-5.6	-1.1	-6.5	-7.4	-7.4	-6.0	-18.0	-0.9	-17.3	-22.6	-33.0	-26.9
Cyprus	1.3	17.4	2.0	26.6	1.1	4.1	-12.3	16.5	-9.0	-43.8	-16.3	-14.2
Latvia	-1.0	2.7	-3.2	3.3	2.3	3.8	-8.6	2.4	-21.2	-5.8	-12.5	-16.0
Lithuania	2.2	0.6	0.1	1.6	4.6	-1.7	-4.6	0.3	-7.7	-10.2	-10.7	-16.9
Luxembourg	1.5	3.8	-3.0	-13.9	2.5	0.6	-7.8	6.1	-21.0	-19.6	-2.9	-3.6
Hungary	2.0	0.2	4.7	-2.1	-0.2	1.5	-13.5	-1.7	-8.3	-11.4	-24.1	-16.4
Malta	0.7	12.9	-3.4	-14.5	1.4	0.3	-15.2	11.9	-20.1	-11.0	-11.4	-7.9
Netherlands	-0.4	-0.6	-1.2	2.7	1.5	1.0	-9.2	-3.8	-13.1	-9.9	-10.4	-9.8
Austria	-3.0	0.7	-4.6	-3.0	-6.2	-5.2	-14.5	1.1	-16.1	-10.9	-17.5	-16.8
Poland	1.7	3.7	0.8	1.1	0.7	-0.4	-7.9	3.9	-11.1	-11.0	-14.3	-18.4
Portugal	-2.3	0.5	-1.1	-0.3	-4.8	-2.0	-16.3	-3.4	-15.1	-9.0	-39.2	-29.4
Romania	2.5	2.8	4.0	9.9	-1.7	1.3	-10.2	2.9	-13.1	1.8	-28.7	-21.4
Slovenia	-3.5	4.3	-6.6	-5.4	-1.8	-2.6	-13.1	-0.9	-17.5	-16.5	-23.5	-24.4
Finland	-1.3	0.2	-0.9	-1.6	-4.7	0.7	-6.5	-0.9	-9.4	-2.2	-12.6	-13.9
Sweden	0.7	0.0	-0.6	0.3	3.0	-1.8	-7.7	-1.7	-9.1	-5.2	-15.4	-14.5
UK	-2.1	-1.8	-2.9	-2.3	-6.1	-16.4	-21.5	-17.8	-26.2	-22.6	-14.8	-28.5

Source: Eurostat, 2020.

Table A2. Change in value added at the sectoral level in 2nd quarter of 2020 in comparison to 2nd quarter of 2019, in percent

	Total - all NACE activities	Agriculture. forestry and fishing	Industry (except construction)	Manufacturing	Construction	Wholesale and retail trade. transport. accommodation and food service activities	Information and communication	Financial and insurance activities	Real estate activities	Professional. scientific and technical activities; administrative and support service activities	Public administration. defence. education. human health and social work activities	Arts. entertainment and recreation; other service activities
EU27 (2020)	-13.8	-3.2	-17.9	-19.4	-12.6	-24.0	-3.9	-2.6	-2.0	-17.6	-8.0	-27.5
Euro area - 19 countries (from 2015)	-14.6	-3.0	-18.3	-19.7	-14.9	-25.3	-4.8	-3.0	-2.1	-19.1	-8.8	-26.9
Euro area - 12 countries (2001-2006)	-14.7	-2.9	-18.4	-19.7	-15.1	-25.5	-4.9	-3.2	-2.1	-19.2	-8.9	-26.9
Belgium	-13.8	-0.3	-13.9	-14.6	-15.7	-26.7	-6.7	-4.1	0.3	-15.8	-9.2	-33.9
Bulgaria	-7.8	-2.1	-7.2	-15.6	-2.1	-20.8	7.0	4.4	-9.2	4.3	3.3	-10.2
Czechia	-10.9	1.0	-17.9	-18.2	-6.1	-20.5	1.1	-5.1	-3.1	-6.3	-0.7	-21.9
Denmark	-7.7	5.1	-9.2	-7.9	-2.5	-14.9	-4.4	4.0	-1.3	-6.7	-4.2	-40.2
Germany	-11.2	-1.5	-19.3	-20.7	1.7	-12.9	-3.1	-0.2	-0.5	-15.9	-9.1	-19.9
Estonia	-7.9	-19.0	-14.9	-18.1	12.8	-14.0	8.5	7.0	-12.5	-13.5	1.2	-22.5
Ireland	-4.9	-60.1	15.3	16.5	-34.6	-32.0	-5.2	-3.2	-4.2	-28.2	-0.2	-67.8
Greece	-14.0	-7.7	-11.2	-9.0	24.2	-35.6	-4.4	-11.2	-1.4	-25.5	0.9	-33.0
Spain	-21.3	6.3	-23.8	-27.3	-27.5	-44.9	-12.8	0.8	-5.2	-26.8	-0.2	-37.6
France	-18.8	-6.1	-24.3	-26.1	-31.5	-27.8	-7.9	-7.7	-2.5	-21.0	-16.5	-36.4
Croatia	-12.0	-2.6	-8.4	-9.9	0.5	-33.3	2.0	-6.2	-0.3	-11.9	2.2	-32.9
Italy	-18.1	-5.0	-27.8	-30.5	-27.4	-28.7	-3.5	-6.8	-5.4	-22.7	-7.6	-14.6
Cyprus	-12.3	0.8	-18.0	-15.8	-21.2	-32.7	3.7	-3.7	1.7	-5.6	1.2	-23.2
Latvia	-8.8	-1.1	-5.0	-6.6	-1.4	-19.2	-9.9	2.4	-4.8	-8.7	-0.5	-37.7
Lithuania	-4.6	0.2	-2.1	-2.6	-4.1	-8.7	2.7	-0.6	2.0	-9.2	-1.4	-17.5
Luxembourg	-7.3	-5.1	-22.4	-24.7	-20.3	-21.9	9.2	-4.2	2.0	-6.2	0.9	-3.4
Hungary	-13.7	-2.0	-20.1	-21.7	-13.8	-15.9	-0.8	4.7	-5.1	-14.9	-13.0	-26.9
Malta	-14.5	-12.5	-10.0	-10.0	-7.0	-49.6	5.7	-1.2	2.6	-9.9	-5.7	-3.0
Netherlands	-9.1	0.1	-6.6	-8.0	-2.1	-16.4	-2.3	0.6	2.0	-11.6	-10.3	-36.5
Austria	-14.1	-4.6	-17.4	-18.1	-8.4	-27.3	1.3	-3.6	2.2	-27.5	-0.2	-35.4
Poland	-8.5	-3.1	-12.6	-15.8	-0.8	-15.9	2.4	-2.7	0.5	-1.1	3.0	-45.9
Portugal	-15.4	-5.7	-21.5	-24.3	3.8	-28.7	0.1	-5.7	0.7	-26.9	-4.9	-37.0
Romania	-8.9	-10.4	-19.6	-29.7	9.7	-12.3	10.4	-1.6	-1.8	-6.1	2.1	-49.4
Slovenia	-12.8	-9.6	-15.7	-15.6	-8.8	-21.0	-8.5	2.8	1.0	-19.4	-2.9	-30.3
Finland	-5.1	2.2	-5.6	-6.1	1.1	-15.4	0.1	1.2	0.6	-7.7	-3.0	-18.5
Sweden	-8.2	-3.5	-18.0	-21.7	1.0	-16.1	0.1	3.2	2.2	-8.2	-5.0	-8.4
United Kingdom	-21.5	-4.2	-18.6	-23.5	-38.1	-36.2	-12.0	-4.4	-1.9	-23.2	-22.0	-46.6

Source: Eurostat, 2020.

Table A3. Change in employment at the sectoral level in 2nd quarter of 2020 in comparison to 1st quarter of 2020, in percent

	Total - all NACE activities	Agriculture. forestry and fishing	Industry (except construction)	Manufacturing	Construction	Wholesale and retail trade. transport. accommodation and food service activities	Information and communication	Financial and insurance activities	Real estate activities	Professional. scientific and technical activities; administrative and support service activities	Public administration. defence. education. human health and social work activities	Arts. entertainment and recreation; other service activities
EU27 (2020)	-2.7	-3.2	-1.9	-1.8	-1.3	-5.2	-1.2	-2.6	-2.1	-3.7	-0.4	-4.5
Belgium	-0.8	0.2	-0.2	-0.2	-0.2	-1.7	-0.5	-0.4	0.0	-2.0	0.1	-0.8
Bulgaria	-1.0	1.0	-1.0	-1.2	-0.7	-7.3	0.2	0.2	2.4	-0.5	-0.1	-1.6
Denmark	-3.3	-0.6	-1.8	-2.0	-1.0	-6.4	-1.0	-0.2	-3.6	-4.1	-0.9	-9.7
Germany	-1.4	-3.4	-0.9	-1.0	-0.8	-2.8	-0.6	-0.4	-1.2	-2.2	-0.3	-2.0
Estonia	-5.1	2.0	-1.4	-0.8	3.1	-3.8	3.6	-15.4	14.9	-9.7	-1.4	-6.0
Ireland	-6.1	-8.7	1.7	1.9	-14.0	-13.6	6.4	6.8	24.7	-11.4	0.6	-18.3
Spain	-7.5	-5.3	-7.4	-7.1	-5.1	-12.8	-0.9	-6.2	-0.6	-5.6	-2.8	-10.2
Croatia	-2.0	9.1	-2.2	0.0	1.2	-3.3	-0.2	12.4	-9.6	-11.9	1.2	-4.4
Italy	-2.5	-3.6	-0.6	-0.6	-1.2	-4.8	-2.0	-2.1	-1.1	-1.5	-0.3	-5.6
Cyprus	-0.8	-0.3	-0.1	-0.1	0.6	-2.8	0.7	-0.1	-0.4	0.1	0.4	-1.0
Latvia	-4.3	0.8	-5.9	-6.7	-5.9	1.7	-4.9	-2.2	-5.8	-4.3	-1.3	-11.1
Lithuania	-2.0	-1.1	-5.0	-3.0	-3.4	-2.8	8.8	8.5	-8.4	3.1	-1.6	-5.1
Luxembourg	-0.6	-1.8	-0.9	-1.2	0.2	-2.2	-0.2	-0.1	0.1	-2.5	1.8	0.4
Hungary	-5.4	-1.3	-3.7	-3.6	-1.6	-8.7	-2.4	-1.7	-2.7	-9.2	-2.0	-4.3
Netherlands	-2.8	0.0	-1.0	-1.2	-0.8	-4.0	-0.3	0.5	-1.3	-6.4	-0.5	-3.5
Austria	-4.0	1.2	-2.2	-2.1	-5.5	-8.3	-0.9	-0.7	-1.0	-6.5	0.0	-6.9
Romania	-2.9	-10.7	-7.5	-8.2	4.2	-1.2	-0.4	-7.8	-17.7	7.4	5.0	2.7
Slovenia	-2.5	-0.5	-1.7	-1.8	-4.7	-2.5	0.1	-0.8	0.2	-8.1	0.4	-4.5
Finland	-2.1	-6.4	-0.4	-1.2	-1.2	-7.4	3.3	2.9	2.6	-0.3	-0.2	-7.9
Sweden	-1.4	1.6	0.3	0.3	-0.2	-5.1	1.0	-0.2	0.0	-1.5	-0.4	-1.1
UK	-0.7	0.1	-1.4	-1.5	-1.4	-0.5	-0.5	-0.6	2.4	-2.9	1.2	-1.9

Source: Eurostat, 2020.

Table A4. Forecasted economic growth for 2020 and 2021 in case of a single or double hit scenario in selected OECD countries, in percent

	Single hit		Double hit	
	2020	2021	2020	2021
Australia	-5	4.1	-6.3	1
Austria	-6.2	4	-7.5	3.2
Belgium	-8.9	6.4	-11.2	3.4
Bulgaria	-7.1	2.4	-8	-0.3
China (People's Republic of)	-2.6	6.8	-3.7	4.5
Czech Republic	-9.6	7.1	-13.2	1.7
Denmark	-5.8	3.7	-7.1	0.9
Estonia	-8.4	4.3	-10	1.6
Euro area (17 countries)	-9.1	6.5	-11.5	3.5
Finland	-7.9	3.7	-9.2	2.4
France	-11.4	7.7	-14.1	5.2
Germany	-6.6	5.8	-8.8	1.7
Greece	-8	4.5	-9.8	2.3
Hungary	-8	4.6	-10	1.5
Ireland	-6.8	4.8	-8.7	-0.2
Italy	-11.3	7.7	-14	5.3
Japan	-6	2.1	-7.3	-0.5
Korea	-1.2	3.1	-2.5	1.4
Latvia	-8.1	6.3	-10.2	2
Lithuania	-8.1	6.4	-10.4	3.4
Luxembourg	-6.5	3.9	-7.7	0.2
Netherlands	-8	6.6	-10	3.4
Norway	-6	4.7	-7.5	1.3
OECD - Total	-7.5	4.8	-9.3	2.2
Poland	-7.4	4.8	-9.5	2.4
Portugal	-9.4	6.3	-11.3	4.8
Romania	-6.5	4.7	-8.6	1.8
Russia	-8	6	-10	4.9
Slovakia	-9.3	6.4	-11.1	2.1
Slovenia	-7.8	4.5	-9.1	1.5
Spain	-11.1	7.5	-14.4	5
Sweden	-6.7	1.7	-7.8	0.4
Switzerland	-7.7	5.7	-10	2.3
United Kingdom	-11.5	9	-14	5
United States	-7.3	4.1	-8.5	1.9
World	-6	5.2	-7.6	2.8

Source: OECD, 2020a.

Katja Zajc Kejžar

THE US-CHINA TRADE WAR AND ITS TRADE IMPLICATIONS

Introduction

Since the 2008/2009 economic and financial crisis we have been witnessing new protectionist tendencies and a significant increase in the number of trade measures detrimental to trade (WTO, 2019). The additional tariffs imposed by the Trump administration in the beginning of 2018, predominantly on imports from China, have prompted retaliation by trading partners and led to a sequence of events that started a trade war between the US and China. The effects of new protectionist measures today, when supply chain trade accounts for more than half of the global trade (OECD, 2020), are much more unpredictable, complex, and beyond traditional effects. Multinational companies are reacting by shortening, reorganizing, and relocating production stages along international value chains (OECD, 2013). The introduction of new customs duties therefore represents a serious challenge for the organisation of global value chains and current patterns of the international division of production. Moreover, such measures have further weakened the already fragile fundamentals of the post 2nd World War Bretton-Wood's multilateral system. In the last couple of years, the appeal for a reorganization of the World Trade Organization has also intensified.

In this chapter, we aim to study trade implications of the US-China trade war from a perspective of supply chain trade and the organisation of global value chains (hereinafter GVCs). If the US and China are apparent losers of their trade war, does this hold also for the EU?

We first present the development of the tariff rates in the US and China over the course of the trade war and sum up early evidence on the US-China trade war effects from stock price volatility. Next, we discuss the differences in tariff impacts on traditional and supply chain trade. We continue with char-

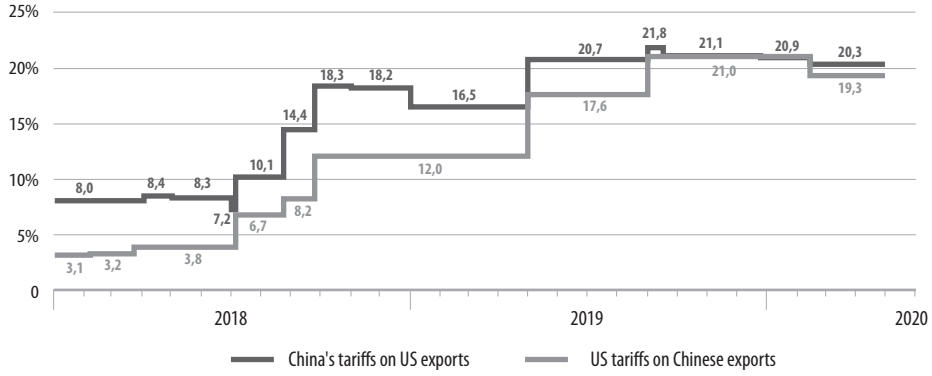
acterizing the US and China's GVC position and resulting pressure for supply chain restructuring. Finally, we look at trade effects for the EU in different categories of goods.

1 The escalation of the US-China trade war

1.1 Chronology of the trade war

Before the onset of the US-China trade war, US average tariffs on imports from China were about 3 percent, while China's average tariffs on imports from the US were much higher, about 8 percent, as shown in Figure 1. Starting in January 2018, US tariffs were introduced in six main waves (see Table 1 for the chronological overview of trade measures imposed by the US and China). The first wave of US tariffs imposed import duties of 30 percent on solar panels and duties of 20-50 percent on washing machines. However, the first six months of 2018 brought out only a moderate increase in average tariffs. The months of July through September 2018 resulted in a sharp tariff increase on both sides: US average tariffs increased from 3.8 percent to 12.0 percent, and China's average tariffs increased from 7.2 percent to 18.3 percent. Another sharp surge happened between May to September 2019, when US average tariff rates were raised to 21 percent and Chinese to 21.8 percent. Despite the Phase One tariff deal between the US and China signed in January 2020 tariffs between the two countries have remained elevated at 19.3 and 20.3 percent in the US and China, respectively, and are the new normal (Bown, 2020; Hanson, 2020).

Figure 1. US and China's tariffs during the trade war



Source: Bown, 2020.

Table 1. A chronological overview of trade measures imposed by the US and China during the trade war

Date	Trade measures imposed by the US and China
February 7, 2018	US Section 201 tariffs on solar panels and washing machines
March 23, 2018	US Section 232 tariffs on steel and aluminum
April 2, 2018	China's retaliation to US Section 232 tariffs
May 1, 2018	China's MFN tariff cut on pharmaceuticals
July 1, 2018	China's MFN tariff cut on consumer goods, autos, and ITA products
July 6, 2018	US Section 301 tariffs ($34 billion) and China's retaliation ($34 billion)
August 23, 2018	US Section 301 tariffs ($16 billion) and China's retaliation ($34 billion)
September 24, 2018	US Section 301 tariffs ($200 billion) and China's retaliation ($60 billion)
November 1, 2018	China's MFN tariff cut on industry goods
January 1, 2019	China suspends retaliation against US auto and parts (Section 301) and reduces MFN tariff rates for 2019
February 7, 2019	US Section 201 tariffs reduced on solar panels and washing machines in year 2 of policy
May/June 2019	US Section 301 tariffs (10% to 25% increase on $200 billion, announced May 10) and China's retaliation on some US products (subset of $60 billion, June 1)
July 1, 2019	China's MFN tariff cut on IT products
September 1, 2019	US Section 301 tariffs (15% on subset of $300 billion) and China's retaliation on some US products (subset of $75 billion)
September 17, 2019	China implements product exclusions on less than $2 billion of US exports from $34 billion and $16 billion list
December 26, 2019	China implements product exclusions on less than $1 billion of US exports from $16 billion list
February 7, 2020	US Section 201 tariffs reduced on solar panels and washing machines in year 2 of policy
February 08, 2020	US Section 232 tariffs extension on derivative aluminum and steel products
February 14, 2020	US Section 301 tariffs imposed on Sep 1 (subset of $300 billion) cut to 7.5% and China's retaliatory tariff cut on subset of $75 billion list

Source: Bown, 2020.

1.2. Early evidence on the US-China trade war effects from stock price volatility

While the long-term effects of the trade war are still to be seen and assessed with a certain time distance, Egger and Zhu (2020) studied more immediate effects by investigating how investors responded to the trade war in terms of their expectations. They employed event study on available stock-market data that exploited the variation of stock-market prices of listed companies in their deviation from "normal market value" around related tariff-change announcements or implementations imposed by the US and China. They found that the

trade measures enforced by the US and China hurt stock prices on average not only in the targeted country but also at home, and that the higher the trade-war tariff margins were set, the larger the impact was. Further, they confirmed that protectionist trade measures indirectly affect stock prices through global value-chain linkages also in third economies, which are not directly participating in the trade war. However, these indirect effects, which might be positive or negative - depending on a sector and country(territory)'s positioning in the GVCs - are more pronounced the more an economy's output is linked to the output of the US and China. This evidence suggests that the involvement of actors and third parties in GVCs plays an important role in deciding the winners and losers of the US-China trade war.

2 Tariff impact on traditional vs. supply chain trade

2.1 Pass-through of tariffs to domestic prices

Tariff effects in traditional trade, i.e. cross-border exchange of final goods that are produced within single countries, depend crucially on the ability of a tariff-imposing country to affect the world (border) price. The theory distinguishes between small and large country cases to illustrate two extreme scenarios. In the case of a small country, the imposition of tariffs does not affect the world price of the good and the entire tariff burden falls on domestic consumers. We have in this case a complete pass-through of a tariff to domestic prices, hence the domestic prices rise by the entire amount of the tariff. On the other hand, in the case of a large country, foreign exporters absorb some of the tariff costs; namely, as a non-negligible buyer in the world market, a tariff-imposing country puts pressure on exporters to lower their prices by decreasing demand in the world market. In this case, part of the tariff burden is shifted to foreign producers/exporters, depending on the economic power of the imposing country and the elasticities of demand and supply. The more inelastic the demand and supply in the partner country are and the more elastic in the domestic market, the more foreign exporters are willing to reduce the export prices contributing to a lower pass-through of the tariff to domestic prices. This so-called terms of trade effect, which can be realised in the case of large countries and absence of retaliation from the affected partner(s), acts in an offsetting way to deadweight loss, hence a large country could even gain under certain conditions compared to free trade equilibrium. While in the case of a small country the terms of trade effect is absent, we have a deadweight loss for the tariff-imposing countries, which results in lower welfare.

Amiti et al. (2019) tested the pass-through of tariffs to domestic prices in the US throughout 2018. They found a close to complete pass-through of the tariffs to domestic US prices of imported goods along with substantial increases in the prices of intermediates and final goods, noticeable changes to its supply chain network, and reductions in the availability of imported varieties. Similar patterns were found for foreign countries that have retaliated against the US. While the prices for sectors not subject to tariffs have been fairly unchanged, they found large increases in prices of goods that were subject to tariffs, with unit values typically rising from 10 to 30 percent in the wake of the tariffs, which is comparable in magnitude to tariffs that were applied. These movements suggest that much of the tariffs have been passed on to US importers and consumers.

2.2 Tariff effects accumulate in supply chain trade

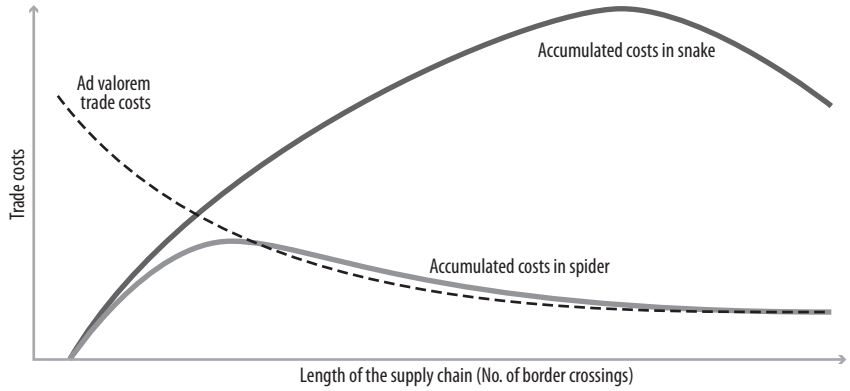
Production and trade have been increasingly organised along the so-called GVCs, in which firms internationally fragment their production processes in an increasing number of stages and source parts, components, and services from producers in several countries, and in turn sell their output to firms and consumers worldwide. Nowadays, up to 70 percent of international trade is for production in GVCs (OECD, 2020). The role of GVCs has also played an increasingly important part in China's reform and opening-up process, particularly after China's accession to the World Trade Organization in 2001 (Li et al., 2020).

If the theory is clear about the expectations on the tariff effects in traditional trade, it leaves us much more empty-handed when the prediction of the tariff effects concerns supply chain trade. The effects of new protectionist measures are in the constellations of complex GVCs, and supply chain trade becomes much more unpredictable, complex, and beyond traditional effects.

In GVCs goods cross borders many times, as inputs, semi-finished products, and lastly as final products, hence barriers at the border become costlier and have a cumulative impact along the value chain. Accumulated trade costs are not dependent only on the ad valorem trade costs but also on the length of the GVC, which, in turn, is negatively correlated with trade costs. Furthermore, accumulated trade costs differ for different types of GVCs. Diakantoni et al. (2017) simulated accumulated trade costs as a result of the interplay between the decrease in ad valorem trade costs and the resulting increase in GVC length for two types of GVCs, i.e. spiders and snakes, as depicted in Figure 2. Simu-

lation is based on the hypothesis that, for a given product, GVC expansion is endogenous to trade costs. Trade costs need to fall significantly for international fragmentation to pay off; otherwise the length of the GVC, which is measured in terms of border crossings, is 0. When GVCs are of the spider type, the first-tier suppliers of parts and components are arranged around a central assembly plant that ships the end product to its final destination (Baldwin, 2014), the marginal decrease in the ad valorem trade costs may soon compensate the additional cost of further fragmenting the chain. When GVCs are snakes, where the production process is a linear sequence of different stages with each task embodied in goods during processing and shipped again to the next production stage (Baldwin, 2014), the decreasing ad valorem trade costs appliy to an increasing accumulated value of trade in intermediate goods. In this case, the mitigating effect of lower ad valorem trade costs is not as strong as in the spider type because the trade costs accumulate exponentially.

Figure 2. Ad valorem and accumulated trade costs in snake- and spider-type GVCs



Source: International Bank for Reconstruction and Development/The World Bank, 2017; Diakantoni et al., 2017.

Figure 2 illustrates a much higher value of accumulated trade costs in the snake-type of GVCs. Accumulated costs are increasing with lowering ad valorem trade costs due to prolonging the GVC up to a certain point. Established GVCs are also vulnerable to a reversal in the decreasing trend in ad valorem trade costs. If the ad valorem trade costs start increasing again, the GVC length is gradually shortened (International Bank for Reconstruction and Development/ the World Bank, 2017; Diakantoni et al., 2017). This graph suggests that with a sudden reversal in trade cots, e.g. due to a trade war or COVID-19 pandemic-induced trade barriers, the result would be shortening of the GVCs.

3 The US and China's positions in GVCs and pressure for supply chain restructuring

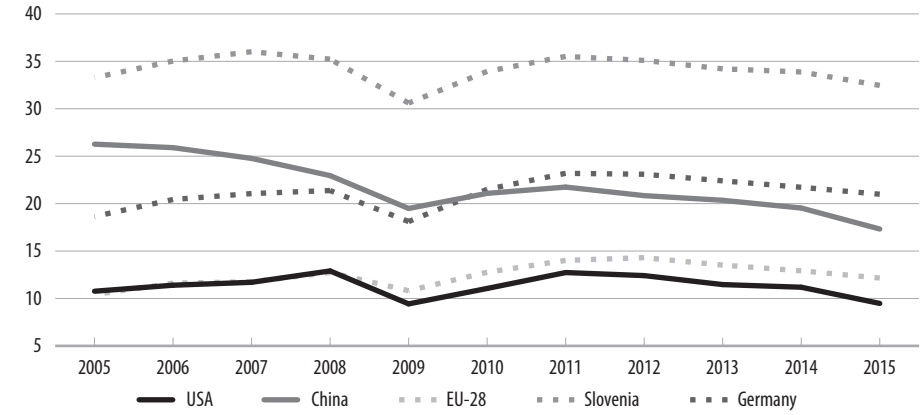
Implementing well-targeted protectionist tariffs in the modern world which is organized in complex GVCs across the economies' boundaries is not easy and, as shown by Egger and Zhu (2019) in the US-China trade-war example, such tariffs may hurt those they are meant to protect. The more a country is involved in GVCs, the higher the exposure to potential disruptions in the global production and trade networks, which may arise as a result of the escalation of tariff barriers, and the more complex their effects. But it is not only the extent of the participation in GVCs but also the position along them that affects the implications of new tariffs levied. It may be expected that countries with prevailing backward participation, i.e. which are positioned more downstream, tend to be hurt more by additional tariff duties. According to theoretical and empirical indications, the trade barriers are more detrimental to trade in downstream stages than in more upstream ones (Antràs and De Gortari, 2020) due to accumulation effects, in particular when GVCs are organised in sequential GVCs, e.g. snakes.

Figures 3 and 4 depict the developments of backward (hereafter BP) and forward participation (hereafter FP), of the US, China, and selected European countries/economic areas respectively. GVC participation indexes FP and BP measure to what extent countries are involved in a vertically fragmented production and the resulting supply chain trade flows. Forward GVC participation (FP) refers to the type of participation where an economy joins the global production by exporting domestically produced inputs to partners who are in charge of downstream production stages, while BP is the type of integration where the country participates by importing foreign inputs to produce the goods and services for its export. Backward linkages are measured as foreign value-added (*FVA*) in domestic gross exports (*grossEX*), while forward ones by the domestic value-added embodied in foreign exports (*DVAFX*).[1] Hence, the FVA in the exports contributes to the country's "downstreamness" in global production chains and the DVAFX indicates "upstreamness". More precisely, to portray the GVC position, Koopman et al. (2014) propose to use the log ratio of a country's forward and backward participation.[2] The higher the value of the ratio, the more upstream position in the GVC a country holds.

1 More on GVC participation measures in Hummels et al. (2001) and Koopman et al. (2010).

2 The GVC indices for country i are calculated in the following way: $FP_i = \frac{DVAFX_i}{grossEX_i} \cdot 100$, $BP_i = \frac{FVA_i}{grossEX_i} \cdot 100$ and $Upstreamness = \mathrm{Ln}(1 + \mathrm{FP}/100) - \ln(1 + \mathrm{BP}/100)$.

Figure 3. Development of backward participation for selected economies throughout the 2005-2015 period

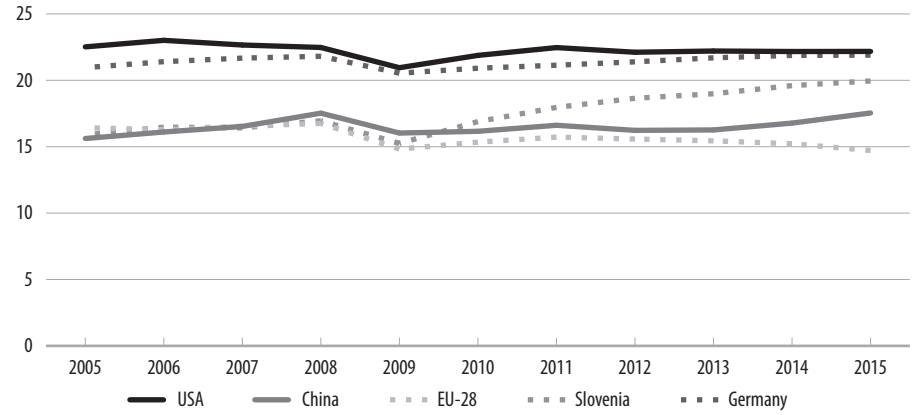


Source: Own calculations based on the TiVA database (OECD, 2018).

It can be observed from Figures 3 and 4 that China underwent more significant changes in its GVC profile than the US throughout the 10 years observed. It started with a relatively high share (above 26 percent) of BP and a more modest share of FP in 2005, but in 2015 FP even slightly surpassed BP, which demonstrates a significant shift of China from downstream towards more upstream positions in GVCs. On the other hand, the US has maintained relatively stable shares of forward and backward participation throughout the observed period 2005-2015, with FP being more than twice the size of BP, which places the US among the countries with the most upstream GVC position. The development of the EU-28 position in GVCs has been similar to the US for backward linkages, while FP has been significantly lower. However, there are significant differences among EU member states, where new member states tend to be characterized with high involvement in GVCs, in particular on account of large BP and lower, but increasing FP compared to the old EU member states, as indicated by the development of GVC participation for Slovenia and Germany in Figures 3 and 4.

The US and China hence awaited the trade war in a bit different positions; the US tended to be positioned more upstream in GVCs while China more downstream, however, the gap had been narrowing throughout the decade before the start of the trade war. Due to a relatively more downstream position in GVCs, China might be more exposed to the new protectionist trade measures. This could explain, along with its trade surplus, why China has not retaliated to US additional tariff duties in full through trade.

Figure 4. Development of forward participation for selected economies throughout the 2005-2015 period



Source: Own calculations based on the TiVA database (OECD, 2018).

Table 2 offers a closer look at the US and Chinese bilateral GVC positions in their mutual trade and the comparative position of European countries. In line with the general observation from Figures 3 and 4, we may conclude that the US occupies a more upstream position than China also in their bilateral trade. Interestingly, the share of Chinese value added (VA) in US exports and the share of American VA in Chinese exports are practically the same, 1.8 percent and 1.9 percent, respectively, while the share of domestic value added, embodied in the partner's exports (FP) is noticeably higher for the US. To put it differently, more US value added is embodied in Chinese exports than Chinese value added in US exports, while the opposite holds for China. This strengthens our above-mentioned conclusion that China might be more exposed to the trade war escalation and under greater pressure to restructure its supply chains. According to Hanson's (2020) observation, US firms have been delaying making adjustments to their GVCs until they see how the trade war will play out. He also noticed that on the sectors that have been covered by tariffs, the US initially hit industries that are not generating much public outcry.

4 Trade effects for Europe: Where two are fighting, the third wins?

As seen from Table 2, the EU-28 occupies a more upstream position, i.e. FP being greater that BP, in trade with China, while backward participation strongly prevails in the EU-28 trade with the US. On one hand, there are pro-

nounced differences among EU member states' GVC positioning in trade with China, especially between the group of old and new MS, with the latter being positioned more downstream. On the other hand, more uniform patterns are observed in trade with the US with a clear downstream position for both the old and the new EU member states. Furthermore, there are differences concerning the magnitude of the supply chain trade with the US and China; for some member states the supply chain trade with China dominates (e.g. for the new EU MS (EU-13), but also Germany), while the opposite holds for the others (the group of the old EU MS (EU-15)).

Table 2. GVC indicators of selected countries in trade with China and the US in 2015

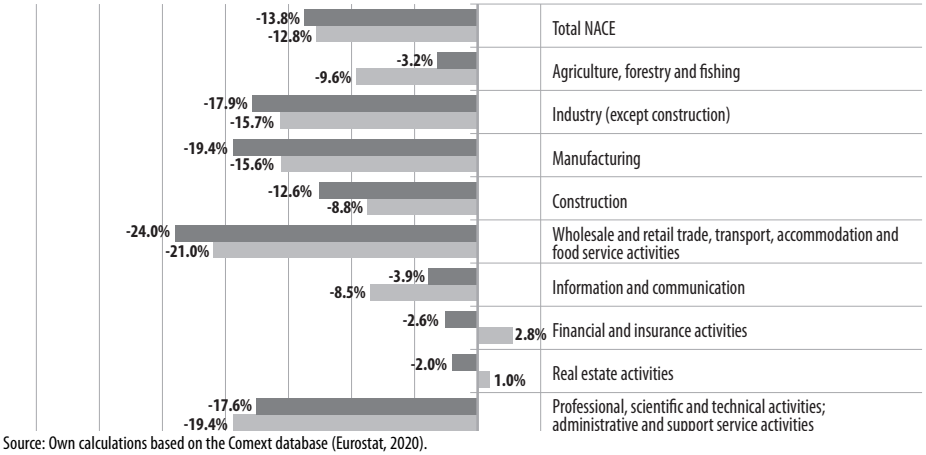
	In trade with China		In trade with the USA	
Country (i)	BP [FVA from China in the gross exports of i; a share in gross exports of i]	FP [DVA in Chinese exports; a share in gross exports of i]	BP [FVA from China in the gross exports of i; a share in gross exports of i]	FP [DVA in Chinese exports; a share in gross exports of i]
USA	1.8	2.1	/	/
China	/	/	1.9	1.6
EU-28	1.5	1.9	2.6	1.4
Slovenia	2.1	0.4	1.3	0.3
Germany	1.6	1.4	1.9	0.8
EU-15	1.4	1.7	2.7	1.3
EU-13	2.6	0.6	1.6	0.4

Source: Own calculations based on the TiVA database (OECD, 2018).

How do these GVC interrelations affect the trade performance of the EU during the trade war with both involved countries? Figure 5 shows the developments in the share of EU-28 exports to the US and China in the last four years for two groups of goods: intermediates and consumer goods, where the two groups are formed based on the UN's Classification by Broad Economic Categories. In gross terms, the EU exports more of both intermediates and consumer goods to the US than to China. Regarding the dynamics before and during the trade war, there has been a negative trend evident in share of trade with the US up to the onset of the trade war in early 2018, while a reversal has been seen thereafter. With the intensification of the trade war, the upward tendency has become more vivid for the group of intermediate goods, which might indicate certain reorientation of the US GVCs towards Europe. On the other hand, the share of EU exports to China has been slowly increasing already from 2016 on. Regarding the change in trade after the start of the trade war, there are three

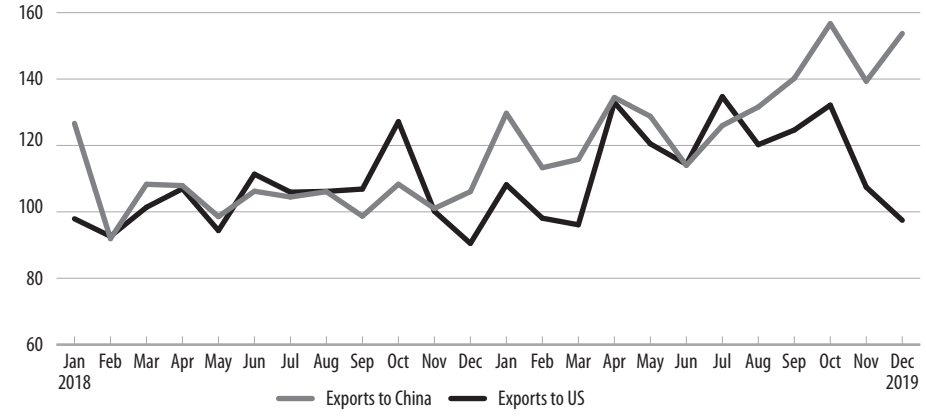
important differences compared to EU exports to the US: (i) the increase in the share of exports to China after the start of the trade war is less evident, (ii) it started later, and (iii) the reorientation is higher for consumer goods.

Figure 5. Monthly EU-28 exports to China and the US for intermediate and consumer goods in 2016-2020, shares in total EU exports



Source: Own calculations based on the Comext database (Eurostat, 2020).

Figure 6. Indices of EU-28 exports of consumer goods to China and the US (base year 2017)



Source: Own calculations based on the Comext database (Eurostat, 2020).

These observations are further highlighted in Figures 6 and 7, where we plot monthly export value indices with the base in the year 2017 for intermediate and consumer goods, respectively. Throughput the trade-war period the indices

were almost all the time above 100 for exports of intermediate goods, while for the final consumption goods the upward trend started around the end of 2018 for exports to China and a few months later for exports to the US. The higher export dynamics from the start of the trade war suggest that the EU has been able to fill the gap and to a certain extent replace the US/Chinese suppliers. Interestingly, the nature of the trade increase differs between the two markets. While the boost in EU-28 exports to the US is particularly strong for intermediate goods, it is the category of consumer goods that has experienced stronger growth of exports to the Chinese market over the course of the trade war.

Figure 7. Indices of EU-28 exports of intermediate goods to China and the US (base year 2017)

Source: Own calculations based on the Comext database (Eurostat, 2020).

Conclusions

In 2020, the average US tariffs on imports from China are more than six times higher than before the onset of the US-China trade war, reaching almost 20 percent. The tariffs have risen also in China to the level above 20 percent on average in several retaliation waves. The early evidence on the effects of the trade war in terms of the pass-through of the tariffs into domestic prices and stock price movements confirms expectations on the losses for both actors.

The effects of new protectionist measures are in the constellations of complex GVCs and supply chain trade much more unpredictable, complex, and not limited to the countries directly involved in the trade war. In a response to additional tariff measures, multinational companies are shortening, reorganizing,

and relocating production stages along international value chains. At the onset of the trade war, the GVC position of the US and China has been different; the US tended to be positioned more upstream in GVCs while China more downstream, resulting in larger US value added embodied in Chinese exports than Chinese value added in US exports. Due to a more downstream position, China tends to be more exposed to additional trade costs.

The involvement of the EU-28 in GVCs is characterized in general with a more upstream position in trade with China, while backward participation strongly prevails in the EU-28 trade with the US, with notable differences among EU member states. Trade data for the two most recent years shows a certain degree of EU trade reorientation towards both the US and China, where an increased share of exports to the US has been driven by intermediate goods, while in exports to China consumer goods showed the strongest growth.

The evidence on the adjustment of GVCs in wake of the US-China trade war suggests that an increase in trade costs has important implications for the organisation and location of GVC activities. We may expect that such a trend will be further strengthened in response to the current COVID-19 pandemic situation. Trade is likely to fall more steeply in sectors characterized by complex value chain linkages. Restructuring, shortening, and reorientation of GVCs will, expectedly, be even more pronounced since the COVID-19 crisis involves lockdown and social distancing causing major labour supply shocks and GVC disruptions.

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Tanja Istenič

GOVERNANCE DURING THE PANDEMIC: THE CASE OF THE EU

Introduction

Since December 19, 2019, people across the world have been facing a disaster of great magnitude occasioned by the acute respiratory infection COVID-19 (Wankmüller, 2020). After the first cases reported in China, the virus has quickly spread to other countries as well. The first COVID-19 case in the EU was reported in France on January 24, 2020. Due to rapid person-to-person transmission (Bai et al., 2020), the virus has quickly spread over all the EU member states.

To slow down the transmission of the virus among the population, EU governments have implemented several non-pharmaceutical measures. However, the strictness of these measures was different among the EU countries, ranging from less restrictive in some northern countries (such as Sweden and Finland) to extremely restrictive in countries such as Italy and Croatia (Hale et al., 2020c).

In the initial COVID-19 crisis phase, EU institutions worked in a rather non-coordinated fashion (Djalante et al., 2020), where national interests were paramount. However, later on, EU institutions began working in a more coordinated manner. Several measures have been implemented, such as allocating substantial financial resources to research on a vaccine, providing financial support by protecting workers' salaries and businesses in general (Goniewicz et al., 2020), and enabling the purchase of protective equipment through the Civil Protection Mechanism (European Council, 2020a).

This chapter summarises the EU countries' response to the COVID-19 crisis through the different non-pharmaceutical measures that the member states implemented. First, the extent of the virus' transmission in EU countries is pre-

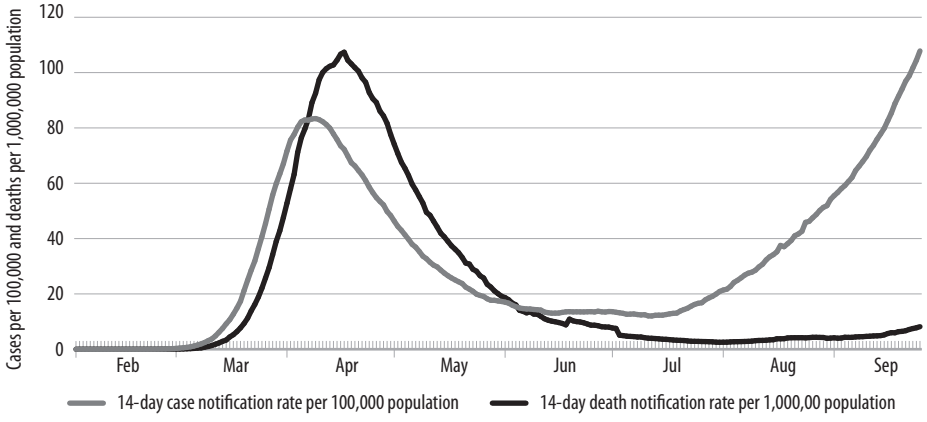
sented – in its initial phase and in the aftermath of the crisis. Section 2 examines the differences in and reasons for non-pharmaceutical measures implemented by the member states to limit the COVID-19 crisis. Section 3 presents country-specific measures implemented to support individuals, firms, and economies from consequences of COVID-19. Section 4 describes the initial governance crisis faced by the EU and continues to examine governance coordination adopted later. The last section concludes the chapter.

1 The magnitude of the virus' spread in European countries

By the end of January 2020, the first cases were reported in the EU countries, all with travel histories to China. By the end of February, Italy reported a significant increase in COVID-19 cases in the northern part of the country. By March 2020, all EU member states had reported COVID-19 cases (Goniewicz et al., 2020).

After the first case reported in France on January 24, the virus quickly reached other European countries. The latest data of the European Centre for Disease Prevention and Control (ECDC) shows that by September 25, 2,635,720 cases had been reported in the EU-27, ranging from 1,594 and 1,663 cases in Latvia and Cyprus to 304,323, 497,237 and 704,209 cases in Italy, France and Spain, respectively. By September 25, 145,693 deaths had been reported in EU-27, ranging from 22 and 36 deaths in Cyprus and Latvia to 31,118, 31,511 and 35,781 in Spain, France and Italy, respectively (ECDC, 2020b).

Figure 1. 14-day COVID-19 case and death notification rates, EU/EEA and UK, 2020

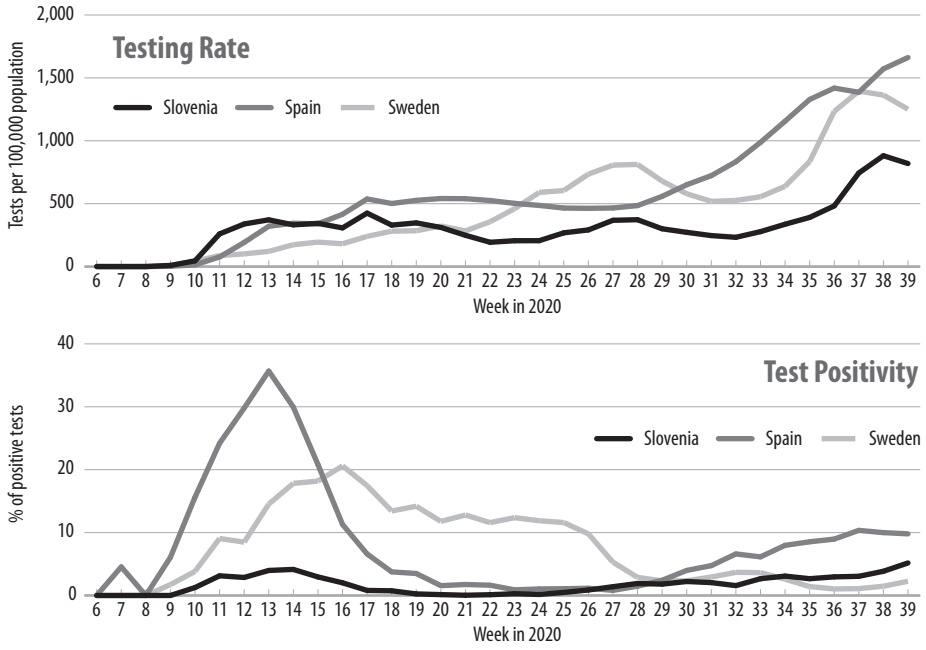


Source: ECDC, 2020d.

Figure 1 illustrates that the first peak in the number of cases in the EU/EEA and the UK occurred at the beginning of April, with more than 80 cases per 100,000 inhabitants in a 14-day period. The uptick in the number of deaths followed rapidly with more than 100 deaths per 1,000,000 inhabitants in a 14-day period. After the peak in the number of cases and deaths, the numbers started to decline in both cases.

However, from July onwards, the number of cases detected started to multiply sharply again. This can be partially explained by improved testing strategies. Figure 2 shows the number of tests per 100,000 inhabitants and test positivity for three selected countries: Slovenia, Spain, and Sweden. In all three countries the number of tests performed in September has increased largely compared to previous periods. In contrast, test positivity remains relatively low compared to the period of initial outbreak and taking into account the increased testing rate. Improved testing strategies over time also probably mean that the initial number of cases reported was underestimated (Wankmüller, 2020). During the initial outbreak, mainly symptomatic or severe cases were tested (Sohrabi et al., 2020).

Figure 2. Testing rate and test positivity, EU/EEA and UK, February 3 (week 6) – September 27 (week 39), 2020



Source: ECDC, 2020c.

2 Different perceptions leading into different non-pharmaceutical measures taken

2.1 The differences in non-pharmaceutical measures implemented

Non-pharmaceutical measures are actions that individuals and communities can take to slow down the spread of the virus. The mix of measures taken by European governments were based on their local transmission situations, ranging from regularly practising good hand hygiene and physical distancing to more restrictive measures, such as a stay-at-home policy and a closure of schools (ECDC, 2020e).

The initial response of EU countries towards COVID-19 was fairly different and not always in line with the differences in the number of cases. The EU countries recognised the disaster risk and evaluated disaster impacts of COVID-19 very differently. Some countries (like Greece, Poland, and Hungary) recognised COVID-19 as a disaster that urgently needed action at a very early stage; others (like Sweden, Spain, and the UK) did not perceive it as a huge threat to their citizens or health systems. Moreover, the virus' spread and its consequences were uncertain, which additionally resulted in differences in the speed of the reactions and also in the country-specific differences in the mix of measures implemented (Wankmüller, 2020).

For example, certain countries imposed a complete lockdown, including closing schools, non-essential shops and borders, or suspended all events before the third death caused by COVID-19. Greece, Poland, Austria, Portugal, Hungary, and Czechia number among the countries that took such stringent measures. On the other hand, for certain countries, such as France, Spain, the UK and Germany, governments were reluctant to implement not only strict measures, such as quarantine and travel restrictions, but also less restrictive ones, such as strict personal hygiene (Wankmüller, 2020; Hale et al., 2020b). While Sweden did not introduce very strict measures (like stay-at-home policy) even in the aftermath of the outbreak (Yan et al., 2020), countries like France, Spain, the UK, and Germany introduced strict measures with an extensive time delay, much after the third COVID-19-related death occurred (Wankmüller, 2020).

Government measures in all countries gradually became stricter over the course of the outbreak, intensifying by the end of March. For example, even though during the initial stages France emphasised continuing life as usual,

the unprecedented speed of COVID-19 transmission altered the government's strategy from mitigation to suppression. The French were then instructed to stay at home – only essential activities, such as buying food or seeking medical care, were permitted. The French government even demanded a written note with an explanation of why someone left home (Yan et al., 2020). Similar restrictions were imposed in Spain.

Even though cross-country variations in the measures implemented decreased over time (Hale et al., 2020a), they remained fairly visible. To estimate the cross-country differences in the scope and scale of the governments' measures (Yan et al, 2020), the Oxford COVID-19 Government Response Tracker was established. This tracker provides a systematic method of tracking governments' responses to COVID-19 over time. The measures are aggregated into several indices, among which the Government Response Stringency Index describes cross-country variations in the number and strictness of government policies. The stringency index is a composite measure of several response indicators, such as school closing, workplace closing, restrictions on international travel, restrictions on internal movement, and so on. The index is rescaled to account for values between 0 and 100, where 100 means that the measures are the strictest (Hale et al., 2020a; Hale et al., 2020b).

Figure 3. Stringency index in Europe, April 1 and September 19, 2020

Source: Hale et al., 2020c.

Figure 3 demonstrates the values of the stringency index in Europe on April 1, 2020, when the first spike in the number of cases occurred, and on September 19, 2020 – this represents the moment of the last disposable data for all the countries at the time of the chapter's writing. On April 1, 2020, Croatia had

the highest stringency index at 93.30, followed by Italy at 91.67. Sweden and Finland, with 40.74 and 60.19, respectively, had the lowest stringency index.

These differences in the measures taken by the countries were driven by the number of COVID-19 cases and deaths and also by the countries' general health situation (Kandel et al., 2020). The measures were also determined by the governments' perceptions about the possible duration of the COVID-19 crisis. For example, the Swedish government characterised the COVID-19 pandemic as a marathon and not a sprint (Politico, 2020; Yan et al., 2020). The Swedish response to COVID-19, therefore, did not include any strict stay-at-home policy, which was signalled as controversial by many countries. Rather, they wanted to implement measures acceptable by individuals in the long run. Sweden therefore banned non-essential travel to the country but never fully implemented internal travel restrictions. Moreover, schools, gyms, restaurants and so on remained open (Yan et al., 2020). However, gatherings for groups of 50 individuals or more have been restricted (ECDC, 2020a).

Over time, other European governments realised that the virus would not disappear soon and that the vaccine would not be discovered as early as some had hoped. Many strict measures were therefore abandoned to return the economy to its normal pace. Figure 3 shows that in the period between April 1 and September 19, the stringency index decreased in all EU countries; however, the degree was fairly different among countries. On September 19, the stringency index was 19.44 and 22.22 in Lithuania and Estonia, respectively, and up to 62.50 and 63.43 in Spain and Ireland, respectively (Hale et al., 2020c). The initial strict measures became fairly relaxed during the summer in countries such as Cyprus, Czechia, Estonia, France, Italy, Lithuania and Slovakia. In contrast, the relatively relaxed initial measures in Denmark, Finland, Malta and Sweden stayed almost as restrictive later (for more details see ECDC, 2020a).

3 Country-specific measures taken to support the economy

The European Commission regularly updates the EU member states measures taken or announced to fight against the spread and impact of the coronavirus (see European Commission, 2020b). In this section we briefly present country-specific measures taken to promote employment and the economy in general by the end of August 2020.

The EU governments have taken several different packages of measures to support health sector, firms, jobs and families. An overview of the measures taken and announced is presented for the following selected countries: Italy and Spain (as countries most effected by the virus), Sweden (as a country where non-pharmaceutical measures taken to limit the spread of the virus were initially less rigorous), Austria and Germany (presenting countries somewhere in between the both extremes) and Slovenia.

3.1 Slovenia

By the end of August 2020, the Slovenian National Assembly adopted four anti-corona legislative packages. The first one was adopted on April 2 as a tool for a rapid financial help to the population. It included several measures applied until May 31, some of them worked retroactively. These measures were: (1) one-off crisis allowance for pensioners with pensions below 700 EUR; students, families with more than three children, and for vulnerable groups; (2) covering for 80 percent of salaries and all social contributions for temporary lay-offs and workers that stayed at home to take care of their children; (3) giving self-employed, farmers and religious workers that were affected by the crisis a basic income of 350 EUR in March, and 700 EUR in April and May; (4) covering for employees' pension insurance contributions for workers staying at the workplace; (5) offering an allowance of up to 100 percent of their basic salary to public sector workers who were highly exposed to health risks and had higher workloads; (6) reducing water reimbursement for entities with a special right to use water (e.g. entities dealing with thermal water).

On April 28, the government adopted the second anti-corona legislative package, mainly focused on enabling guarantees to banks for loans granted with maturity of up to 5 years. On May 29, the third package was adopted focusing on: (1) subsidised short-time work in amount of up to 20 hours per week per worker; (2) the extension of wage compensation for temporary lay-offs by the end of June; (3) vouchers for citizens that should be redeemed by the end of the year in tourist facilities in Slovenia; and (4) financial incentives, such as loans and grants, for small and medium sized enterprises (SMEs).

The fourth anti-coronacrisis legislation package was adopted on July 9, 2020, mainly focusing on measures needed to prepare the economy for the second wave of COVID-19. This package additionally extended the wage compensation

for temporary lay-offs (by the end of July) and included measures like offering salary compensation for workers in quarantine.

3.2 Spain

In Spain several comprehensive packages of economic and social measures were adopted. During the outbreak, the Spanish government highly focused on measures protecting vulnerable groups, for example, (1) covering meal allowances to ensure basic access to food for vulnerable children (due to closure of schools); (2) ensuring direct assistance to individuals unable to pay for their housing rents in the amount of up to 900 EUR; (3) offering financial support to victims of gender-based violence, homeless people and other vulnerable groups; and (4) providing additional funds to ensure assistance to dependent individuals.

Furthermore, the Spanish government helped workers and companies by (1) providing extraordinary allowance for the self-employed, for workers with reduced hours or for those who lost their job due to COVID-19; (2) extending temporary contracts for university workers; (3) opening a new line of guarantees via the National Development Bank to provide liquidity for firms and self-employed workers; (4) allowing public workers to change their normal activities to voluntary support in health and other areas where reinforcement of human resources was needed; and (5) allowing retired health workers to return to work. The Spanish government additionally accepted several tax and social-contributions measures with a focus on SMEs and self-employed workers, as well as tourism and agriculture workers.

3.3 Italy

In the first phase of the measures implemented, the Italian government focused on measures that aimed to reinforce the public health sector. It also suspended tax payments and social contribution payments in the regions of complete closure in that period. In the second phase, packages like the "Cura Italia" Decree (providing economic support for households, workers and firms), the "Liquidity" Decree (including liquidity and fiscal measures) and the "Recovery" Decree (including healthcare, economy, jobs and social measures) were implemented to tackle the economic and social consequences of COVID-19. The total amount of the economic support in 2020 is estimated to account for 4.5 percent of GDP. Additionally, guarantees are estimated to account for 40 percent of GDP.

3.4 Sweden

The Swedish government presented several measures, similar to those presented above, to protect workers, businesses and vulnerable individuals. The measures were adopted in five amending budgets and in the "Spring Amending Budget for 2020". The amending budgets took place in the period between mid-March and April 15, 2020. Among the other measures the Swedish government implemented a temporary discount for firms' rental costs and introduced several active labour market policies by, for example, relaunching an initiative for green jobs, introducing several opportunities for vocational education, and training for the unemployed. Furthermore, to make jobs in the elderly care more attractive, elderly care employees have been offered paid training during their working hours. The employees' absence is covered by the government.

3.5 Germany

The measures implemented by the German government were mainly focused on jobs, businesses and the economy. The state offered an unlimited volume of Federal guarantees, with an additional target program for start-ups and SMEs. It established the Economic Stabilization Fund that targets real economy and incudes recapitalization instruments, additional guarantees, and direct grants for SMEs to cover expenses such as rents, etc. To improve liquidity several tax measures were adopted, like facilitating tax deferrals and reduction of tax payments. To reduce or avoid lay-offs the government lowered the requirements for short-time working schemes.

On the other hand, German measures directed to the vulnerable groups were scarce compared to other countries, especially Spain. The measures protecting vulnerable groups were primarily targeting low-income families, with a focus on a temporary increase in child and family related allowances.

3.6 Austria

From mid-March onwards, the Austrian government implemented several measures to mitigate the consequences of the pandemic. The initial budget, accounting for approximately 10 percent of GDP, has been gradually implemented. In mid-June, additional stimulus measures were introduced.

The Austrian government established the "Corona Aid Fund", providing state-guaranteed loans and grants to compensate for specific firms' fixed costs. Furthermore, to promote firms' investments, a 7 percent of investment premium was adopted. Additional funds were invested in thermal renovation and renewable energies. A special fund was adopted for associates in sports and culture, self-employed workers, the Austrian film industry, etc.

The state offered a one-off payment for the unemployed (450 EUR) and families (360 EUR per child). An additional fund for caretaking was established, focusing on elderly care. Moreover, several tax measures were adopted, for example a reduction in VAT from 20 percent to 10 percent on non-alcoholic beverages. Later on, further VAT reductions were introduced in the gastronomy sector, cultural sector, the publishing sector, etc. Moreover, a reduction of income tax rate was implemented (from 25 percent to 20 percent) as well.

4 From the initial EU governance crisis to joint coordination

The EU offers tools and institutional structures for solidarity, mutual learning and coordination. However, the COVID-19 crisis has changed the face of Europe and revealed its lack of unity. The differences in national responses to COVID-19 resulted from different national preferences and political legitimacy (Pacces and Weimer, 2020). The problem of isolated decision-making usually leads to a lower efficiency in measures taken; therefore, to overcome the COVID-19 crisis, joint coordination mechanisms are required (Bozorgmehr et al., 2020) from the very beginning.

At the beginning of the virus' spread, EU governments faced a crisis of insufficient communication and problematic handling of the resource constraints. Germany, for example, implemented an export ban on protective masks that were initially intended for the Austrian market (Bloomberg, 2020). To handle supply shortages of protective equipment, Austria and France appealed for international support and imported tonnes of equipment from China (Austrian Press Agency, 2020; Metropole, 2020). However, later interventions by the European Commission forced Germany to relax exports to its neighbouring countries (Reuters, 2020). Similarly, by the end of February 2020, when the Italian outbreak accelerated, the countries' leaders requested the Emergency Response Coordination Centre (the EU's crisis hub) for additional protective equipment and ventilators. While EU member states began sending the equipment to Italy no sooner than mid-March, China was already exporting the equipment as well as

sending medical experts (Foreign Policy, 2020; European Commission, 2020a; Bozorgmehr et al., 2020).

It appears that the EU was surprisingly slow in coordinating the response to the outbreak (Djalante et al., 2020). According to Bozorgmehr et al. (2020), in such a crisis, EU institutions should have actively intervened and immediately stopped the years of economic deregulation and fiscal austerity. However, in the aftermath of the crisis, high infection rates and a high number of deaths encouraged the European Commission to start coordinating a common EU response to the outbreak (Djalante et al., 2020). In their review of the management decisions of the EU regarding the COVID-19 outbreak, Goniewiez et al. (2020) highlighted the following emergency responses by the EU:

- **Limiting the spread of the virus** by border restrictions (for non-essential travel to the EU) and by the appointment of the ECDC to issue continuous risk assessment for the EU population.
- **Ensuring the provision of medical equipment** by joint public procurement (on March 19, a strategic rescEU stockpiling was created, representing the European medical equipment reserve), by regulating exports of key supplies from the EU, by increasing the production of medical equipment, and by activating the EU Civil Protection Mechanisms.
- **Promoting research for treatments and vaccines,** for example, by mobilising 47.5 million EUR for 17 projects over Horizon 2020. Further, the European Innovation Council accelerator program provided 164 million EUR to small and medium-sized enterprises and start-ups for innovative COVID-19 related solutions (Djalante et al., 2020).
- **Repatriating citizens** of EU member states by investing in efforts to help EU citizens return to their home countries from abroad. More than 500,000 EU citizens were repatriated by early April.
- **Supporting employment, businesses and the economy** by requiring member states' measures to protect those affected by bankruptcies (employers and employees), especially through the SURE instrument, which is a form of financial assistance to the member states to deal with sudden increases in public expenditures to combat unemployment.

An additional step in the EU's governance was the European Central Bank's announcement of non-limited commitment to protect European economies by, among other measures, purchasing sovereign and corporate debt (Financial Times, 2020; Bozorgmehr et al., 2020).

Furthermore, EU leaders met physically on July 21 to agree on the long-term EU budget for the 2021–2027 period. The overall budget of EUR 1824.3 billion, meant to empower the recovery from COVID-19, consists of the Multiannual Financial Framework (EUR 1074.3 billion) and an extraordinary recovery effort called *"Next Generation EU"* (NGEU), worth of EUR 750 billion. The latter will help the member states to recover after the COVID-19 pandemic, by especially focusing on supporting investments in green and digital transformations.

The NGEU will be allocated to seven individual programmes: Recovery and Resilience Facility (RRF), accounting for EUR 672.5 billion. (EUR 360 billion of loans and EUR 312.5 billion of grants), React-EU (EUR 47.5 billion), Horizon Europe (EUR 5 billion), InvestEU (EUR 5.6 billion), Rural Development (EUR 7.5 billion), Just Transition Fund (EUR 10 billion) and RescEU (EUR 1.9 billion). The RRF's plan is to ensure that money goes to the countries that have been most effected by the COVID-19 crisis. It is planned that 70 percent of the grants will be committed in years 2021 and 2022. The allocation of money in 2021 and 2022 will be based on the European Commission's allocation criteria that take into account living standards, the size, and country-specific unemployment rates. The unemployment criteria will later be partially replaced with the loss in real GDP criteria (European Council, 2020b; Anadolu Agency, 2020). Italy (with EUR 84.86 billion) and Spain (with EUR 71.28 billion) are planned to be the greatest beneficiaries of the EU recovery grants, followed by France (EUR 50.66 billion) and Germany (EUR 47.18 billion). Slovenia is estimated to get EUR 1.73 billion, followed by Cyprus (EUR 1.00 billion), and Malta (EUR 0.30 billion) with the minimum values of the grants received (Bruegel, 2020).

Conclusion

After the first EU COVID-19 case in January 2020, the virus has quickly spread and reached the entire EU. To modify individuals' behaviour (Yan et al., 2020) and therefore fight the virus, EU governments have implemented a series of non-pharmaceutical measures. During the first outbreak, the scale and scope of measures was fairly different among countries, ranging from the less restrictive ones in Sweden and Finland to the more restrictive ones in Croatia, Italy, Spain, and France, for instance. The strictness of measures resulted from the number of country-specific COVID-19 cases and deaths, the general health situation, and governments' perception of the length of the crisis. During the summer, measures became less strict in all countries, being most relaxed in Lithuania and Estonia, but still fairly strict in Spain and Ireland.

This chapter further reveals that all EU member states have adopted several different packages to help their individuals and firms; with packages that to a high extent protect vulnerable individuals (like in Spain) to those mainly focusing on firms and the economy (like in Germany).

The current COVID-19 crisis has also resulted in an EU governance crisis, which mainly stemmed from a lack of unity among the member states. Initially, the communication among governments was insufficient and the decisions were inward-looking, especially in terms of the supply of protective equipment. Fortunately, after the initial crisis, EU governance became more coordinated and supportive. Learning from the first COVID-19 wave in spring, EU governance should ensure more coordinated EU member states' responses to any crisis in the future.

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Francesco Pastore

ITALY BETWEEN A DISASTER AND A NEW DEVELOPMENT STRATEGY

Introduction

Italy has probably been one of the first ships to cross the storm of the pandemic, soon after Wuhan in China. The linkages of life in two continents so far away has dramatically shown yet another unexpected and undesired consequence of globalization. After the globalization of trade in goods, commodities and financial capitals, we now experience the globalization of public health. However, globalization is also bringing solutions to the new challenges.

Italy is experiencing one of the deepest economic crises in its history. The GDP decline at the end of the year 2020 will be about 10 percent below the estimates presented in public debates. This is one of the deepest declines in Europe and perhaps in the world. The reason is not only that Italy experienced the pandemic earlier than other countries, but that the pandemic recession has drawn on old structural problems of the Italian economy. Due to these problems, Italy has been already before the pandemic one of the worst performers in terms of growth rates in Europe in the last 20 years.

The evils of Italy are well known. It is the second biggest manufacturer in Europe, but also among the most traditional ones. Its competitive advantages are in the industries of food, leather and footwear, although it has excellence also in the field of mechanical industry and in all other sectors. As such, made in Italy, despite moving up in terms of quality and skilled content, still remains the most exposed to the competition from emerging market economies. The crisis in these industrial sectors was already ongoing when Italy joined the euro currency, and the strong currency made things worse, further reducing the competitiveness of Italian industries.

It has been clear since the beginning of the establishment of the Euro area that, as the Nobel prize winner Franco Modigliani (see Modigliani et al., 1998; see Bossone and Labini (2016) for a more recent assessment) put it, "we cannot have our barrel full and our wife drunk".[1] Modigliani suggested not joining the euro; he namely claimed that a strong currency would have destroyed the Italian traditional manufacturing industry.

In other words, the condition for accepting the euro would have meant, in terms of the EU jargon, implementing the Lisbon strategy to face the challenges of the strong currency. The necessary industrial upgrading from traditional manufacturing to the new branches of industry would have required strong public investment in infrastructure, which were not allowed or not possible due to the Maastricht Treaty of 1993, the economic and financial crisis at the end of the 2000s, and the Fiscal compact of 2012. In a historical perspective, it is clear that the country was into a straightjacket from the financial point of view and could not implement all the changes which were necessary in terms of public investment to favor the deep restructuring, which was necessary to enter the so-called "high road to development". With the latter, we generally mean the expansion to new industrial sectors, which nowadays would mean: green economy, nanotechnologies, digitalization, artificial intelligence, and generally everything under the term Industry 4.0.

Fortunately, the pandemic has changed the mind of the European Union (EU) governance. Probably, it was necessary that also the more advanced countries of the EU were involved in the economic crisis to make their citizens and electors understand that the EU needs a much braver fiscal and monetary policy. This eventually led to the implementation of the so-called Recovery Fund (RF) or the Next Generation Fund (NGF). The aim of this chapter is to present the Italian experience during the COVID-19 health crisis, its governance and economic consequences that were partly due to poor state governance in the past. In the last section of this chapter, we discuss some of the investment programs that are under discussion in Italy to use the 209 billion euros of the Recovery Fund to bring the country not only out of the pandemic storm, but also out of the euro currency storm.

1 This is an English translation of the Italian expression. The corresponding expression in English could be: "have your cake and eat it too".

1 The economic outlook for 2020[2]

The COVID-19 emergency exploded in Italy earlier than elsewhere in Europe for two main reasons: the unpreparedness of the health sector and the bad approach of important political leaders, whose responses largely contributed to the spread of the disease. There is evidence showing that the virus was already present in the Lombardy region as early as the end of 2019 and the beginning of 2020, although nobody was aware of it. Moreover, being one of the first regions to be hit, Lombardy allowed the virus to spread enough to make it a focus already at a time when it was almost unknown elsewhere. This can probably be attributed to high openness to globalization of the region, maybe one of the greatest in the world. Medical doctors did not know how to deal with the disease at first and made dramatic choices, such as allocating COVID-19 places in retirement homes for elderly people. As a result, most of them got infected and died.

Table 1. A comparison between Italy, Japan and South Korea

Indicator	Italy	Japan	South Korea
Cumulative COVID-19 deaths per million inhabitants up to October 17, 2020 (Worldometers)	604	4	13
Total COVID-19 deaths up to October 17, 2020 (Worldometers)	36,474	443	1,661
Maximum daily COVID-19 deaths (worldometers)	9,210 (May 27)	9 (May 24)	49 (May 4)
Number of hospital beds per 1,000 inhabitants (OECD)	3.1 (2018)	12.4 (2018)	13.0 (2019)
Rate of change of real GDP in 2020 (estimate IMF, October 2020)	-10.6	-1.9	-5.3
Unemployment rate (%) in 2020 (estimate IMF, October 2020)	11.0	4.1	3.3
Public debt as % of GDP in 2020 (estimate IMF, June 2020)	166.1	53.4	268.0

Source: Valli, 2020.

In addition, several politicians from different political parties underrated the severity of the situation, suggesting that restrictions were useless. This allowed the spread curve of the virus to reach its peak very soon. This explains the particularly poor performance of Italy also in comparison to Asian countries, where the disease was spread earlier (see Table 1). Italy has experienced a much higher number of COVID-19 related deaths per day and therefore also

2 For a more detailed assessment of the pandemic recession, see Lab24 (2020).

cumulative deaths. A possible explanation is also a much lower number of hospital beds per 1,000 inhabitants and probably also the lack of experience in treating the disease.

Due to the health emergency, especially in the Northern regions, which are the most globalized, a number of barriers to the free circulation of people had to be imposed in the country. These measures started as early as March 2020 and lasted with different intensity till June. The country went through a very rigorous lockdown which involved the closure of many economic activities for an indefinite period of time. The ensuing pandemic recession was dramatic.

Italy will experience the worst GDP decline within the EU after Greece, of about -9.5 percent in 2020 (Eurostat, 2020). The rebound in 2021 will reach just a little bit more than 6 percent leaving on the ground over 3 percent of the pre-pandemic GDP. It is one of the worst, if not the worst decline ever.

Behind the translation of the pandemic health emergency into a dramatic pandemic recession, there are a number of causes: (1) the interruption of many production activities due to the restrictions and eventually the lockdown; (2) the broken interlinkages across the sectors of the economy; (3) the reduction in employment and incomes and, therefore, in internal consumption; and last but not least, (4) the increasing uncertainty regarding the future, which has affected all long-run decisions, including decisions about consumption of durable goods and firms' investment in new capital.

The crisis has been affecting all sectors of industry, although the service sector was even more severely affected; tourism, entertainment, and culture nowadays represent a very important share not only of GDP, but also of employment, due to their higher than average labor intensity and the competitive advantage of "Belpaese". Tourism represented 5.5 percent of GDP in 2017 and, indirectly, contributed about 13 percent of GDP if spending of the operators in the sector is included. This share is much bigger than the corresponding shares in France (9.5 percent) and Germany (8.6 percent) (World Travel and Tourism Council, 2017).

Another factor to consider is the dramatic slowdown of international trade, which according to the IMF has so far amounted to about 10 percent of the flow of 2009 (Zhang, 2020). Being a country heavily open and integrated in the world trade, Italy has suffered the consequences of the slowdown in trade to a large extent.

The reasons why the recession hit Italy more than other countries are numerous. First, the country started the restrictions earlier than elsewhere. Second, the restrictions were much more severe than in other countries that tried to cope with the emergency with more flexibility until some point. Third, the crisis more heavily affected some sectors which are particularly important for the Italian economy, such as tourism, hotels, and restaurants, as well as event and cultural tourism, for instance.

However, another important reason is that the crisis hit an economy which, for a number of reasons that will be analyzed in the next section, has been showing a very low growth rate already in the last two decades.

2 Old and new problems

When the pandemic recession arrived, the Italian economy was already weakened by a series of negative events and, above all, the economic and financial crisis of the previous decade (2007-08), which it never fully recovered from. The unemployment rate, especially that of young people and women, was still very far from the pre-crisis period (see, among others, Pastore, 2019), while still a very large share of the population was under the poverty line, especially in the South. And this also explains the extraordinary result of the political elections in 2018, when a new, populist, Eurosceptic 5-Star Movement became the leading political party in Italy, with the national average of over 32 percent and up to 60 percent in many areas in the south of the country, where their main policy proposal was a new program for a very generous citizenship income against poverty.

Before that the introduction of the euro had already negatively impacted industries of the North, both in the West and East sides. Many firms could survive only at the cost of outsourcing the most labor intensive phases of production abroad, mainly to Eastern Europe, China or North Africa.

The euro caught Italy when it was firmly grounded in what is sometimes called "the low road to development", a type of production which is substantially based on traditional manufacturing (Modigliani et al., 1998).

These manufacturing sectors are based more on price competition than innovation or investment. In these sectors, the international competition is primarily for the lowest price, rather than for the most innovative products. The

euro immediately eliminated the main tool of the country to re-gain the lost competition in international markets, the so-called competitive devaluation, which had been used for decades as witnessed by the lowest value of the Italian lira compared to the strongest currencies. In the year 2000, one dollar was worth about 2,000 Italian lira and one German mark was worth about 1,000 lira, whereas after World War II, one dollar was worth one Italian lira.

Especially after the introduction of the euro, the country tried to switch onto the road of quality product differentiation. In other words, in addition to outsourcing abroad the most labor intensive phases of production, Italian companies tried to move up to the highest quality segments of production, exploiting design and innovation to differentiate from the products of international competitors, especially from the emerging economies. However, this was not enough to increase the growth rate and the country kept lagging behind the other EU member states.

In recent years, the so-called austerity imposed by the European Union (EU) has had many negative and sometimes counter-productive effects on Italy. Until 2015, when the economic and financial crisis was already ongoing, the Treaty of Maastricht, signed in February 1992, continued to operate with that extreme rigidity typical of the Washington Consensus paradigm that presupposed, mainly based on monetarist arguments (see De Grauwe and Yuemei, 2015, for an assessment), that monetary and financial stability are by themselves capable of leading to economic growth (Williamson, 2009). Moreover, according to several economists (e.g. Bohn, 2006), the monetary union should have expansionary effects simply due to the permanent reduction in interest rates in the area.

And this happened despite the accusation of "stupidity" that prominent economists had said about the effects of the Maastricht Treaty long before. By "stupidity", several economists meant the tendency of the Treaty to impose, among others, always the same maximum level of deficit limit, the famous 3 percent, independent of the business cycle. This implied increasing the public debt in both periods of downturns, when it makes sense to spend more to support aggregate demand, and of upturns, when it is instead useful to reduce the deficit and debt as predicted in the so-called stop-and-go approach of the Keynesian expansionary fiscal policy as an anti-cyclical tool (e.g. Pasinetti, 1998; De Grauwe and Yuemei, 2015).

In 2011, the so-called "Six-pack directive" introduced even more rigid procedures of control of the EU institutions on the national budget of EU Member States. In 2012, in the middle of the financial crisis, which led to the resigna-

tion of Silvio Berlusconi from the Office of Prime Minister and Mario Monti replacing him, the Parliament approved a constitutional reform to affirm that no public deficit is allowed and the public budget should always be in equilibrium.

Only in 2015, again under the pressure of Italy and other EU countries which were still struggling with the economic crisis and could not manage to reach the convergence path of the public debt reduction in the agreed time frame, the EU institutions allowed for more flexibility in reaching the deficit target under given conditions. However, changes were marginal.

3 The consequences for Italy

In the early years of the implementation of the Maastricht Treaty, many authoritative economists welcomed the financial stability as good for Italy, because it was considered as a disciplinary device for a country that in the previous decades, at least since 1970, had incurred an uncontrolled expansion of public debt over GDP, up to 120 percent of GDP in 1994. Indeed, in the first years of its implementation, the Maastricht Treaty pushed the country to reduce its public debt down to 100 percent of GDP during the periods of both centre-right and centre-left governments of Silvio Berlusconi, Massimo D'Alema and Romano Prodi (1990-2008). This was achieved by means of a dramatic reduction of the overall deficit as a share of GDP and at the same time by means of a dramatic reduction in the cost of the debt in terms of interest rates, but, above all, a number of consecutive primary budget surpluses. The country made an enormous effort to curb public debt, but because of its extremely high level and the high cost in terms of interest rates, no matter how much disciplined the Italian governments were, the reduction of the debt was very slow. Italy did make a serious effort to reduce the debt, but it has probably already passed the threshold of sustainable debt (Erber, 2011).

Moreover, what people understood from this period was that no matter how big the sacrifices were, it was not enough. Therefore, in those years of strong Europhilia, the basis for the ensuing Euroscepticism was laid (Lucarelli, 2015; Marelli and Signorelli, 2017).

One of the negative and unforeseen consequences of European austerity has been the tendency to reduce the component of capital expenditure that gives rise to investment. One reason is that this component is also the most easily controllable in the short term, when governments need to save money. Indeed,

structural reforms are needed to reduce spending on wages, public administration (PA) purchases and social contributions (pensions and assistance). Pension reforms, for example, do not have an immediate effect, partly due to milder measures to make them easier to accept, partly because they take time to produce effects. Spending on PA purchases is also difficult to reduce and control. Spending on social assistance is important to alleviate the social effects of the crisis.

It is, therefore, easier to reduce capital expenditure and, in fact, this component has decreased significantly, even though it was already at its lowest levels. It declined from 5.3 percent in 2001 to 4.2 percent in 2015 (Alesina et al., 2019; Engler and Klein, 2017). The reduction has been stronger in the Mezzogiorno, but substantial also in the Center-North macro-area, especially since 2009 (Coco and Lepore, 2017).

The reduction of capital expenditure occurred in the South, first of all, canceling the effect of FAS Funds (for under-utilized areas) and the relatively higher share which the region got from the national budget. In 2012, Southern capital expenditure was just 19.1 percent of the total against a population share of the south over the total population which is 34%. Former Mezzogiorno Minister under the government of Paolo Gentiloni, Claudio De Vincenti, did well to anchor it at 34 percent in 2016 (Coco and Lepore, 2017).

The consequences on the infrastructural gap in the South, which also has ancient roots, are evident. There is no high speed train either on the Tyrrhenian backbone, nor on the Adriatic one, nor between the two ridges. Larger airports are needed near the main cities of Southern Italy. Basic and business research and innovation should be encouraged. Infrastructure investments for tourism would have immediate effects on growth.

4 The economic policy twist in Europe

Exactly because of the old structural features of the Italian economy, Modigliani advocated against its entrance in the euro area.[3] His main point was that in order for the euro to work properly as a driver of economic growth for the continent, the European Central Bank should be designed not only for the objective of controlling inflation, but also for stimulating the economic growth. Money should have been made available by the Central Bank to support the necessary

3 A collection of such interventions is easy to find online. See, for instance, Gionco (2018).

move to the emerging sectors. However, as already said, no major changes in the EU macroeconomic policy governance and management had taken place.

A sudden and partly unexpected change in approaches has occurred only with the COVID-19 crisis. The pandemic crisis had a systemic nature, as it affected all countries of the EU with a similar strength and producing similarly dramatic negative effects on GDP. The systemic nature of the crisis made the adoption of a common recovery strategy for the first time a common aim of all member states, both the net creditors of the Center and Northern areas of the continent and the net debtors of the Eastern and Southern areas. Strangely enough, the virus yielded a common destiny to all the EU member states as never before, also in financial matters.

For the first time after a long period, all member states agreed on the same strategy, beyond the apparent conflicts that politicians were showing off during their international meetings for the enjoyment of their national electorate. Especially fierce was the opposition of the so-called "Frugal Four" (Austria, Denmark, the Netherlands and Sweden, plus, less fiercely, Finland). However, the discussion within the EU has been ongoing for decades about the need to have own financial resources at the EU level and therefore an autonomous public expenditure to support the production of EU public goods and investment. As Baglioni (2020) notes, the rescue fund is anticipating the development of a EU level fiscal policy, which was required by several observers already before the introduction of the euro.

A next step will require to make such EU spending self-financing permanent. To achieve this, specific taxes should be introduced and raised by the EU to collect the necessary financial resources. The discussion is currently focused on taxes on plastic, pollution, transportations, digital communications, and financial transactions (European Commission, 2020a). If and when such taxes will be introduced, the Next Generation Fund will become a permanent feature of the EU.

Two main financial policy tools have been under discussion: the European Stability Mechanism (ESM) and the Recovery Fund also called the Next Generation Fund (NGF). The ESM[4] was in fact already established when the pandemic exploded. Its aim was to face a financial crisis of individual member states that could affect the overall financial equilibrium of the system. It has been used not only to support Greece, but also Cyprus and Spain in different periods. Now,

4 For a more detailed presentation of the ESM, see European Stability Mechanism (2020).

some parts of this fund can be used for addressing the financial needs related to the pandemic recession, which is indeed a systemic crisis.

The debate on the ESM within individual member states has mainly been regarding the accusation by sovereigntists and Eurosceptic leaders, such as Matteo Salvini in Italy, that the ESM was aimed to introduce a further conditionality principle for the EU Troika to determine the fiscal policy of individual member states from outside. Indeed, access to the loans provided at a very low cost by the ESM is conditional on implementing an approved program of macroeconomic adjustment. Nonetheless, currently, the only conditionality foreseen is that the money needs to be spent to support the health sector. Several observers and political leaders see the funds as a crucial tool to implement a full digitalization of the health sector, which should provide also important long-run cost reductions in public finances. However, the fact that such concerns were shared by the 5-Star Movement has prevented the Italian government from using this fund to finance the cost of the health crisis, at least so far.

Certainly, more enthusiasm was raised by the Recovery Fund, which is at least partly non-repayable and therefore imposing no conditionality rule on the internal fiscal policy. Nonetheless, part of the NGF is a loan at a very favorable interest rate, but still has to be refunded.

The overall budget includes 750 billion euros, of which 500 billion represent non-repayable grants and 250 are loans (European Commission, 2020b). About 210 billion euros are destined to Italy. The funds will be made available from April 2021 and will be provided over a period of 5 years. Non-repayable funds represent only part of the total.

The fund will be financed with emissions of EU bonds, the so-called Recovery Bonds. According to the Italian Ministry of Finance, they represent the first nucleus of the Eurobonds, proposed in the past by several economists and also EU leaders. This per se will guarantee that the interest rate paid on the loans will be very low for all member states and not only for the most virtuous as it happens now, with the national management of sovereign debt. In other words, loans will be guaranteed by the ECB and will be hence much cheaper for all users. Overall, this should guarantee that the fund is not going to weigh too much on the sovereign debt of individual member states, although the fund cannot be considered as a mutualisation of their sovereign debt, as some member states expected in the beginning. If any conditionality exists in the supply of funds, it is an ex ante one. In order to access the NGF, member states should

present a national action plan to the European Commission to explain how they intend to spend the money that has been allocated to them.

The government guidelines[5] for the implementation at a national level of the RF suggest the following key areas of intervention: green revolution and ecological transition; digitalization and innovation; infrastructures for mobility; education and training; regional and gender equality; healthcare (European Commission, 2020b).

The NGS or RF has the aim to help the EU countries face the pandemic recession. The idea is not simply to look at the short term by providing subsidies to the most hit components of the population, especially the self-employed and the jobless. Funds to support the weakest segments of the population will be specifically designed, reinforcing national spending chapters.

Instead, clearly, the RF takes a long-run perspective. It should support and finance the infrastructural investment that is necessary to implement the process of innovation and structural change from traditional to new and emerging productions, which should have been fostered in the entire continent already immediately after the introduction of the euro.

In order to repay the increasing debt which is still associated to the use of the NGF, it is important that the money is spent on relaunching the economic growth. This will be possible if the money is used on investment with a high multiplicative effect on GDP, namely, public infrastructure that allows a better development of the economy, investment in R&D by the private sector and also the state sector.

Public investment is the key not only to spread (diffuse) innovation, but also to promote the process of innovation. The state should not only support private investment with fiscal incentives, but also provide important material (transportation means and hubs, wired networks for digitalization) and immaterial infrastructures like support to human capital creation, research and development (Mazzuccato, 2018).

At the moment, there are only some governmental guidelines regarding how to spend the fund in Italy.[6]

5 At the time when we go in press, there is still no official document available regarding the details on how the NGF will be spent. However, there are several suggestions from authoritative observers and important government representatives.

6 See, for a summary, Gagliardi (2020).

Some of the proposals are the following: (a) an extension of the deadline for fiscal incentives to investment by firms; (b) an incentive for firms and households to restructure buildings to reduce the seismic risk, which is always very high in the country; (c) re-financing of the so far very successful Industry 4.0 plan, implemented in 2015 to stimulate investment by firms; (d) tax reductions for wages, especially their increase; (e) programs to reduce the use of cash in any financial transaction; and (f) a reform of tax collection (Gagliardi, 2020). In the South of Italy, but also in other peripheral areas of the country, investment should be used for high speed trains.

Much should be done to reinforce the green sector at all levels of the economy. This should also reduce the country dependency from fossil energy, which is almost all imported from abroad. Digitalization of the health sector and re-modernization of structures and machinery are also important aims.

A key issue under discussion is one of the governance of the fund at a national level, namely whether decisions should be taken only at a national level or also at a regional or local level. Many observers note that at least part of the resources should be delocalized to administrative levels of government to address needs which are not easy to see at a national level.

The NGF does raise some concerns. According to Valli (2020), the NGF shows the shortcomings of the European construction and also its slowness. It will be implemented too late to face the COVID crisis. Second, it contains a too large share of loans, rather than non-repayable funds. This means that individual member states which are already experiencing dramatic sovereign debt crisis will further increase their debt, although at lower interest rates, but still this is a further huge burden on the next generation. Moreover, Cinquegrana et al. (2020), among others, refer to it as a stigma risk as individual countries that will access the fund might see this as a sign of insolvency and require higher interest rates on public bonds. However, financial markets will know the specific nature of the fund and therefore not consider its access as a proof of illiquidity.

Conclusion

The pandemic recession has caused an explosion of not only old and new contradictions of the Italian economy, but also of the EU political and institutional construction. Italy is going through the deepest recession in its recent history with a GDP fall of about 10 percent, and new restrictions to economic

activities are being implemented by the government to face the second wave of the pandemic.

The pandemic recession is a systemic one, affecting all EU member states with a similar intensity. This has shown a dramatic weakness of the euro-area construction: the lack of policy tools to address periods of the systemic crisis, which was seen already in times of the economic and financial crisis in the first decade of the 2000s. Nevertheless, the EU institutions have been very slow in implementing any change in the traditional neo-liberalist and monetarist approach to the economic policy, which is at the base of the Maastricht Treaty. Fiscal consolidation and financial stability continued to be considered key in stimulating the economic growth, despite the apparent failure in dealing with the economic and financial crisis. The consequence has been an increasing Eurosceptic movement all over Europe.

However, the sudden, systemic nature of the pandemic recession has pushed to make quick and innovative decisions, such as the reactivation of the ESM and the establishment of another important tool of economic policy at the EU level, the Recovery Fund, also called the Next Generation Fund. It represents the first establishment of a common future EU fiscal policy and a pool of Eurobonds to finance it. The NGF will be in fact financed by means of specific EU bonds covered by the ECB and will finance public and private investment in infrastructure and in the most innovative sectors, such as digitalization, Industry 4.0, green economy and so on, to foster the economic growth all over the continent. This was already foreseen in the past within the EU, but always remained empty words. The COVID-19 emergency has had the effect of pushing EU institutions and governments to implement in a few weeks' time projects that have been under discussion for decades.

It is too early to predict how the funds destined to Italy will be spent. They will be made available in April 2021. In the meantime, the government is working on the identification of those important projects that might stimulate a stable growth process in the entire country for the years to come. For the first time now, after decades in which the EU Troika was conveying only sad messages, the EU is all over Europe seen as hope for hundreds of millions of people.

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II.

INDUSTRY PERSPECTIVE

Daša Farčnik, Elena Galevska, Jelena Mugoša, Angela Palevska

THE IMPACT OF COVID-19 ON THE HOSPITALITY INDUSTRY

Introduction

The unprecedented outbreak of COVID-19 has brought the world to a standstill (UNWTO, 2020). By the end of the first quarter of 2020, the COVID-19 pandemic had brought international travel to an abrupt halt and significantly impacted the entire tourism and hospitality industry (UNCTAD, 2020). The sector is experiencing a rapid and sharp drop in demand and a surge in job losses at a global level, putting many businesses at risk (Policy Center for the New South, 2020). Policy makers around the world have introduced measures to protect citizens and support business' survival, while they are also considering the long-term implications of the crisis on the tourism and hospitality sector, and the structural transformation which will be needed to build a stronger, more sustainable, and resilient tourism and hospitality industry in the future (OECD, 2020).

The purpose of this chapter is to explore the impact of the coronavirus pandemic on hospitality being a large part of the tourism sector in the European Union and Slovenia in particular. Tourism comprises accommodation, food and beverages, travel agencies and operators, passenger transport, gambling, sports, and amusement (OECD, 2020), but we focus on accommodation, food and beverages, and to some extent agencies, since they represent the largest part of the hospitality industry as the main component of tourism.[1] However, in the first subchapter we present data for the whole tourism sector. By analysing secondary data and conducting primary qualitative data through in-depth interviews light is shed on the effect of the pandemic on the hospitality industry. Starting with the contribution of tourism to GDP and employment in EU countries, the importance of the sector is emphasized. Next, the focus shifts

1 Passenger transport is analysed in Kos Koklič et al. (2020) in this book.

within Slovenia's borders, where insights regarding hospitality enterprises, government, and consumer reactions are presented. Finally, we conclude with a summary of all findings.

1 Contribution of tourism to GDP and employment

Tourism is one of the fastest growing economic sectors and is an important driver of economic growth and development (UNCTAD, 2020). In 2019, the travel and tourism sector's direct, indirect, and induced impact accounted for 10.3 percent of the global GDP and 330 million jobs, which translates to one in every ten jobs (World Travel & Tourism Council, 2020).

In 2019, the tourism industry generated on average 9.5 percent of GDP in the EU and slightly above the EU average (9.9 percent) in Slovenia. The tourism industry has the biggest contribution to GDP in the Mediterranean countries: in Croatia (25 percent of GDP), Greece (20.8 percent), Portugal (16.5 percent), Spain (14.3 percent), and Italy (13 percent). On the other side, the sector has less impact in countries like Belgium (4.3 percent of GDP) (World Travel & Tourism Council, 2020).

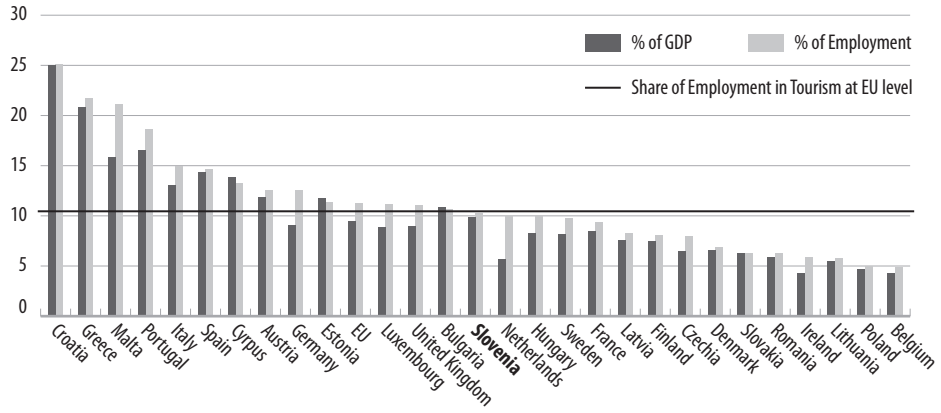
In each EU country, the travel and tourism sector has been growing faster than the total economy, thus the relative importance of the sector has increased since the recession in 2008 (Key Tourism Indicators, 2020). In order to support the growth and development of an important business sector, governments worldwide supported strategies to increase tourism revenues, overcome tourism seasonality, include local communities, and promote harmonious regional development (World Travel & Tourism Council, 2020).

Tourism is very labour intensive in nature and many employees in the industry have direct contact with tourists in airlines, hotels, restaurants, travel agencies, and various tourist attractions (UNCTAD, 2020). Such characteristics of the industry presented a disadvantage during the crisis, as the measures related to the COVID-19 pandemic restricted direct human contact, and many businesses were faced with limited capacity fulfilment and even complete shutdown.

Croatia has the highest percentage of employment linked to tourism (25.1 percent), followed by Greece (21.7 percent) and Malta (21.1 percent) (Figure 1). The average EU country has 11.2 percent of employment connected to tourism, with Slovenia located slightly below the average (10.3 percent). The Mediter-

ranean countries are again above the EU average, with Portugal consisting of 18.6 percent of tourism-related employment, followed by Italy (14.9 percent) and Spain (14.6 percent) (World Travel & Tourism Council, 2020).

Figure 1. Contribution of tourism as percentage of GDP and employment, EU countries with the UK, in percent, 2019



Source: WTTC, 2020.

In Slovenia, the direct contribution of tourism to GDP has increased (by 1.5 percentage points in the last decade) with an increasing ratio of foreign vs. domestic tourist arrivals, as the country's tourist attractions have been promoted outside its borders (Interview, 2020). Hence, in 2019, foreign arrivals accounted for 72 percent (6.3 percentage points more than in 2018 and 22 percentage points more than in 2009) with most tourists arriving from Germany, Italy, Austria, the Netherlands, and Croatia (Slovenian Tourist Board, 2020). Since Slovenia has increased its international inbound tourism in the last years, it will be more affected by the COVID-19 crisis even though most tourists arrive from the nearby EU countries. The effect has been seen clearly; if foreign tourist arrivals accounted for 75 percent of tourism arrivals between January and July in 2019, the share of international tourist arrivals dropped to only 47 percent in the first half of 2020, which reflects the impact of COVID-19 measures on tourism (Slovenian Tourist Board, 2020).

2 The impact of COVID-19 on hospitality

International tourism is among the most impacted by the COVID-19 pandemic. The latest edition of the UNWTO (2020) shows that the near-complete

lockdown imposed in response to the pandemic led to a 98 percent fall in international tourist numbers in May 2020 compared to 2019. The Barometer also shows a 56 percent year-on-year drop in tourist arrivals between January and May 2020. This translates into a fall of 300 million tourists and 320 billion US dollars lost in international tourism receipts – more than three times the loss during the Global Economic Crisis of 2009. In Table 1 we provide a brief overview of short and long-run effects of COVID-19 on hospitality.

Table 1. An overview of key short and long-run COVID-19 effects on hospitality

Short-run effects	Long run effects
Demand side	
• Drastic decrease in tourism demand • Sharp fall in the number of flights • Public vouchers	• Changes in consumers' preferences
Supply side	
• Closing down of the hospitality properties • Limiting restaurants' operations to only take-outs • Cancellation or postponement of major public events • Sectoral interconnectedness (indirect and induced effects) • Government's actions (liquidity assistance, temporary work leave)	• Limited number of customers can be served due to social distancing • Unemployment and more jobs at risk due to closing down and lower demand • Decrease of specific hospitality competences • Need for visible sanitation (hand sanitizers at the entry, staff and customers wearing masks, frequent cleaning of high-touch surfaces) • Sustainability and sustainable-oriented segments (rural, nature, health)

Sources: Interviews with industry representatives (2020); Gursoy and Chi (2020); UNWTO (2020).

In the worst-case COVID-19 scenario, global tourism demand could plummet by as much as 80 percent in 2020, with a potential recovery to pre-crisis within four years (UNCTAD, 2020). The countries set to be the most vulnerable to the pandemic's impact on tourism are those whose economies depend significantly on tourism. Losses in tourism, therefore, exceeding 2 percent of GDP are expected to be concentrated in countries such as Greece, Spain, and Turkey (IMF, 2020). Countries most dependent on tourism include many small economies, such as Montenegro and Croatia, and Small Island Developing States. Their common characteristics include small domestic markets, a low degree of export diversification and remoteness, which results in high vulnerability to external shocks such as COVID-19. The extent of the economic impact of the virus will depend on the nature of the tourism service, the impact of travel restrictions on visitor flows, the speed with which the economy picks up in main source markets, the scale and complexity of business operations,

the size of the domestic tourism market and exposure to international source markets, and the place of tourism in the economy. While destinations most dependent on international markets are likely to be most affected in the long term, more remote and rural destinations and natural areas tend to be more attractive to visitors, at least in the short term (UNCTAD, 2020). As each region is differently affected by COVID-19, the solution is likely to be local. In addition, changing consumer preferences holds opportunities for more diversified and sustainable forms of tourism, building on Europe's rich territorial and cultural diversity (Santos et al., 2020).

Some of the short-term effects were immediate closing down of accommodation facilities, a sharp fall in the number of flights, and cancellation or postponement of major public events (Table 1). With all of Europe having implemented at least some form of lockdown, millions of jobs in tourism have been at risk with uncertain prospects for recovery. Of the approximately 12 million workers in the European hospitality sector, almost all have either been furloughed or made redundant. Those on temporary contracts, zero-hours contracts, and bogus self-employed workers in the gig economy are among the worst hit, as many government income support measures do not provide them with adequate cover (EFFAT, 2020).

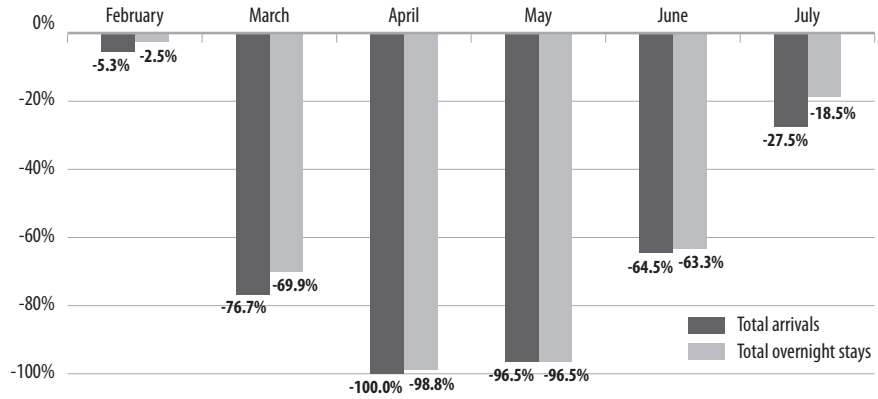
A compounding long-term negative effect on the economic situation for many countries is sectoral interconnectedness and unemployment (Table 1). Hence, the more indirect and induced effect the tourism industry has on other economic sectors, the stronger the impact of a negative shock in the tourism industry and higher the multiplier effect throughout the economy. In such a way, negatively affected sectors, such as recreation, insurance, construction, trade, and air transport, lose due to the indirect and induced effect of decrease in the tourism sector as well as the sheer magnitude of the shock (UNCTAD, 2020). In addition, unemployment could also cause the loss of competencies due to unemployment resulting from restrictions and lower demand.

The predictions show that countries where domestic tourism already represents a significant share of the tourism economy are likely to see recovery in the sector more quickly than countries that are heavily dependent on international tourism flows. Consequently, many countries, and the tourism sector as well, are moving to promote domestic travel and cater to visitors from their own country (OECD, 2020). The pandemic is also likely to have an impact on tourist behaviour, impacting the resumption and recovery of domestic and international tourism (OECD, 2020) (Table 1).

3 The impact of COVID-19 on tourism in Slovenia

In Slovenia, the pandemic caused a sudden decline in tourism demand in total arrivals and overnight stays compared to the same period in the previous year (Figure 2). Ordinance on the Provisional Prohibition on the Offering and Sale of Goods and Services to Consumers in the Republic of Slovenia issued by the Slovenian government didn't allow tourist accommodation establishments to receive new guests from 16 March to 18 May, whereupon the actions to prevent the spread of the coronavirus disease were eased for some tourist activities (accommodation establishments with fewer than 30 rooms could accept tourists registrations) (Official Gazette, 2020).

Figure 2. Change in total arrivals and overnight stays compared to the same period in the previous year, Slovenia, in percentage, 2020



Source: SORS, 2020.

This ordinance resulted in over 75 percent fewer tourist arrivals and almost 70 percent fewer tourist overnight stays in March 2020 compared to March 2019, whilst one month later there were no tourist arrivals and there were 99 percent fewer overnight stays compared to the same period in the previous year (SORS, 2020). From January until the end of July 2020 there were 54 percent fewer tourists and almost 48 percent fewer overnight stays than in the same period in 2019 (SORS, 2020).

Boosted and promoted by the government (tourism vouchers, described in continuing), domestic tourism has increased quickly and played a vital role in getting most of tourism businesses back on track. From May 2020 on, domestic tourist arrivals have exhibited an upward trend reaching more than 403,000

arrivals in July, which was 176 percent more than in July 2019 (SORS, 2020). However, the Slovenian Tourist Board expects that after the sharp decline, returning back to the level recorded in the previous year will take several years, depending on how successfully the virus is contained, when borders reopen, and when tourism providers are allowed to operate again (Slovenia Times, 2020).

3.1 The governmental reaction to COVID-19 regarding hospitality

On 13 March 2020, the Slovenian government announced a state-wide lockdown which forced all the businesses in the hospitality sector to close. Travel agencies were the first in this sector to feel the negative effects of the lockdown measures almost instantly, as they have received reservations by customers and paid out the costs to accommodation and transportation providers. To avoid the whole sector to go under, the Slovenian government provided financial aid to tourism agencies. This allowed them to issue tourist vouchers to the customers in the amount of what they have paid for other locations in Slovenia or other countries that will be open until the end of 2021 (Interview with industry representatives, 2020).

In order to stimulate domestic tourism, the Slovenian government has encouraged its citizens to explore their country by implementing tourism vouchers in the amount of 200 euros for adult beneficiaries, and 50 euros for minor beneficiaries (Financial Office of the Republic of Slovenia, 2020). Each individual can redeem the voucher for accommodation or accommodation with breakfast from 19 June to 31 December 2020 (Slovenian Ministry of Economic Development and Technology, 2020). For this measure only the Slovenian government has allocated 350 million euros, out of which around 113 million euros were used by the end of September.

In addition, the Slovenian government introduced liquidity loans of 5,000 - 40,000 euros for small and medium sized businesses in the hospitality sector, and a grant totalling to 16 million euros is designated to help the hospitality sector with operating costs (STA, 2020).

In many EU countries measures towards revival of tourism and hospitality were introduced to mitigate the effect and speed the recovery after the COVID-19 pandemic. The European Union allocated 8 billion euros to help up to 100,000 young businesses which have been negatively impacted by the pandemic (European Commission, 2020b). Additionally, in April 2020, the EU

has announced the formation of a program called SURE for maintaining jobs in tourism, by providing financial assistance which will amount up to 100 billion euros (European Commission, 2020c). To stimulate tourism again, the EU started a promotional campaign portraying Europe as a safe travel destination to bring back the tourists (European Commission, 2020a).

Besides the measures from the European Union, many countries have implemented additional measures on their own to protect their citizens and provide support to the businesses. Unlike Slovenia, quite a few countries introduced temporary tax relief, for businesses whose operations were disrupted by the pandemic (Rose, 2020) and additional subsidies for rehiring employees who lost their jobs due to the lower revenue inflows (Smith, 2020).

3.2 The impact of COVID-19 on tourism: Managerial insights

In order to analyse the adaptation of businesses to the situation induced by COVID-19 in the hospitality sector, primary data was collected. Eight in-depth interviews with representatives from each sector of the hospitality industry were conducted in August and September 2020. The interviews were conducted with two executive board members from two of the biggest accommodation providers; an owner and CEO of the new established camping/glamping resort; a manager of a mountain destination hotel and recreational resort; a director of a golf course; an owner and manager of one of the top ten firms (in terms of revenue) in food and beverages; a representative of a tourist agency; and a responsible person for tourism at the Slovenian Ministry for Economic Development and Technology. Next, the main insights are presented. Unless otherwise stated the findings are based on the interviews.

According to the interviewees, the downturn in hospitality could have already been felt in February. The first cancellations came from tourists from Asian countries; however, the managers couldn't have yet predicted the magnitude of the crisis lurking in front of them. Actually, at the beginning of the calendar year, the meetings, incentives, conferences and exhibitions sector (MICE) was performing better than expected, as events were being transferred from Asia to Europe.

However, at the end of February, the virus had already spread to Italy. As a neighbouring country, Slovenia saw Italian guests leaving the hospitality facilities, followed by many bookings cancelled. From that point onward, the

situation developed quite rapidly. Some hotels decided to close down even before the government declared lockdown on 13 March 2020 and remained shut down until the beginning of June. None of the interviewees stated that they were aware of the seriousness of the situation at that time, although they had already had experiences with crises and had been preparing for numerous scenarios.

The revenues dropped by almost 100 percent in April and May and businesses could only hope to reach the breakeven point until the end of the year. Nonetheless, the great impact of the COVID-19 crisis on businesses worldwide led to quicker responses. For instance, soon after the mandatory lockdown in Slovenia, the government measures took place. The interviewees recognized "temporary leave" and "voucher" measures as most useful.

Given that the hospitality industry is very labour-intensive, the largest variable costs stem from the workforce, hence many businesses have benefited from the temporary leave measure. The interviewees said that they, as managers, were transparent about the situation and took a "soft" approach, i.e. did not lay off employees but instead terminated the external agreements, stimulated senior workers to take retirement, and simply not prolong the short-term agreements that expired.

There were no problems related to the supply of materials, since all businesses were closed at the same time. Thus once the measures lifted, everyone was eager to start working again. During the crisis some changed the strategic planning (forecasting different scenarios within several modules), others innovated with new products (offering e-catering delivery), and camps worked on building private bathrooms. But the common issue that many of these businesses encountered was difficulties in hiring short-term employees when the capacities filled up due to the sudden increase in demand for such workers.

Once the summer season started (late June), hotels and campsites started working with full speed, consequently stirring also other industries, such as cleaning and food and beverages (F&B). The interviewed managers realized that there was no need to lower prices because the capacities were full. In addition, none of them mentioned raising prices, although some anecdotal evidence suggests that businesses will abuse the government help and raise prices by the amount of the voucher, forcing customers to pay the same price as they would without the voucher.

The incentive created by the government vouchers brought many more domestic tourists than usual, especially to hotels and camps in the coastal region

of Slovenia. Due to the vouchers being redeemed, the beach resorts saw numbers similar to previous years, although the structure of tourists had shifted toward domestic tourism. Even though this may have been an opportunity, no new players have emerged, and those who suffered bankruptcy during the lockdown could not get back on their feet so fast.

Nonetheless, not all segments of the hospitality industry have been impacted by the crisis to the same extent. From their introduction till the end of August 2020, most vouchers were redeemed in the Coastal-Karst or Obalno-Kraška Region (€20,935,928), followed by the Gorenjska region (€12,382,439), and the top municipalities according to the value of vouchers used are Piran, Kranjska Gora, Bohinj, and Izola (Slovenian Ministry for Economic Development and Technology, 2020). Also, our qualitative analysis confirmed that the coastal facilities were the winners, especially the hotels near the sea. Moreover, camps were perceived as safest and felt the crisis the least. On the other hand, city hotels that relied mostly on conferences, events, seminars, and similar corporate meetings were hit the hardest. The voucher measures did not help them fulfil the capacities, as the meetings, incentives, conferences and events (MICE) industry is still on hold due to the limitations on indoor gatherings. In fact, the restrictions imposed have negatively affected not only performers and organizers, but to a large extent also catering companies and event planning businesses.

Lastly, estimating the expectations about the future of hospitality, the autumn and winter seasons will be the biggest reality check. Although they don't expect a complete lockdown as in spring, the main risk factor is the reaction of the masses to many different diseases that regularly spread during wintertime. People avoid planning months ahead due to the everlasting uncertainty, which makes estimating the autumn demand difficult; the only certain thing is that the upcoming months will be crucial for many businesses regarding the yearly performance. Most interviewees agreed that full capacities during the summer season could not completely offset the almost three months of complete shutdown. Nonetheless, there was a consensus on the opinion that business will go back to the pre-crisis levels only after a vaccine becomes available.

To summarize, the main findings from the in-depth interviews are that nobody in the hospitality industry was expecting a crisis of such great magnitude when the virus was still in China. However, once the situation worsened, the government was quick to react and helped many businesses survive the period between March and June. Compared to the devastating results during springtime, the summer season was quite successful. The upcoming autumn and win-

ter seasons will be of crucial importance regarding the yearly performance, i.e. whether companies will make profit or loss. Managers in this field do not expect returning to the pre-crisis levels until a vaccine becomes available to the public.

3.3 Changes in consumers' preferences

The pandemic has also provided a changing course in consumer behaviour. Both psychological and economic factors have affected tourist behaviour and choice. Psychological factors related to the fear of contamination, as long as there is no vaccine or treatment, impact the willingness to travel, the conditions, and the preferences for holiday destination. Economic factors are associated with the reduction of household income as a consequence of unemployment or working hours reduction (Santos et al., 2020). Thus, the way governments have handled the crisis will play a significant role in tourists choosing a destination. Effective crisis management and low numbers of COVID-19 cases are crucial to travellers' decision making (WEF, 2020).

A research conducted during the pandemic in Wuhan (China) (May 2020) showed that around half of the respondents intended to take their next holidays no sooner than six months after the pandemic, making it shorter than usual (Li et al., 2020). Also, valuing the safety of spending their holidays, tourists will prefer staying away from the hustle and bustle of the cityscape and opt for more wilderness locations which are standalone, such as resorts with independent cottages (Tourism Economic Times, 2020). The way of traveling has also changed, at least in the short run. A decline in intentions to use public transport as well as an increase in willingness to travel by private vehicle is observed, which could potentially result in additional pressure on the existing road transport infrastructure (Li et al., 2020).

In regard to Slovenia, the bounce back of the tourism industry depends to a high extend on how successfully the sector will adapt to the altered consumer behaviour (Slovenian Times, 2020). Initially, it is considered that people will be more comfortable travelling by road in private vehicles. Smaller customer groups, the focus on hygiene, and a greater demand for tourism products that involve less interaction between people are the upcoming trends. Companies with automated reception and card access to facilities and services will have an advantage. The Slovenian Tourist Board stated that it has established a market position for green tourism and niche products, which can be seen as a great asset when going into the recovery phase (Slovenian Times, 2020).

Conclusion

Since the Mediterranean countries are more dependent on tourism regarding their GDP and employment indicators, it is expected that lockdowns and similar bans on socialising will have a higher impact on their economy in comparison to the Scandinavian countries. Since Slovenia has become more dependent on foreign tourists in the last years, it will be more affected by the COVID-19 crisis although most tourists come from nearby EU countries, which is convenient given that the measures are less strict within the Union.

The measures that were implemented by the European Union and the countries themselves seem to have positive short-term effects on the tourism and hospitality industry, in terms of prolonging the ability of the businesses to sustain themselves during the periods of low demand. However, the long-term impact that these measures will have on the sector and the economy as whole are yet to be seen.

During the period of lockdown, the hospitality sector as whole experienced substantial financial losses, however, some sub-sectors suffered more than others. The agility of businesses and their willingness to modify the way they were doing business allowed them to successfully overcome the drastic decrease in demand and turn around the outcome of the summer season, especially for the hotels in the coastal region.

The upcoming autumn and winter seasons will be of crucial importance regarding the yearly performance, i.e. whether companies will make profit or loss, thus the aim is not breaking records this year but rather limiting the damage. The recovery of the industry to the pre-crisis levels is not expected until a vaccine is globally available.

Although the crisis has negatively impacted the tourism and hospitality sector globally, it also puts pressure on governments to implement measures to help businesses. It would be interesting to see future research studies on the effect of vouchers on the upcoming winter season, the yearly performance of businesses, and the overall changes within the industry.

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Irena Ograjenšek, Ada Guštin Habuš, Igor Kalajanović, Marija Marash, Siyuan Huo

THE IMPACT OF COVID-19 ON THE RETAIL SECTOR

Introduction

Since March 2020, with entire countries under quarantine orders in an unprecedented global effort to bring the spreading of COVID-19 infections under control, the retailing sector has found itself at the center of contradicting factors and forces. Internationalized to a very high degree, placed in "a global framework of international store operations, international sourcing of products, international flows of management, and managerial know-how and retailers as international brands" (Dawson, 2005), retailers from the onset understood the pandemic would have a significant impact on their businesses. Regardless of the product groups in their assortment, the situation has been changing daily, with a very limited time to respond (Vader et al., 2020).

Such *modus operandi* is not something novel for most retailers. Ograjenšek et al. (2011) describe retailing to be historically very dynamic and consequently miles away from its publicly widely perceived focus on short-term oriented sales promotion activities. In the period after World War II, the sector was *restructuring both its organizational and physical structures* to match consumer needs. The 1960s were marked with adaptation to *the common market* in Western Europe with new formats of retail shops, such as hypermarkets. The turn of the century was characterized by *new roles and functions of retailing,* growing access to information and the use of new technologies across the value chain (Dawson, 2001).

With COVID-19, we see the European (and Slovenian) retailing entering the fourth distinct phase of its development: *adjusting to the new (COVID-19 shaped) normality.* Our working hypothesis is that retailing's adjustment to the new normality means restructuring and resizing, in the process making sure

that locally rooted supply chains enable local catering to local customer needs via omnichannel shopping.

Our analysis builds on available written sources (industry reports and statistical data) as well as in-depth interviews (carried out between July and October 2020) with eleven Slovenian retailing experts. A special spotlight is given to the following seven product groups (in alphabetical order): (1) automotive fuel; (2) computer equipment and books; (3) electrical goods and furniture; (4) food, drinks and tobacco; (5) non-food products (excluding automotive fuel); (6) pharmaceutical and medical goods; as well as (7) textile, clothes and footwear. The selection reflects the heterogeneous backgrounds of our interviewees and accounts for very varied experiences of retailers from the viewpoint of demand: some have been seeing demand fall away and customers shift channels; others have been facing unprecedented spikes in demand, along with out-of-stock situations on many key products due to consumer hoarding the supplies perceived as essential (Vader et al., 2020).

The chapter is structured as follows: to provide a broader context, pre-pandemic characteristics of retailing in Europe and Slovenia are presented and discussed first. This is followed by two subchapters dedicated to the analysis of COVID-19 effects on (1) retailing in general and (2) selected product groups. The first portrays the situation in EU-27, the second in Slovenia. An overview of COVID-19 related threats and opportunities for retailers concludes the chapter with a summary of lessons learned and an outlook for the future of the sector.

1 Pre-pandemic characteristics of retailing in Europe and Slovenia

1.1 Retailing in Europe

European retailers have been important global players for decades. However, the period between 2007 and 2017 saw them losing their ground (EuroCommerce, 2019). In 2007, there were 5 European retailers among top 10 global ones (measured by global turnover), with Carrefour, Tesco, and Metro placed second, third and fourth after Walmart, respectively. In 2017, Walmart was still in the lead; the German-based Schwarz Group (Lidl and Kaufland) reached place 5; Tesco and Metro disappeared from the list, while Carrefour dropped to place 9, overtaken by Aldi on place 8 (in 2007, Aldi was finishing the lineup of the top 10).

In the European Union, where the 2019 volume of total retail trade sales amounted to some 2.6 trillion euros (OECD, 2020), the retail trade generates around 5 percent of the total value added of the European economies (Eurostat, 2019). Some 3.6 million retailing companies in Europe offer over 19 million jobs (EuroCommerce, 2019).

To set the European retailing apart from the US one, both researchers and regulators strive to define the "European model of retailing" (Dawson, 2005; Burt, 2010; European Commission, 2015):

- **Faster growth of large firms compared to the sector as a whole.** Despite the period of economic shock and a general decline in productivity during the global financial and economic crisis of 2009, firms like Aldi, Carrefour, and Lidl have been able to increase their output by entering new markets (not only in Europe but also in Latin America and Asia).
- **A more strategic approach to managerial decision making.** In large and medium-sized retail firms, a strategic approach to management has been adopted with a general business strategy, determining operational activities through functional strategies for marketing, merchandising, buying, branding, etc.
- **An increase in the complexity of organizational structures.** Many firms have increased in size and expanded worldwide. In the process, their organizational structures have become more complex. The need to employ country vice-presidents, often also international boards of directors, to reflect the differences in organizational structures in different countries, and to respond to needs of different consumer cultures has become an established fact.
- **A move towards retailer-coordinated value chains.** European retailers have become increasingly involved in the coordination of relationships, both with their suppliers and their customers (i.e. through global sourcing arrangements and customer loyalty schemes).
- **Evolution of retailers as brands.** In companies like Ikea, stores have evolved into products that provide consumers with an experience (it is the experience that characterizes the brand).
- **Parallel diversification and synchronization of consumption habits across Europe.** Diverse European communities with different consumer cultures, economic power and business practices might expect local food and drinks in their local stores. At the same time, however, due to information and migration flows, certain unified consumption patterns (for example for beauty and fashion products) have been established.

- **Parallel disruptive and incremental innovation.** Incremental improvements to internal organization, purchasing and logistics, active assortment optimization, etc., go hand in hand with disruptive innovations such as implementation of artificial intelligence to improve consumer experience both on- and offline.

Of course, most of these characteristics apply to any global retailer and few, if any, to micro and small retailers anywhere. The most distinct "European" feature is probably the traditional mode of retailer and sector growth – the pre-COVID-19 mode was still mostly based on brick-and-mortar as opposed to online stores.

1.2 Retailing in Slovenia

In 2019, Slovenian retailing (NACE classification code G47 – Retail trade, except of motor vehicles and motorcycles) consisted of 3,797 companies with 44,176 employees; net sales revenues of 12,781,667,372 EUR; net profit of 237,913,730 EUR; and net value added per employee of 42,242 EUR (Slovenian Chamber of Commerce, 2020). Since 2010, the retailing's share in total gross value added has been consistently revolving around 4.3 percent (Eurostat, 2020a). Table 1 shows a more detailed overview by company size.

Table 1. Slovenian retailing in 2019 by company size, with number of employees and net value added per employee in EUR

	Companies		Employees		Net value added per employee (in EUR)
Company size	Number	Percent	Number	Percent	
Micro	3,300	86.9	4,594	10.4	27,360
Small	410	10.8	4,992	11.3	40,971
Middle-sized	53	1.4	5,831	13.2	54,024
Large	34	0.9	28,759	65.1	78,365
Total	3,797	100.0	44,176	100.0	42,242

Sources: Slovenian Chamber of Commerce, 2020; own calculations.

In comparison, in 2019, the whole Slovenian trade sector (NACE classification code G –Wholesale and retail trade; repair of motor vehicles and motorcycles") consisted of 15,084 companies with 88,872 employees; net sales revenues of 33,701,577,805 EUR; net profit of 793,743,707 EUR; and net value added per employee of 48,125 EUR (Slovenian Chamber of Commerce, 2020).

Since 2010, the trade sector's share in total gross value added has been consistently revolving around 12 percent (Eurostat, 2020a).

Table 2. Top 15 retailers in Slovenia by revenue in the year 2019

Rank	Retailer	Revenue (in million EUR)	Number of stores
1	PETROL, SLOVENSKA ENERGETSKA DRUŽBA, D.D., LJUBLJANA	3,533.0	509
2	POSLOVNI SISTEM MERCATOR D.D.	1,230.0	754
3	OMV SLOVENIJA, TRGOVINA Z NAFTO IN NAFTNIMI DERIVATI, D.O.O.	801.9	108
4	SPAR SLOVENIJA TRGOVSKO PODJETJE D.O.O. LJUBLJANA	751.3	105
5	HOFER TRGOVINA NA DROBNO D.O.O.	528.1	80
6	ENGROTUŠ PODJETJE ZA TRGOVINO, D.O.O.	476.0	260
7	LIDL SLOVENIJA DRUŽBA ZA TRGOVINO IN STORITVE D.O.O. K.D.	426.3	60
8	MOL SLOVENIJA, TRGOVSKO PODJETJE D.O.O.	306.3	48
9	MERKUR TRGOVINA, D.O.O.	236.5	23
10	EUROSPIN EKO, TRGOVINA IN STORITVE, D.O.O.	151.8	50
11	JAGROS TRGOVINA, PROIZVODNJA IN STORITVE, D.O.O.	145.5	41
12	BIG BANG, TRGOVINA IN STORITVE, D.O.O.	139.2	18
13	MUELLER DROGERIJA DRUŽBA ZA TRGOVINO IN STORITVE D.O.O.	122.3	19
14	DM DROGERIE MARKT TRGOVSKO PODJETJE D.O.O.	121.3	90
15	LES-MMS TRGOVSKA DRUŽBA D.O.O.	114.5	10

Sources: AJPES, 2020; retailer websites.

The top 15 retailers in Slovenia by revenue in the year 2019 are ranked in Table 2. Three among the top 10 Slovenian retailers are companies primarily selling automotive fuel (places 1, 3, and 8 – Petrol, OMV, and MOL, respectively) and rounding up their offer with selected assortment of food (even featuring a bakery in selected shops), drinks, tobacco, home and garden utilities, as well as printed media and entertainment (music and movie CDs). The rest (with the exception of place 9 – Merkur – whose focus is on home improvement, DIY and construction products) are traditional retail chains with stores of various sizes and the core focus on food, drinks, and tobacco, but also strong on non-food assortment (especially in their flagship stores).

2 The effects of COVID-19 on retailing in Europe

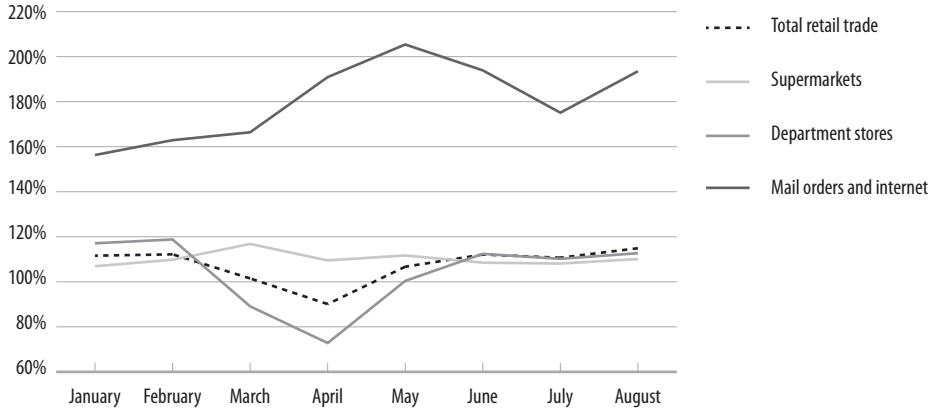
2.1 A sector overview

After the first reports of a virus outbreak in China in December 2019, the COVID-19 virus hit Europe in January and February 2020, with the first cases confirmed in Spain, France and Italy. To fight the pandemic, EU Member States, including Slovenia, implemented a wide variety of measures. Those included temporary restrictions of non-essential travel and transport from the third countries into the EU. This had serious implications for supply chains of many retailers relying on delivery shipments from other continents.

During the second week of March, schools in Europe closed their gates. The majority of the EU Member States also cancelled public events; banned private gatherings (with numbers of persons varying from 2 to 50); closed bars, restaurants and hotels; and shut down retail shops with the exception of supermarkets, pharmacies and banks.

Most of the prevention measures and restrictions were in place for the whole of April. In May, many shops could finally re-open and retail trade activities picked up again after two months of unprecedented decline (Eurostat, 2020b).

Figure 1. Development of retail trade volume in EU-27 by selected sales channels, January to August 2020 (indices, 2015 = 100)



Source: Eurostat, 2020b.

Figure 1 shows the development of the total retail trade volume and the retail trade volume in selected sales channels (supermarkets, department stores, as well as mail orders and the internet) in EU-27 in the period between January and August 2020.

Given that supermarkets remained generally open during lockdown measures in March and April, they experienced an increase in sales in March and went back to the pre-pandemic levels in the following months.

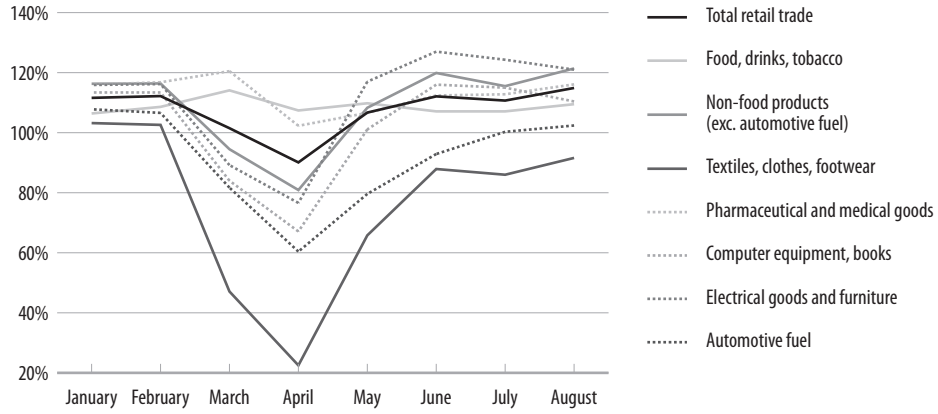
Department stores, which were closed in many countries, experienced a decline. The decline was partly compensated when the COVID-19 measures were eased in May and June. However, the sales have yet to return to their former levels.

Internet sales have already had an increasing trend before the pandemic. COVID-19 further strengthened this trend. While some customer segments might return to their pre-pandemic habit of shopping in the local brick-and-mortar store, the growth trend of internet sales is expected to continue.

2.2 Selected product groups

Figure 2 shows the development of the retail trade volume between January and August 2020 for the total retail trade and selected product groups in EU-27.

Figure 2. Development of retail trade volume in EU-27 by selected product groups, January to August 2020 (indices, 2015 = 100)



Source: Eurostat, 2020b.

Eurostat (2020b) reports exceptionally large decreases in retail trade volume for all non-food product groups in March and April. The decline was particularly steep for textiles, clothes and footwear (-78.1 percent between February and April). Pharmaceutical products saw an increase in March but then dropped in April, resulting in a total loss of 12.4 percent over the two months. The two-month loss for automotive fuel was 43.3 percent; for computers, books and similar products 40.8 percent; and for electrical goods and furniture 34.1 percent.

The February levels were in most cases regained (in some even exceeded) in May and June. August was again a very dynamic month. The sales volume of food, drinks and tobacco increased by 2.2 percent compared to July, the sales of automotive fuel by 2.1 percent, and the sales of non-food products by 5.1 percent. By August, the purchases of food products stabilized and reached the pre-crisis levels. The sales of non-food products, especially of electrical goods and furniture, even surpassed the pre-crisis levels. The sales of other non-food products were getting close to the February sales volume. Only for textiles and clothing, a considerable gap in the sales levels still persisted.

3 The effects of COVID-19 on retailing in Slovenia

3.1 A sector overview

In comparison to other European countries, Slovenia adopted relatively restrictive measures concerning retailing very early in the lockdown period. Those establishments that remained open – groceries, pharmacies, service stations, farmer shops, banks and post offices – mostly opted for shorter working hours. Those who could stepped up their online activities. Grocery shops (most of them open during the week and on Saturdays, but closed on Sundays and public holidays) were supposed to give priority to groups particularly vulnerable to infections – the elderly, pregnant women and disabled persons – between 8 am and 10 am.

Table 3. Monthly rates of change in retail trade volume in EU-27 between March and August 2020

	March	April	May	June	July	August
Monthly rate of change in %	-12.6	- 8.1	+16.2	+3.2	+1.1	-1.6

Source: Eurostat, 2020b.

Development of retail trade volume in Slovenia followed the pattern of the retail trade volume in EU-27. Table 3 depicts the monthly rate of change in retail trade volume between March and August 2020.

The rate of change in April compared with February was negative (-19.8 percent). On the other hand, the rate of change between August and April was positive to almost the same extent (+19.8 percent). By August, Slovenian retailing almost fully recovered. The full recovery measured as return to the pre-pandemic level of retail trade volume was missed by mere 4.3 percent (Eurostat, 2020b).

3.2 Selected product groups

Table 4 is a summary of our research findings from in-depth interviews with eleven Slovenian retailing experts. The findings are summarized across the seven product groups of special interest due to the background of our interviewees and differences in COVID-19 impacts on sales volume in each product group.

Table 4. Summary of COVID-19 impacts on sales volume in each product group

Product group	COVID-19 impact on sales volume
Automotive fuel	• Negative both for B2B and B2C segments • Profitability additionally diminished by decreasing oil prices
Computer equipment and books	• Negative for the B2B (public procurement) segment • Positive for the B2C (individual private consumption) segment
Electrical goods and furniture	• Positive – sold out bread bakers, juicers, home trainers, etc. • Slightly negative for furniture in the lockdown period, afterwards increased sales
Food, drinks and tobacco	• Positive due to hoarding; some categories (e.g. toilet paper) temporarily sold out
Non-food products (excluding automotive fuel)	• Positive for home improvement – both professional and DIY segment
Pharmaceutical and medical goods	• None or minor negative (depending on the product)
Textile, clothes and footwear	• Extremely negative as purchases either postponed or completely struck off the list

Source: Own research, 2020.

Most of the large retailers in Slovenia did not make use of the governmental relief measures due to the nature of work (opening hours vs. employee shifts and the resulting lack of employees). Even more: most retailers shouldered the

difference between misleadingly communicated gross and net values of employee rewards for the lockdown weeks themselves.

In terms of organizational response, retailers (regardless of their focal product group) listed similar internal measures:

- immediate ("overnight") switch to home office for back office personnel;
- immediate ("overnight") implementation of protective protocols and measures for frontline personnel;
- establishment of an emergency response team (including key employees from every business function);
- systematic use of real-time web tools to keep track of processes / locations / incoming shipments / outgoing deliveries.

Externally, only a few notable exceptions (such as Lidl, which to this day does not have an online shop in Slovenia) have not been putting a much stronger emphasis on the online shopping channel / the online shopping experience. In the process, retailers – regardless of their core product groups – have been optimizing both internal and external delivery processes with various degrees of success. Mercator struggled and even had to shut down its online store temporarily in March. Petrol and Merkur, on the other hand, thrived and added new items to their online assortments daily. So has Tuš, which also keeps expanding its network of drive-thru terminals in front of its supermarkets (currently available on 22 locations) and in addition teamed up with GoOpti for home deliveries of purchased goods (a bold move for GoOpti to try and make up for lost passenger transfers to and from currently mostly unused European flight hubs).

Among the open issues, all interviewees emphasized the need to (re)define key performing indicators, so as to better capture the reality of back office team members working from home. They also recognized the pressing challenge of supply chain optimization, specifically in terms of Slovenian vs. regional, wider European and non-European suppliers. If anything, the lockdown seems to have served as a showcase for reliability of local suppliers. Furthermore, expansion of contactless payment systems at the physical points of sale and their systematic promotion among consumers are on the agenda.

Finally, some of the COVID-19 related developments seem to be in direct contradiction to the sustainability values the retailers (at least verbally) embraced in the past. One of the most pressing issues seems to be packaging of online purchase items for home deliveries where the trend should sooner rather than later turn

towards more environment-friendly solutions. Currently, plastic wraps are (too) heavily used, and often items from the same purchase delivered to the customer in several separate packages in order to speed up the delivery process.

4 Lessons Learned and Future Outlook

Based on the survey data collected in the United States in September 2020, Carlson et al. (2020) identified *five fundamental COVID-19 related shifts to consumer behavior.* Given our exploratory research, we can confirm they are also relevant in the European setting and might have a lasting impact:

- **Shift to value and essentials:** a 20-40 percent net decrease in intent to spend on discretionary categories.
- **Flight to digital and omnichannel:** a 20-40 percent net increase in intent to spend online even after the pandemic has been contained.
- **Shock to loyalty:** the traditional loyalty principles seem not to apply any longer – 73 percent of US customers have changed stores, brands or the way they shop.
- **Homebody economy:** 64 percent of US consumers have not yet started to resume their "normal" out-of-home activities.
- **New holiday outlook:** a 25 percent decrease in net holiday spending intent.

These shifts have to be considered when aiming to remedy short-term shocks and prepare for long-term effects and implications of the pandemic (such as the liquidity challenge and possible supply chain disruptions). Our research further indicates that there is a negative trend associated with impulse purchases on one hand, but also time-consuming in-depth probings and comparisons of available purchasing alternatives on the other. It seems that shopping as a therapy gave way to shopping anxiety and customer wish to spend as little time as possible in a brick-and-mortar store; a finding also confirmed by Vredenburg and Phillips (2020). Consequently, retailers will have to make in-store experiences not just safe, but ever more extraordinary for customers who will be able and inclined to visit the outlets in person (Yohn, 2020).

Last but not least, an important new development marked Slovenian retailing amidst all challenges related to and stemming from the "new normality". In September 2020, the Slovenian National Assembly, despite strong protests by the Slovenian Chamber of Commerce (and in line with demands of the trade unions) passed a law which eliminated the previously allowed Sunday and public

holiday opening hours of retail stores. The law should improve working conditions for employees in retailing and provide them with enough family time. At this moment, it is unclear how the Slovenian public will react to its actual implementation. Verbally, people seem to approve of it. However, if this is the same kind of approval as back in 2003, when Sunday and public holiday opening hours were banned via a referendum, we can expect to see numerous exceptions to the rule implemented in the months to come – or even a swift return to the previous regulation. That would be similar to the experience made by Hungary. This country banned Sunday and public holiday opening hours of retail stores in March 2015, only to return to the previous regulation a year later (GfK, 2018).

And what if the public approval is more than just of a verbal nature? Most of the Slovenian retailing experts we talked to share the opinion that the ban on Sunday and public holiday opening hours will have much graver consequences for the Slovenian retailing than the COVID-19 pandemic – and via retailing also for the Slovenian economy as a whole.

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Mitja Kovač, Nada Zupan, Nik Badovinac, Mark Radmelič, Žiga Verbič

THE IMPACT OF COVID-19 ON THE ICT INDUSTRY

Introduction

Elements of the information and communication technology (ICT) industry are very diverse when it comes to the types of businesses, their operating patterns, and the ways in which they were affected by the COVID-19 pandemic. Parts of the industry range from hardware, software, services, telecommunications, and emerging technologies (such as AI, robotization). Although it did not even exist a hundred years ago, nowadays, the ICT industry has a major global presence and is predicted to hit €4.5 trillion in revenues in 2020 globally (CompTIA, 2019). ICT provides the infrastructure and digital transformation tools used to increase performance and further develop the digital society (Eurostat, 2020a). Furthermore, great growth prospects have been reported for the period from 2018 to 2023, with 104 percent growth forecasted for emerging technologies, followed by software's 50 percent growth (Statista, 2020). The importance of the ICT sector has also grown due to the infrastructure and software tools it provides to further develop the digital society (Eurostat, 2020a).

Nevertheless, the COVID-19 pandemic has caused a major disruption. On the one hand, it seems to have amplified the existing economic dependence on technology and significantly increased demand for some services due to developing technologies to combat the virus and shifts to online working and delivery of services. On the other hand, by restricting the movement of people, goods, and services, the pandemic hindered operations of ICT firms and constricted supply and demand for some products and services due to broken supply chains and reduced investments in ICT caused by a lack or a more conservative use of resources (businesses and individual consumers).

The aim of this paper is to analyze short- and long-term effects of COVID-19 on the ICT industry and evaluate the responsiveness of Slovenian firms. Due to ICT being a very diverse and dynamic sector with multiple forces driving its performance, it is a challenging task to make a comprehensive assessment of the COVID-19 impacts. In order to provide some background, we first describe the main characteristics of the ICT sector in the EU and Slovenia. Due to the complexity of the industry and availability of data, we follow the OECD definition used by the Statistical Office of the Republic of Slovenia and Eurostat and divide the ICT sector into manufacturing ICT[1] and ICT related service activities[2]. The chapter will use this classification when referring to the ICT sector in Slovenia and the European Union. Within ICT services, we take a separate look at telecommunications based on their importance and different dynamics. In the second part, we aim to identify impacts of the COVID-19 pandemic, both globally and in Slovenia. Data for the analysis were gathered through statistical databases, industry reports, and expert opinions, and by conducting interviews with representatives from Slovenian ICT companies. The results of this qualitative analysis combined with the existing data serve as a basis for some forecasts for the sector's development in the future, which are addressed in the concluding remarks.

1 The characteristics of the ICT sector in the EU and Slovenia

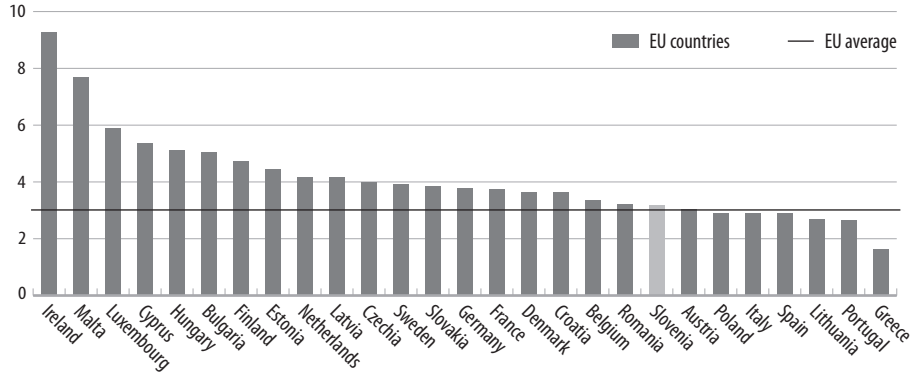
The ICT sector plays a significant role for EU competitiveness in the knowledge and information-based economy. EU expenditures in ICT represent 20 percent of global expenditures (CompTIA, 2019). Firms operating in the ICT sector have fundamentally changed the revenue generation and employment patterns throughout the EU. For example, in the period from 1995 to 2017, the ICT sector almost quadrupled its value added in real terms (1.5 in the whole economy), employment grew by a factor of 1.5 (1.2 in the whole economy), and labor productivity grew by 2.5 (1.3 in the whole economy) (European Commission, 2020). The total value added of the EU's ICT sector was around €475 billion in 2017, equivalent to 3.60 percent of the total gross domestic product (GDP) (Eurostat, 2020a). ICT services accounted for the vast majority of ICT activity, with ICT manufacturing activities representing only around 0.3 percent

1 It includes manufacture of electronic components and boards (C26.1), manufacture of computers and peripheral equipment (C26.2), manufacture of communication equipment (C26.3), manufacture of consumer electronics (C26.4), and manufacture of magnetic and optical media (C26.8) (Eurostat, 2020a).

2 It includes wholesale of information and communication equipment (G46.5), software publishing (J58.2), telecommunications (J61), computer programming consultancy and related activities (J62), data processing, hosting and related activities; web portals (J63.1), repair of computers and communication equipment (S95.1) (Eurostat, 2020a).

of the total GDP. In Figure 1, the relative importance of the ICT sector for EU countries is presented, measured by the ratio of its value added relative to GDP.

Figure 1. Value added for the ICT sector, 2017 (percent relative to GDP)

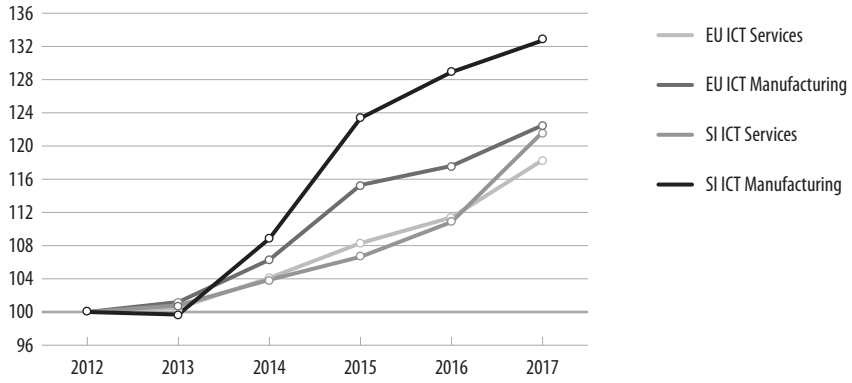


Source: Eurostat, 2020b.

It is the highest in Ireland, where ICT services alone generated value added equivalent to 9.3 percent of GDP. With 3.2 percent, Slovenia is below the EU average, but a bit higher than the neighboring countries of Austria and Italy.

Figure 2 shows the development of value added as percentage of GDP for the EU and Slovenian ICT manufacturing and services during the period from 2012 to 2017 (Eurostat, 2020b). From 2013 on, the value added for ICT services increased every year, amounting to the total growth of 18.3 percent. The value added for ICT manufacturing grew even stronger by 22.5 percent. In Slovenia,

Figure 2. Development of value added as percentage of GDP by the ICT sector in the EU and Slovenia 2012-2017 (2012=100)



Source: SURS, 2020.

the ICT services mirrored the EU trends with a push in 2017 for the period growth of 22.4 percent. Slovenian ICT manufacturing grew the most by 32.1 percent, mostly due to high performance and growth of value added in the largest firm, which contributed more than half of total revenues in ICT manufacturing.

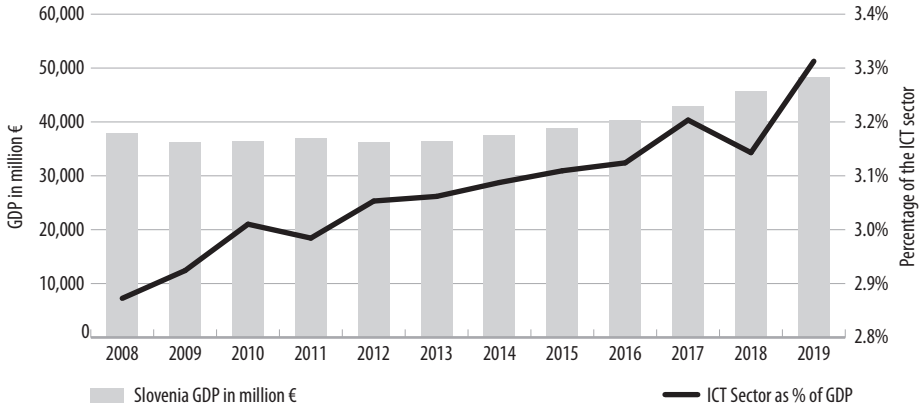
The EU policy has played an important role for ICT development due to its push towards digitally transforming the European business and consumer environment for better competitiveness in the global market. Investments into technology that works for people are one of the cornerstones of the EU directive (European Commission, 2020). Furthermore, accelerating investments in Europe's Gigabit connectivity through an updated Action Plan on 5G and 6G for the year 2021 will be crucial for the expected recovery in the next year (European Commission, 2020). The infrastructure plan will be carried out during the years 2021-2023 and will likely extend until 2030 (European Commission, 2020).

2 ICT in Slovenia

Slovenia's development of the ICT sector has benefited from the European support towards a frictionless single market from which even firms from small countries can launch themselves onto the global market (European Commission, 2020). The contribution of the ICT sector to the total GDP in Slovenia has been steadily growing since 2008 and was approximately 3.1 percent at the end of 2018 (Figure 3) and 3.3 percent in 2019. There was a slight drop in share from 2017 to 2018, mostly due to a larger contribution to the GDP growth from other sectors, accelerating again in 2019 (SURS, 2020).

In 2019, half of the total value added of the ICT sector, which amounted to €1.6 billion, was generated by firms in computer programming, consultancy, and related activities (SURS, 2020). This value was 11.8 percent higher than in 2018. In 2019, the ICT sector allocated around €739 million for wages and salaries, 11 percent more than in the previous year (SURS, 2020). Firms in the ICT manufacturing sector generated €140 million of value added (8.7 percent in total ICT value added), decreasing by 7.9 percent after 2018. Finally, in telecommunications firms generated around €515 million of value added (a share of 32.1 percent in total value added), an increase of 17.6 percent compared to 2018 (SURS, 2020). In 2019, the ICT sector employed 28,965 people, which is 4.6 percent more than in the previous year and amounts to 4.3 percent of total employed (SURS, 2020). The number of persons employed increased in the ICT manufacturing sector (by 1.1 percent), as well as in the ICT services sector

Figure 3. Development of ICT in Slovenia: Contribution to GDP in millions of euros and as percentage of GDP 2008-2019



Source: Eurostat, 2020a.

Table 1. Key performance indicators overview of Slovenian's largest ICT service and manufacturing companies for the year 2019 and comparison to the year 2018

	ISKRATEL	ELRAD	BANKART	DEWESoft	Comtrade
Total revenue (in million €)	80.31	112.92	32.60	26.68	64.89
Percentage change (2018 - 2019)	-10.65	5.25	8.74	32.60	19.92
Total costs (in million €)	82.00	103.35	29.66	16.96	54.10
Percentage change (2018 - 2019)	-0.61	12.34	9.44	21.94	9.94
Labor cost (in million €)	20.55	15.04	10.62	3.63	20.83
Percentage change (2018 - 2019)	0.67	4.69	17.41	17.71	3.71
Value added per employee (in thousand €)	-9.21	48.65	89.20	167.14	68.56
Percentage change (2018 - 2019)	-18.29	0.70	10.99	24.99	20.17
EBITDA (in million €)	-0.12	11.48	7.55	3.80	11.70
Percentage change (2018 - 2019)	-102.58	-5.06	17.34	55.03	82.61
Average number of employees	523	537	204	85	475
Percentage change (2018 - 2019)	2.35	2.68	5.70	18.06	2.37

Source: GVIN, 2020.

(by 5.1 percent) (SURS, 2020). The value added (apparent labor productivity) of the ICT sector per employee in 2019 was €55,326, increasing by 7.1 percent after 2018 (SURS, 2020).

Altogether there were 8,776 firms registered in the ICT sector in 2019 (3 percent annual increase), 228 in manufacturing and 8,548 in services, out of these 316 in telecommunications. These ICT sector enterprises represent 5.9 percent of all enterprises active predominantly in market activities. Among these firms, there are only a few larger ones and many small players. For example, the share of five largest firms (excluding telecommunications) with regard to revenue and employment represent around 15 percent in 2019 (GVIN, 2020). Therefore, a closer look at their recent performance could be useful for understanding the ICT business. Table 1 presents some key performance indicators from the reports of the selected national companies in 2019 and the percentage changes based on the 2018 baseline.

There are four large telecommunication companies that employed 76.2 percent of the sector's personnel and created 83.5 percent of the sector's sales revenues in 2019 (AJPES, 2020). Their performance therefore provides enough insight into the entire market to understand the market situation and its trends. The data on key performance indicators (Table 2) relates to the year 2019 and the percentage changes are compared to the year 2018.

Table 2. Key performance indicators overview of Slovenian's biggest telecommunication companies for the year 2019 and comparison to the year 2018

	A1 d.o.o.	T-2 d.o.o.	Telekom Slovenije d.o.o.	Telemach d.o.o.
Total revenue (in million €)	212.21	93.75	611.68	234.31
Percentage change (2018 - 2019)	1.06	29.86	-10.20	2.45
Total costs (in million €)	199.35	91.01	609.82	228.57
Percentage change (2018 - 2019)	-0.38	2.69	-5.78	4.81
Labor costs (in million €)	21.28	10.54	91.77	21.28
Percentage change (2018 - 2019)	3.13	1.67	-0.08	8.45
Value added per employee (in thousand €)	146.31	104.13	128.97	169.30
Percentage change (2018 - 2019)	38.84	-55.79	16.70	33.11
EBITDA (in million €)	60.77	23.83	179.34	79.79
Percentage change (2018 - 2019)	47.16	-63.21	21.08	15.77
Average number of employees	561	330	2102	597
Percentage change (2018 – 2019)	-4.49	3.45	-4.28	-14.22

Source: GVIN, 2020.

EU regulations and policies, followed by country-level measures, continue to strengthen Slovenian ICT industry. A digital education action plan as well as a reinforced digital skills agenda are both examples of European directives implemented in the Slovenian ICT ecosystem. They are aimed at enhancing digital literacy, especially among the youth and the early-career employees (European Commission, 2020). Measures like these should increase the supply of human capital. In addition, measures aimed at helping businesses were designed in a reinforced EU governments interoperability strategy (European Commission, 2020). It lays grounds for coordination and common standards for secure and borderless data flows and services. Alongside, several EU initiatives aim to improve labor conditions of platform workers. The measures and initiatives should help businesses grow even under the difficult circumstances caused by the COVID-19 pandemic.

3 Impact of the COVID-19 pandemic on the global ICT sector

As the world was facing the global pandemic, firms in the ICT sector also struggled with many challenges. While established and well-positioned businesses were in a better position regardless of the type of ICT business, the situation was more difficult for many small and young firms who were still searching for customers and partners. These were particularly hit by the cancelation of events and conferences which are the usual milieu for showing what you have, scanning the competition, and identifying industry trends (TELECOM Review, 2020; Market Data Forecast, 2020). Nevertheless, while the pandemic generally had a negative impact on most industry sectors worldwide, as shown in other industry specific chapters, the ICT sector could be among the least distressed ones. It might be the sector to come out of this crisis as a driving force of the economy in the next few years because of the increased demand for ICT for businesses, governments, and personal use. However, in the short run it is projected that performance of many ICT firms will suffer in 2020. For example, 75 percent of the surveyed ICT firms in the EU reported expected loss in revenues and 36 percent reduction in employment (DigitalEurope, 2020). There is an estimate that ICT spending worldwide will decline between 2.7 percent (IDC, 2020a) and eight percent (Gartner, 2020b). However, since many of the sector's products and services are proving to be vital for battling the pandemic supporting business process transformation and shifts to remote working and accelerating digitalization, the sector as a whole is estimated to grow between 4.3 (Gartner, 2020b) and 5.6 percent (Statista, 2020) already in the year 2021. The main COVID-19 effects on the ICT sector are presented in Table 3.

Table 3. Summary of the COVID-19 effects on the ICT sector

Short-run effects	Long-run effects
Demand	
• Overall revenue decrease • Increase in demand for many ICT services • Loss of potential business opportunities due to movement restrictions • Churn due to higher unemployment and increased financial distress for businesses • Consumer involvement in the digital transformation process	• Sector growth because of front-lining the business process change and governments' investments in ICT • Increased transition towards digital cloud services • Higher demand for digital transformation tools and services will increase • Increased investments into new technologies driven by innovation • Addressing social dimensions within online services
Supply	
• Developing digital infrastructure and remote working solutions • Re-establishing supply chains for material and components (especially from Asia) • Prioritizing investments and postponing some R&D projects • Lack of highly specialized IT workers • Strengthening of existing connections with partners and workers but difficulty in establishing new ones • Challenges how to sustain developing or not yet profitable businesses.	• Push to provide new and innovative solutions • Developing new services and solutions to support higher percentage of remote workers after the COVID-19 pandemic • ICT manufacturing decentralization • Transformation into a global work force by sourcing talent through remote work • Greater global competitiveness from the European region due to EU policy

Source: Summarized from the text.

The COVID-19 pandemic has brought some immediate changes to both demand and supply of ICT. The need for some ICT services increased immediately due to shifting to online operations. For example, based on analyzing the COVID-19 responses in 192 countries using Google searches, the World Bank Group established that confirming 100 cases or more per day increases the demand for video conferencing platforms by 55-84 percent on average compared to weeks with fewer than 100 cases (Abay et al., 2020). As working from and staying at home might remain a normality for the year 2021 because of the COVID-19 pandemic continuation, fixed services revenue for telecommunication companies is predicted to increase by 2.1 percent in that year (Sale et al., 2020). Desktops-as-a-service will have a growth of 95.4 percent in 2020 and will continue growing further (Gartner, 2020a), as more companies will allow their workers to work remotely either full or part time. The total worldwide cloud service revenue in this time is expected to grow from €206.5 billion to €309.9 billion (Gartner, 2020a). The countermeasures for the COVID-19 pandemic will provide ICT companies with new growth opportunities as they adapt their business processes and prepare for similar potential scenarios in the future

(Jakupović, 2020a). Taking into account the future uncertainty of the pandemic, the global ICT growth could reach pre-COVID-19 level as soon as in the year 2021. The European ICT sector will grow by 1.9 percent in 2021 as a result of the improved macroeconomic situation and acquiring consumers' trust by providing reliable, quality digital solutions (Jakupović, 2020b).

An important negative effect of COVID-19 comes from broken supply chains, especially in manufacturing. However, with a broader understanding of the supply chain these issues become very relevant to all ICT firms. Namely, the supply chain can be defined as a linked set of resources and processes between acquirers, integrators, and suppliers that begins with the design of ICT products and services and extends through development, sourcing, manufacturing, handling, and delivery of ICT products and services to the acquirer (NIST, 2012). It relies on having reliable access to physical assets, such as raw materials and integral components, however, perhaps even more importantly, it needs a growing supply of human resources both in terms of volume and especially in highly skilled labor. There are estimates that supply chains will not return to normal as fast as was primarily anticipated and companies will therefore have to re-think their strategies for the future (Oberoi and Singh, 2020). The manufacturing part of the sector has been and will continue to be affected by the supply chain disruptions, such as delayed deliveries and component shortages, especially if the Chinese suppliers of customized automation components will not recover quickly enough (Chenneveau et al., 2020). With the electronic manufacturing value chain disruptions, new product releases may be postponed. This may, on the other hand, push towards a redistribution of the global manufacturing industry from Asia to limit any future supply disruptions (Sallomi, 2020).

Many ICT firms will not necessarily change their research and development spending planned for 2020, as the negative impact of the pandemic will be countered with the growth in new technologies. The sector's investments in new technologies will grow by at least five percent annually in the years 2020-2023 (IDC, 2020b). Specifically, spending on 5G infrastructure will almost double in 2020, reaching $8.1 billion, of which 49.4 percent is attributed to China. At the same time, all other wireless infrastructure investments will decrease, resulting in a lower total spending amount compared to 2019 (Gartner, 2020c). With delayed plans in most of the EU due to the pandemic, 5G expenditures will be significantly higher in the US. However, the EU could increase the cumulative additional GDP by 14 percent by 2030 with increasing investments and implementing reforms in R&D and technological deployment. An additional increase in investments and adopting measures by the year 2022 would result in an ad-

ditional increase of 3.2 percent in EU countries' GDP and would help boost the socioeconomic situation in the EU even further with positive job creation by 2030 (European Commission, 2020).

Telecommunication companies' revenue from businesses will drop significantly in 2020 because of the forced closures of many business premises and financial difficulties, expected by many companies. Fixed revenue will return to levels close to the ones before the pandemic by late 2022 (Sale et al., 2020). The telecommunications CAPEX will take a hit in 2020, with a reduction between two and four percent year on year but is expected to rebound in 2021 (Taga et al., 2020). With higher needs for reliable connections for education and remote working, investing into 5G networks will be the focus in the following years for most companies worldwide (Taga et al., 2020). Overall, ICT services, provided by telcos, are expected to grow by six and eight percent in 2020 and 2021, respectively, continuing in 2022 with even higher growth (Sale et al., 2020). The sector will have to deal with some churn as well. The pandemic is raising unemployment worldwide and limiting income for many businesses and households. However, with its new technologies becoming an inseparable part of our everyday lives, ICT will be able to lead the way into the new digital business era.

4 Slovenian ICT companies' response to COVID-19

In order to gain insight into the situation that COVID-19 brought to the Slovenian ICT industry, we prepared a questionnaire and interviewed representatives from eight Slovenian ICT service firms in August and September 2020. Half of them had less than 10 employees, while the largest one had over 550. We conducted semi-structured interviews with division managers or executives, as well as two PR representatives. Three interviewees came from telecommunication companies and the other five from ICT service companies.

All of the interviewed companies expected growth in revenues as well as profit for 2020. Despite the COVID-19 crisis, they did not adapt their business plans. Instead, the majority of the companies tried to find new solutions and ways for reaching their goals. This was possible because most of the interviewed ICT firms operate in software business, and thus did not experience bigger problems with supply chain disruptions related to raw materials, electronic components, and factory closures. Those that have hardware products in their assortment reported even closer collaboration with suppliers, making sure that the supply chains were not interrupted and customers were served.

Only smaller telecommunication firms experienced problems due to delays in SIM card shipments.

Interestingly, software firms report an increase in customers trust and satisfaction because of their rapid responses to customers' needs. Here, Slovenian companies probably had an advantage because they are small and thus more flexible. Some challenges were reported with regard to skill mismatches and a lack of skilled ICT labor for the future, which is a global challenge for the ICT industry (Henry-Nickie, 2019; Summit Human Capital, 2020).

Movement restrictions in times of the pandemic mostly affected telecommunication companies with physical stores where they experienced a decrease in newly joined customers. Many of these potential customers were forced to transition to online services (Jakupović, 2020a). This created a new competitive environment where companies raced to incorporate new users into their platforms. The necessity of moving business online gave companies a glimpse of how the workforce without physical barriers would look like. This access to a non-centralized, global workforce will, based on our interviews, be central in the digital transformation process, as has been also identified on a global stage (Summit Human Capital, 2020).

The interviews show that software companies keep investing in R&D and do not plan to change that. There were minor changes, such as focusing on ongoing projects and pausing less vital investments, but not in order to survive, rather than to focus on the existing ones, finishing them within the deadlines. For example, the immediate rise in demand for telecommunication services had to be met with a sufficient supply of network availability. To offer reliable and fast online services was crucial in the early stages. Network repair and maintenance was a priority and alongside network expansions and advancements made it possible for the country to digitalize necessary services and operations not requiring physical contact.

Potential liquidity problems and growing risks have been minimized with "crisis funds", which established companies with long-term goals fortunately have. As for smaller software development companies, they reported an increased level of risk as a consequence of their partner companies going bankrupt, causing problems with their own bottom line. Six out of eight companies created a "crisis task force", which closely monitored potential problems and assessed risks. Our interviews confirmed the findings of the survey by the Chamber of Commerce and Industry of Slovenia, which states that more than

65 percent of ICT companies established a task force to deal with questions connected to the COVID-19 crisis (GZS, 2020).

As for the increased workload, telecommunications providers experienced the biggest shock in the first 14 days of the general quarantine, forcing them to do more maintenance work and upgrade the infrastructure. There has been a substantial increase in the use of telecommunication channels (fixed and mobile networks); more than 50 percent in the first days after the introduction of containment measures and even more than that later on (Šutanovac, 2020). One of the early responses to the shift to online services was finding ways to deliver a new consumer agenda, which will empower consumers to make informed choices and play an active role in the digital transformation process (European Commission, 2020). This is one example of a European response measure aimed at preparing the countries and the population for further necessary changes to their online and offline behavior.

Regarding government measures, five out of eight interviewees stated that applying procedures was not complex and the government provided additional explanation where it was needed. Again, similar can be found in the Chamber of Commerce and Industry (GZS, 2020) survey with 73 percent of the respondents assessing the government's measures as appropriate and useful. Two out of eight interviewees said that Slovenia could do more to provide better subsidy policies aimed at SMEs. This goes along with the general trend where Slovenia is more of a follower of the European standards and could do more to coincide with the goals set forth by the European Commission on shaping Europe's digital future. Adhering to standardized bureaucracy practices and unifying the region's information systems has been one of the European agendas aimed at helping countries that rely on SMEs. An example being the promotion of unified electronic health records based on a common European exchange format, which aims to give European citizens secure access to and exchange of health data across the EU. Such measures will directly impact the development of the ICT sector after its recovery in 2021 (European Commission, 2020).

Despite the initial drawbacks and challenges that the sector was faced with, one of the interviewees stated that *"... even though a crisis might come, we already see an increase in demand. In 2008, when the automotive industry recorded a 70 percent decrease in sales of new cars, R&D laboratories didn't stop and development of new technologies continued. How hard will recovery for companies be depends on the industry they are in, and ICT seems to be in an opportune position to take advantage."*

Conclusion

The ICT sector has been growing at a fast pace in the last few years and is increasing its share of generated value added both in the EU and Slovenia. The growth seems to be especially strong in ICT services, mostly related to the emergence of new technologies and software. The sector is very dynamic with a high rate of innovation, which has been of crucial importance to support digitalization already before and even more so in the times of COVID-19. Our professional and personal lives, businesses, and economies worldwide, have become even more connected, more digital, and more automated due to COVID-19. This change continues to be powered by innovations in ICT technologies, such as AI, 5G, and cloud computing (CompTIA, 2019). Therefore, overall prospects for the ICT sector to come out of the COVID-19 crisis on the side of winners seem very likely. Even though short-term negative effects of COVID-19 have challenged many ICT firms, the responsiveness was in general good as demonstrated by the Slovenian companies. It seems that both short- and long-term positive effects of COVID-19 will outweigh the negative ones and will bring the ICT industry back to the projected growth already in 2022 and maybe even outperform the pre-COVID-19 projections.

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Andreja Cirman, Ada Guštin Habuš, Jan Jazbec, Nikola Jordović, Matija Mulej

THE IMPACT OF COVID-19 ON THE CONSTRUCTION INDUSTRY

Introduction

Construction is one of the key sectors as it is providing facilities for the economy to bloom. This same sector was the most severely hit during the financial crisis in 2008 and it has barely recovered until today only to face the still ongoing COVID-19 pandemic. The speed and strength with which the pandemic struck is unprecedented, therefore, it has had a wide impact on the sector. The companies and subcontractors' labour health is a major concern, while companies face practical challenges around social distancing on construction sites. Some projects are being delayed or cancelled; supply chains suffered severe disruptions due to the imposed anti-pandemic measures. Companies that had to furlough workers might struggle to find skilled labour in the future. And because many construction and contracting companies operate without substantial capital reserves, the impact of lockdowns could force some to restructure debt and seek new sources of capital or risk insolvency.

This chapter aims to provide an overview of COVID-19 influence on the European Union's (EU) construction sector, emphasizing Slovenia. To perform a thorough analysis, secondary data was gathered, and several in-depth interviews were conducted with representatives of Slovenian firms operating in the construction sector. First, the construction sector's importance is presented for the EU countries regarding its contribution to the GDP and employment. In addition, the sector's growth rates are described, followed by a detailed analysis of the Slovenian construction sector throughout the period 2008-2019. Second, the effects of COVID-19 on the construction sector are described from the demand and supply side perspective, with the government's response to the pandemic in addition. Third, the forecast for the future of the construction sector is analysed. Last but not least, our key findings are summarized in the conclusion.

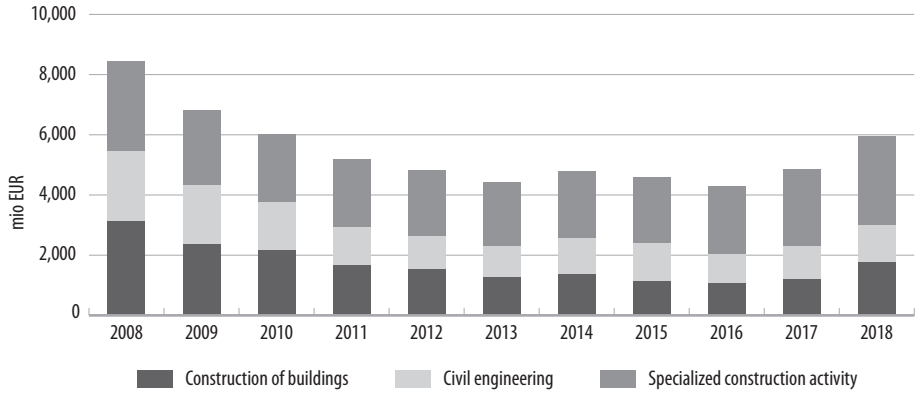
1 An overview of the construction sector's importance

The construction sector plays one of the essential strategic roles in the EU economy. On one hand, it provides the infrastructure and buildings to the rest of the economy and society and gives solutions for social, climate, and energy challenges. On the other hand, it also creates new jobs and drives economic growth (European Commission, 2016). Moreover, it contributes to the growth of other sectors, too. Namely, the construction spending multiplier is one of the highest for many EU countries. For every additional euro invested in the sector, 1.9 to 2.9 euros of further activities are created (Parenti, 2020).

1.1 Importance of the construction sector in Slovenia

In Slovenia, the construction sector accounted for 5.2 percent of the national gross domestic product in 2019. There were 19,042 companies operating in the sector employing 67,310 people, according to the last available data for 2019 (SORS, 2020). As a sector it recorded the highest employment growth among all sectors in Slovenia in 2019, with growth of around eight percent (SORS, 2020). The majority (94 percent) of companies in the industry are micro or small-sized companies employing up to ten people. The employees in construction represent eight percent of all workforce in Slovenia. The average salary in the sector in 2019 was 1,300 EUR gross, which is 23 percent lower than the Slovenian average. 70 percent of the employees are Slovenians, with the remaining part being foreigners mostly from Bosnia and Herzegovina (Košar, 2019).

Figure 1. Turnover in construction for Slovenia in real terms, 2008-2018



Source: SORS, 2020.

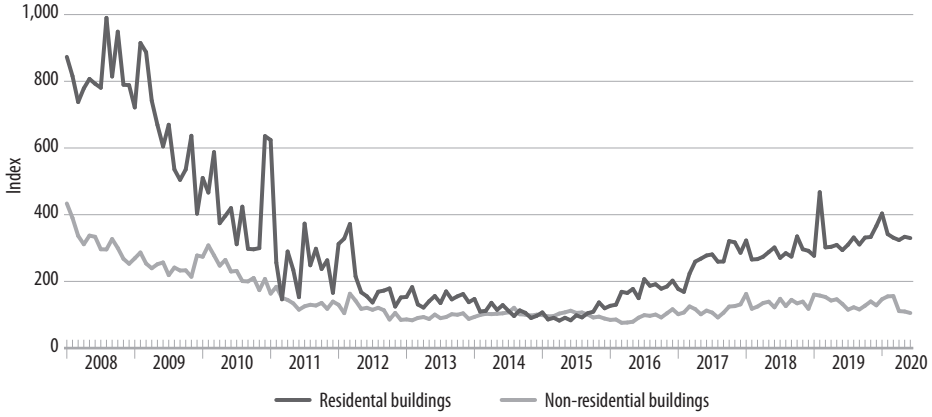
Figure 1 shows a high level of variability in turnover in construction in the period from 2008 to 2018. The highest turnover was registered in 2008 (8.4 billion EUR) before the financial crisis hit the economy. After 2008, the turnover was decreasing until 2016, when the lowest turnover was recorded in the analysed period (4.3 billion EUR) with only a weak sign of recovery in 2014 (4.78 billion EUR), followed again by a slump in 2015 and 2016. After 2016, the construction sector started recovering, with growth increasing for the first time for two straight years in the decade. The crisis didn't only decrease the turnover but also caused bankruptcy of the biggest companies in the Slovenian market with only smaller and more agile companies surviving. The impact of the financial crisis is still visible in the sector today as the small companies from 2008 grew but stayed agile and cautious due to the experience from the financial crisis, moreover, none of the companies became as big as they were before 2008. All this resulted in the resilience of construction sector companies during the COVID-19 crisis. Before the financial crisis, there were 19,433 companies in the industry (2008), with a small number of firms on the market reaching the pre-crisis level only in 2018 (SORS, 2020).

As presented in Figure 1, 59 percent of the value added in 2018 was created by enterprises engaged in specialized construction activity; specialized construction activity includes demolition and site preparation, electrical, plumbing, and other construction installation activities, and building completion and finishing), followed by enterprises that are involved in the construction of buildings (23 percent) and enterprises that are involved in civil engineering (almost 18 percent). In practice, the highest added value of turnover is produced by the construction of buildings as the specialized activities are small sub-sectors put together in one and therefore present the largest share (SORS, 2020).

Similar trends can be observed when analysing construction put in place in the period of 2008-2020, which is shown in Figure 2. The most significant changes to construction put in place were the effects of the financial crisis from 2008, which are visible with a significant decrease from 2008 until mid-2013. The sector recorded growth for the first time since the financial crisis in 2015, after which the construction put in place continued to grow slowly until 2020. When comparing the residential and non-residential buildings (residential buildings have at least 50 percent of space dedicated to dwellings), there was a much higher activity of residential buildings from 2008 to 2010. After 2010, both indices were moving similarly until 2016, when residential buildings started growing much faster than non-residential which are predominantly financed

by the state. The index of the residential buildings was much more volatile in the analysed period than non-residential buildings (SORS, 2020).

Figure 2. Indices of the real value of construction put in place, Slovenia, 2008-2020 (2015=100)



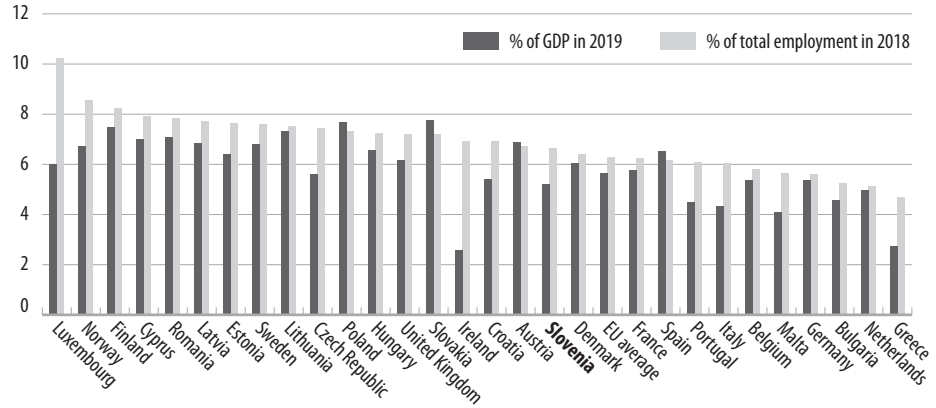
Source: SORS, 2020.

1.2 Importance of the construction sector in the European Union

There are around 3.3 million companies in the EU construction sector. Small and medium-sized enterprises represent more than 90 percent of all companies (Parenti, 2020). On average, the EU construction sector contributed 5.65 percent of GDP in 2019, whereas in Slovenia it contributed slightly below average (5.20 percent), as shown in Figure 3. The most considerable contribution of construction to GDP was in Eastern-European countries, with Slovakia having the highest (7.74 percent), followed by Poland (7.69 percent), Lithuania (7.31 percent), and Romania (7.06 percent). The countries with the lowest contribution to GDP are countries from the Mediterranean area, where four out of five countries had the lowest contribution to GDP (Eurostat, 2020).

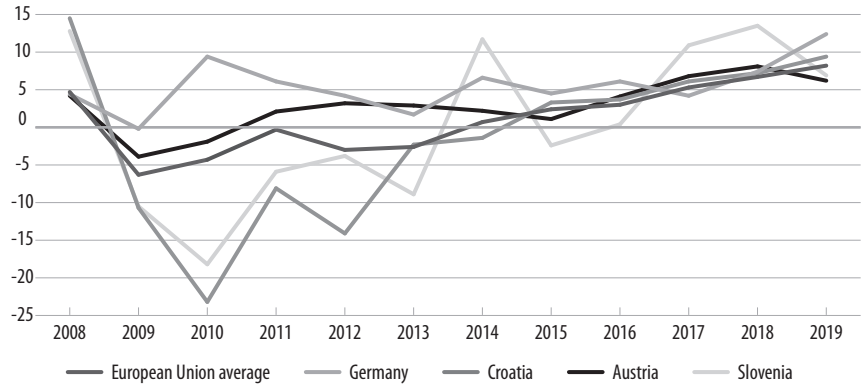
Figure 3 also presents the contribution to the total employment created in the EU construction sector. The construction sector provides about 20 million direct jobs. It employs, on average, 6.29 percent of all workers in the EU countries, and 6.63 percent of workers in Slovenia. The highest share of employees working in construction is in Luxemburg (10.23 percent), followed by Norway (8.56 percent) and Finland (8.25 percent). Greece has the lowest share of construction workers in total employment with 4.69 percent.

Figure 3. Contribution of construction as percentage of GDP in 2019 and total employment in 2018, EU countries with the UK, in percentages



Source: Eurostat, 2020.

Figure 4. The construction sector annual growth rate of added value in percent



Source: Eurostat, 2020.

In Figure 4, the construction sector's annual growth rate is shown for the EU, Slovenia, Germany, Austria, and Croatia. The latter got included in our analysis after realizing that Slovenian companies started investing heavily in Croatia during the pandemic outbreak, as revealed in the interviews. The data is presented for the period from 2008 to 2019.

The financial crisis was damaging for all countries; however, Croatia had to face the largest drop in the annual growth rate (23.2 percent in 2010). The growth was most stable in Germany, where it never dropped to negative values.

Slovenia's construction sector was faced with the most volatile annual growth out of all observed countries. It marked the largest drop in 2010 (18.2 percent) and peak in 2018 (13.5 percent). The construction sector in all of the observed countries grew from 2015 onward until the sector's growth started slowing down again in 2019 (Eurostat, 2020).

2 The construction sector during the COVID-19 period

The COVID-19 pandemic has caught up everyone unprepared; it has crippled various industries, the construction sector being one of them. The full scope of both short- and long-term effects arising from the pandemic is still unknown. Changes will be needed, and this analysis is likely to continue to evolve until a vaccine or other curative measures are in place on a global basis (Chivilo, 2020). The effects are summarized in Table 1 and explained in continuing.

Table 1. A summary of the COVID-19 effects on the construction sector

Short-term effects	Long-term effects
Demand side	
• Long bureaucratic procedures in obtaining permits. • Fewer tenders at the end of April and at the beginning of May had a strong impact on reducing demand as public sector funds were frozen.	• A decrease in the number of new projects.
Supply side	
• Lack of skilled workforce due to quarantine measures and migration restrictions. • Less construction done in the first half of 2020 due to a decrease in activity because of the lack of skilled workforce. • Low confidence indicators will influence the scope of planned investments in the sector. • Higher material prices. • Longer delivery times.	• Supply chain disruption and shortage of materials. • Liquidity crisis and high levels of debt for the companies in the sector.

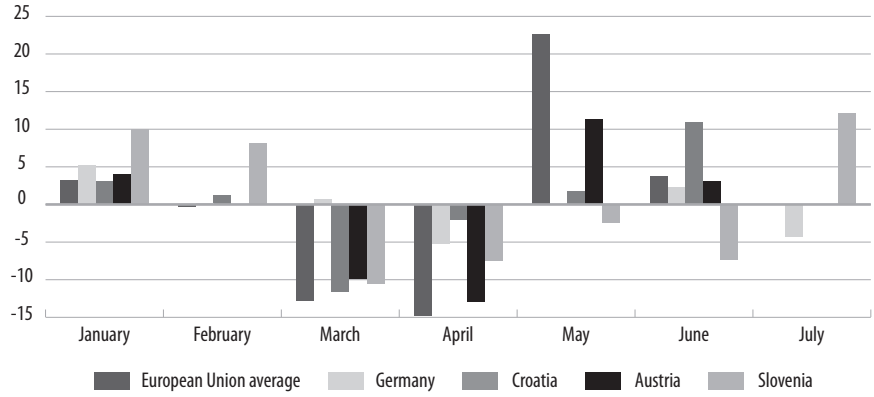
Source: Own research.

2.1 The COVID-19 impacts on construction in statistics

To identify the events and the effects of the COVID-19 crisis we will first look at the monthly change in production in 2020, as shown in Figure 5. In normal circumstances the season in the construction sector starts in March. Due to the COVID-19 spread and the imposed lockdown, the EU average production in

March 2020 fell significantly (decrease of 12.8 percent), decreasing even further in April (decrease of 14.8 percent compared to the previous month). May was the month when the production recorded a major increase (22.7 percent) but the growth immediately cooled down in June (3.8 percent) and finally decreased even further in July compared to June (decrease of 0.1 percent).

Figure 5. Monthly growth rates in construction in the EU, 2020, in percent



Source: Eurostat, 2020.

Figure 5 also shows other countries' growth rates compared to the EU average. The growth rates of construction in Croatia and Austria were close to the EU average, while Slovenia and Germany's production were the most volatile. At the beginning of the year, Slovenia recorded the highest growth rate of all analysed countries in the group. However, it was also the only country in the group that had a negative growth rate from March to June 2020 (Eurostat, 2020).

The lockdown in Slovenia started on March 16, 2020. As a result, the value of construction put in place decreased in March 2020 by 11.8 percent after it had been growing for the first two months of 2020. In April, it decreased by additional 7.1 percent compared to March and was 6.6 percent lower than in April 2019. Also, the number of building permits issued decreased by 18 percent in March 2020 compared to February and additionally by 33 percent in April 2020. This can be explained mainly due to the administrative offices not working as a result of the lockdown measures put in place after the declaration of the epidemic. Compared to April 2019, the number of building permits for new constructions decreased by 66 percent and the planned floor area by 56 percent.

After April 2020, when the issuing of building permits for residential buildings and for public and commercial infrastructure became one of the urgent matters performed by administrative units, the number of building permits for new constructions somehow resumed the pre-lockdown level, mainly due to a higher number of building permits issued for one-dwelling buildings and for smaller non-residential buildings, but was still 16 percent lower than in May 2019.

The value of construction put in place is the value of work carried out on projects completed during the inquiry period, plus the value of work under construction at the end of the inquiry period minus the value at the beginning of the period. After decreasing for four months, in July 2020, the value of construction increased by 12.3 percent compared to June 2020, however, it was still 1.9 percent lower than in July 2019 (SORS, 2020).

When observing the value of construction put in place, we can notice a decrease in activity due to the COVID-19 outbreak. In June 2020, compared to May, the value of construction put in place decreased by 7.1 percent. Furthermore, comparing June 2020 with June 2019 there is an even larger decrease of 15.3 percent. The value of construction put in place in the first half of 2020 decreased by 5.6 percent compared to the same period in 2019. Construction of buildings went down by 8.3 percent and construction of civil engineering by 4.2 percent (Lavrič, 2020).

2.2 Results from the conducted qualitative research

We conducted in-depth interviews with seven Slovenian construction companies to obtain a further insight into the impact of the COVID-19 epidemic on the construction sector. Two of them were conducted with large firms that mainly participate in public tenders, three were conducted with medium-sized companies (one being a well-established firm that primarily operates in foreign markets, one a major supplier of building technology, and the last one a producer of concrete semi-finished products), and two were conducted with small contractors present on the local market. Moreover, an in-depth interview was also conducted with a representative from the Chamber of Commerce.

Most companies initially noticed the effects on demand with a noticeable reduction in the early days of the pandemic. The government stopped signing contracts through the public procurement system, which meant a complete stop of projects in March and April 2020 and a slightly lower production level. As a

result, one company noted that their liquidity deteriorated in March and April as public sector funds were frozen and they were left without inflows until the first half of May.

On the supply side, the consequences were reflected in higher material prices, while delivery times were extended due to disrupted supply chains; moreover, at the same time logistics and transport costs temporarily increased, which especially effected firms operating in global markets and suppliers of construction materials and technology. The firms interviewed noted that manufacturers could not supply equipment due to missing parts that were procured in China. For this and other reasons, manufacturers tended to shorten the supply chains or tried to obtain as many elements as possible from manufacturers closer to production plants.

Work on construction sites went on during the lockdown as there was no official ban by the government. During the period of April and May, those who did not come into direct contact with consumers could carry out their activities; e.g. builders, installers, and contractors working on new or unoccupied dwelling sites. Whether work continued was up to the discretion of employers despite the risk of the coronavirus spreading among workers.

In order to preserve jobs among employers severely affected by the outbreak of the pandemic, the government adopted the Act Determining Intervention Measures to Contain the COVID-19 Epidemic and Mitigate its Consequences for Citizens and the Economy – ZIUZEOP. The first adopted package of measures focused on all types of economic entities, both self-employed and companies, and was intended to improve the economic situation in terms of employment, furlough, and compensation of salaries and contributions. Most issues in this period were tied to implementing measures related to waiting for work, childcare, and sick leave. This was followed by measures aimed at wages, such as the subsidies for wages and sickness benefits, with the sickness burden being on the state from the first day of absence. The second package was intended to provide liquidity, favourable bank loans and guarantee schemes, which should be relatively simple and less administratively burdensome for small businesses.

Among the first measures taken by the companies were measures aimed at preventing the spread of COVID-19 and protecting employees' health. Due to the specifics of the sector, only planning and administrative staff could work from home. When organizing work on construction sites, companies followed government guidelines to prevent the spread of the virus among site workers.

Employers were faced with difficulties in crossing borders and introducing quarantine, mainly because a significant part of the workforce in the sector are foreigners. There were practically no changes in the employment for most of the interviewees. One of the larger firms noted that some of the staff were put on furlough using the government job retention schemes. In contrast, most of the issues which arose were due to the lack of foreign workers who left for their countries of origin. This affected especially the two small contractors, one of which was already facing labour shortage before the pandemic started. All of the interviewed firms maintained their staff, as there were no employment redundancies noticed when the interviews were conducted.

As a strategy, interviewees emphasized expansion into foreign markets. In Croatia, after the crisis in 2008, several large companies went bankrupt and there is a lack of contractors, which is an opportunity for established Slovenian companies.

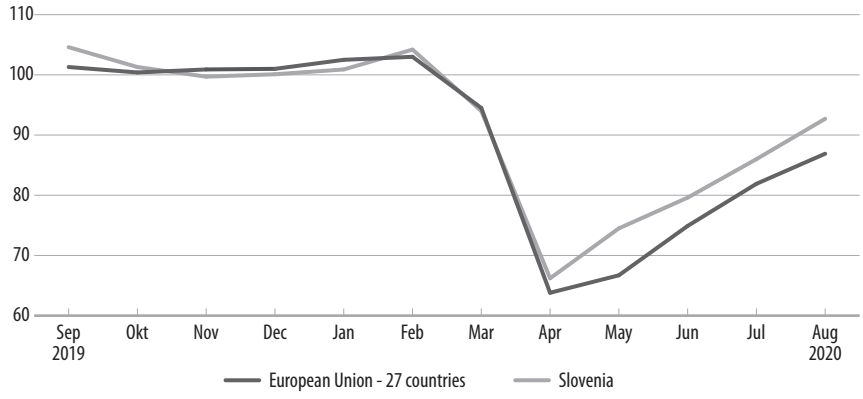
The declaration of the COVID-19 pandemic did not significantly affect the interviewees' operations and did not leave any lasting consequences. However, the deterioration of conditions required some adjustments to the companies' operations. There was a need to reorganize work, firms and especially suppliers were exposed to purchasing risks, demand and orders decreased, the customers' solvency was lower, and uncertainty about future operations was extremely high.

The financial crisis had a profound impact on the construction sector in Slovenia, as large firms that dominated the market gave way to smaller, agile, and flexible firms, which gives them an edge in adapting and surviving the current and upcoming effects of the COVID-19 pandemic.

3 Confidence indicators and forecasts

Figure 6 shows the construction confidence indicator and how the EU's and Slovenia's society reacted to the pandemic outbreak and how it influenced the construction sector. For the first two months of 2020, Slovenian confidence indicator was higher than the EU's, however, after the lockdown was introduced, the indicator in Slovenia decreased more compared to the EU. They both reached negative levels, whereas in June the biggest decrease was recorded with a change of -24.8 in Slovenia and -19.7 in the EU. After the lockdown, the indicator started growing again and it recovered faster in Slovenia than in the EU; with the last known data in September 2020 showing a difference of -4.6 in Slovenia and -11.6 in the EU.

Figure 6. Construction confidence interval for Slovenia and the EU



Source: Eurostat, 2020.

After the pandemic outbreak, there were also significant changes to the predictions of the sector's evolution in the future. The pre-pandemic projections suggested that in 2020 an increase of growth on the EU level would be seen. However, the projections have been corrected significantly since the pandemic started (Eurostat, 2020).

Table 3. Forecasted annual growth rate in the construction sector before the COVID-19 pandemic, year on year change, in percent

	Historical data			Forecasts		
Year	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Before the pandemic (Slovenia)	8.3	8	4.1	4.8	6	6
After the pandemic (Slovenia)				2.3	4	5
Before the pandemic (EU)	3.9	3.2	2.9	3.1	1	1
After the pandemic (EU)				-11.5	6	3

Source: Eurostat, 2020.

As we can see from Table 3, the forecasts published before the COVID-19 pandemic predicted a growth of 4.8 percent for 2020 and about six percent for 2021 and 2022 for the Slovenian construction sector. After the pandemic outbreak, the forecasts changed significantly, and the growth was cut to 2.3 percent for 2020. Amended projections also show that the expected growth will be four percent in 2021 and five percent in 2022. Table 3 also shows that before the COVID-19 outbreak the 2019 projections said that industry growth would be 2.9 percent in the EU, following an increase in growth to 3.1 percent in 2020.

The growth was driven mostly by new constructions and it was projected to decrease in the following years to around one percent annually as a result of a weakening economy. Due to the outbreak of COVID-19 and the following lockdown, the 2020 projections have changed considerably, whereas new forecasts indicate a decline of 11.5 percent, a drop similar to the decline caused by the global financial crisis in 2008. However, it is expected that the construction sector will see a rebound of around six percent already in 2021 and three percent in 2022, but levels will remain below those seen in 2018 (Eurostat, 2020).

According to the interviewees, the year 2021 will be a challenging year for the construction sector. There is an extraordinary decline in building permits issued compared to the same period last year, so next year, a reduced volume of engineering services and construction is expected. The interviewees also expect that the crisis will last for at least another two years and that the actions of the governments will come in waves and will require constant adaptation. Fortunately, in Slovenia there has been a relatively small decline in activity, however, it is still highly uncertain what the future holds, as the activity of construction in Slovenia is extremely dependent on political decisions. The government's efforts to launch significant investments bring some optimism for the construction sector in the coming years.

The uncertainty in the development of the pandemic and its effects on the economy is very high. If there are further lockdowns after the restrictions are eased, new changes in the sector forecasts will be expected. When a crisis like this one hits the economy, governments and public authorities usually aim to start spending on infrastructure projects as soon as the situation returns to normal to bring the industry back to the pre-crisis level. With interest rates being at record lows, borrowing costs will be minimal. Still, the true success of government efforts to spend heavily on infrastructure will be dependent in part on their current financial standing. The biggest struggle will be on countries and companies with already high debts (Brown, 2020).

Conclusion

While the COVID-19 pandemic is crippling various industries, construction has been one of the few industries that has been maintained to some extent. The activity will likely continue in the short run because the s in several countries have not been complete and companies continue fulfilling their contracts. However, work can be disrupted as soon as supply chains are disrupted again by a

shortage of subcontractors and materials, and public agencies and administrations begin to terminate contracts to cut their spending. In the residential and non-residential subsectors, the situation is different. Entities in these subsectors (for example, individuals, retail companies, and small businesses) are facing significant short-term stress and, with little choice but to conserve cash, many of these have already stopped their projects.

The construction sector may hold the key to kick-starting economies ravaged by the fallout from the COVID-19 pandemic. Investing in infrastructure can be among the first set of measures to kick-start economies because governments can directly stimulate demand and job creation, compensating for the lack of private sector and household spending. In most other sectors of the economy, the government is reliant on the private sector being willing to hire extra workers and cover their share of the costs.

According to the European Commission and "European Green Deal" published in December 2019, the construction sector is addressed as one of the key topics for the green transition. The Deal aims to make Europe the first carbon neutral continent by 2050, and the construction sector will play a pivotal role in achieving that goal (European Commission, 2019). We will see how the governments will respond to the deal after the pandemic outbreak and use all the planned infrastructure projects to stimulate the economy.

Construction leaders will be defined by what they do along the three dimensions of managing a crisis: Respond, Recover, and Thrive. Leaders should prepare for increased liquidation and renegotiation of contracts. They should also rethink how work is done and whether to accelerate the adoption of digital capabilities.

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Matjaž Koman, Denis Marinšek, Lucija Perne, Žan Sterle, Peter Suhodolčan

THE IMPACT OF COVID-19 ON THE AUTOMOTIVE INDUSTRY

Introduction

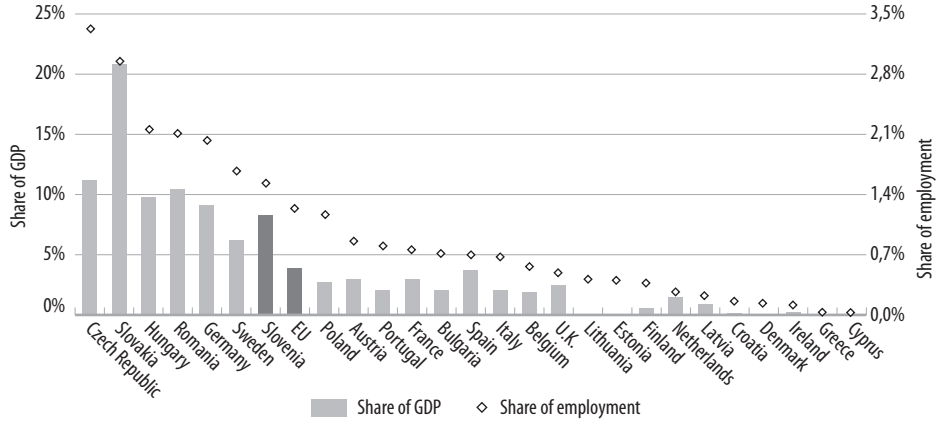
February 2020 seemed to have been just another usual month of business in the automotive industry. The virus outbreak in China in December 2019, even though on the minds of local business leaders in Slovenia, still presented too great a spatial distance to have an impact on their daily tasks and plans. The general perception, as one company representative put it, was that "the things going on in China would have no impact on us; COVID-19 would go the well-known path of MERS and SARS". However, caution is advised when assigning the blame to the companies. As one representative quipped, "Sure, having contingency plans is fine, but you cannot prepare for a 50 percent sales drop". Another one, commenting on the fast spread of the virus to Europe, said, "Globalisation does its thing". For now, globalisation and regionalisation have been doing their thing on the supply side as well. However, experiences vary based upon the degree of regionalisation. They range from no disruption at all, even in the case of total regionalisation, to a frustrated company representative finding out one morning that "India had 0 cases yesterday and 10,000 today and now the entire country is closed down".

The purpose of this chapter is to explore the impacts of COVID-19 on the automotive industry in Europe, with a focus on Slovenia. In the first section we present an overview of the macro situation the automotive sector found itself in the period from 2008 to 2019. The next section presents the effects of the COVID-19 crisis on the industry, later focusing on Slovenia. The situation in Slovenia is further analysed through personal interviews with representatives of seven slovenian companies, all first- and/or second-tier suppliers to automobile manufacturers. Finally, the opportunities for the future are considered.

1 The automotive industry before the crisis

The automotive industry before the COVID-19 crisis is analysed in this part of the paper. The analysis is focused on the situation in Europe, with a special emphasis on Slovenia, where both the share of employment and the share of GDP are above the EU average (see Figure 1). Otherwise, Eastern European countries (Czech Republic, Slovakia, Romania, and Hungary) constitute the majority of the countries with above EU average shares of employment and GDP of motor vehicle manufacturing. Of all EU member states, Slovakia is the most exposed to uncertainty in the vehicle manufacturing sector, as it makes up around 20 percent of the Slovak GDP and 3.2 percent of total employment, followed by the Czech Republic with 11 percent of total GDP and 3.4 percent of total employment.

Figure 1. Share of direct motor vehicle manufacturing in selected EU countries in 2018



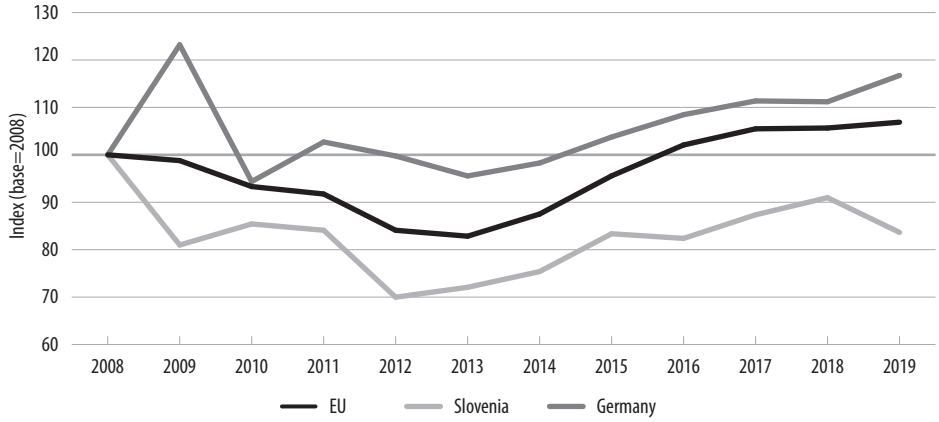
Sources: Eurostat, 2019; World Bank, 2020.

1.1 Car sales in Europe

The sales of passenger cars in Europe in the period from 2008 to 2020 were analysed, with a special attention on the situation just before the crisis. The European Automobile Manufacturers Association (ACEA) notes that the relative decline in new car registrations was more severe in Slovenia than on average in the EU (ACEA, 2020a). While German demand for new cars seemed to have been stable between 2008 and 2019, Slovene demand has yet to recover and reach the level of 2008, reaching less than 85 percent of the demand of

2008 in the year 2019 (ACEA, 2020c). In this metric, Slovenia underperformed the European Union (EU) average demand, which, while declining during and after the 2008 crisis, still reached the pre-crisis levels of demand in 2015 (ACEA, 2020c).

Figure 2. The number of new passenger cars registered (base year 2008) 2008-2019



Source: ACEA, 2020e.

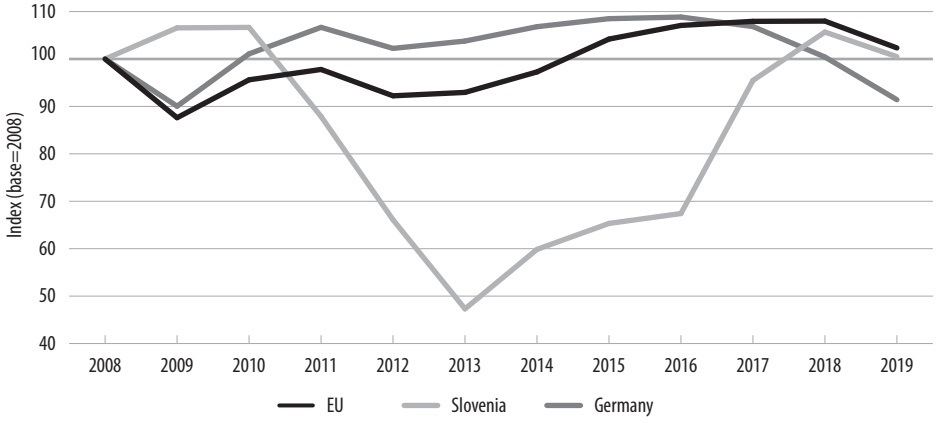
The EU passenger car market recorded a modest growth of 1.2 percent in 2019, growing for six years in a row and reaching more than 15.3 million units (ACEA, 2020a). More than 18 million units of new passenger cars were sold in the EU, representing 20.5 percent of the global market share (ACEA, 2020a). Overall, nearly 75 million cars were sold worldwide in 2019, a drop of 4.9 percent compared to 2018 (ACEA, 2020a).

In 2019, the share of electric vehicles (EV) in total car sales across the EU amounted to 2 percent of total new car sales (Luman, 2020). The competitiveness of EVs is improving with new models being able to reach a larger range every year. The governments offer subsidies for purchases of new EVs and in many cities across the EU fines for exceeding CO2 emissions are being handed out (Luman, 2020). In the EU, CO2 compliance will separately lead to an effective electrification of at least 30 to 40 percent of new vehicles by 2030 (Luman, 2020). Because there are less parts to an EV than to a combustion powered vehicle, car part manufacturers will have to adapt if they want to survive. Even before the COVID-19 crisis this fact was troubling the suppliers in the automotive industry. They are forced to invest heavily in R&D to keep an edge over their competition (Luman, 2020).

1.2 Car production in Europe

Car production in Europe had a long recovery period after the crash of 2008-2009, with the number of cars produced reaching the 2008 levels only in 2015 (Figure 3, ACEA, 2020d). While German car production fell only in 2009 and continued strong until 2019, Slovenia seems to have experienced a lag in the production decrease, only dipping below the benchmark in 2011. However, the decline continued for a longer period and showed itself to be more severe than either Germany or the EU average, only reaching the 2008 level of production in 2018.

Figure 3. The number of passenger cars produced (base year 2008) 2008-2019



Source: ACEA, 2020d.

In 2019, the passenger car production in the EU decreased by 5.3 percent to 15.8 million units compared to the previous year (ACEA, 2020a). Production in the EU accounts for 21.3 percent of market share in 2019 (increasing from 20.5 percent in 2018) and the EU remains the second-largest producer of passenger cars. Overall, the global car production fell by 6.3 percent in 2019, to 74.1 million passenger cars built (ACEA, 2020a). In 2019, Germany produced a bit less than 4.7 million passenger cars (a 9 percent decline from the previous year) (ACEA, 2020a), while Revoz in Slovenia produced almost 200,000 cars (Revoz d.d., 2020), a 4.9 percent decline compared to 2018 (OICA, 2020).

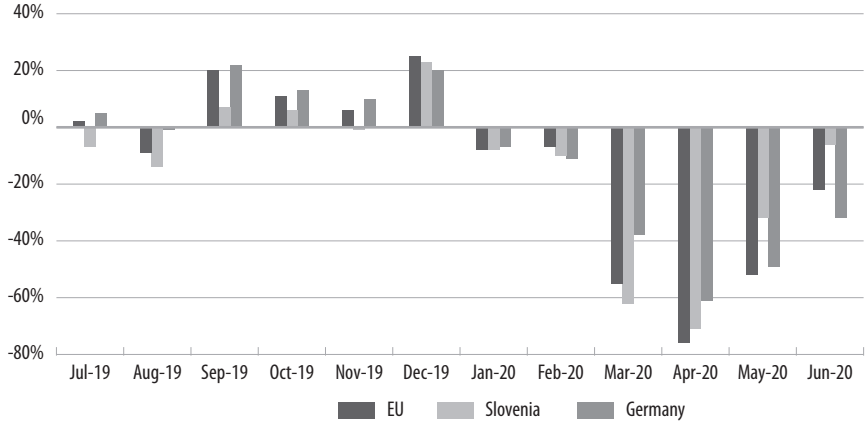
The EU is a net exporter of cars with the value of exported cars remains stable around €140 billion per annum in the last 5 years and the value of imported cars steadily rising from €26 billion in 2013 to more than €60 billion in 2019, an average annual increase of €5.67 billion totalling 130 percent in 6 years (Eurostat, 2020).

In 2017, 13.8 million Europeans were directly or indirectly employed in the automotive industry, accounting for 6.1 percent of all EU jobs (ACEA, 2019). 2.6 million of those were direct and 0.9 million were indirect manufacturing jobs, together accounting for 11.4 percent of all EU manufacturing jobs (ACEA, 2019). The rest (10.3 million) include jobs related to automobile use (4.5 million), transport (5.1 million), and construction (0.6 million) (ACEA, 2019). In Slovenia, there were 14,500 people employed in direct automotive manufacturing companies, which accounted for 7.1 percent of total manufacturing jobs in the country (ACEA, 2019). At least 1.13 million Europeans working in the automotive industry are affected by the shutdowns and are in jeopardy of a potential job loss (ACEA, 2019). The bulk of the endangered workforce is employed in Germany (568,500 people). In Slovenia, the estimates range from 2,890 (ACEA, 2019) to 10,000 jobs at risk (Tomažič, 2020).

2 The crisis of 2020

In June 2020, 949,722 new passenger cars were registered in the EU, a drop of 22.3 percent compared to the same month in 2019 (ACEA, 2020e). However, this number marks an improvement from the two months before, as April 2020 saw a 76.3 percent drop and May 2020 a 52.3 percent drop in new passenger car sales in the EU compared to 2019 (ACEA, 2020b). Figure 4 presents the relative change in passenger car registrations, showing a significant drop in sales for the months at the peak of the crisis.

Figure 4. The relative change of newly registered passenger cars in 2019-2020, compared to the same period a year before



Source: ACEA, 2020d.

Compared to June 2019, the demand in Slovenia contracted by 5.8 percent, from 6,967 cars being registered in June 2019 to 6,565 in June 2020. The difference between the first halves of the years 2019 and 2020 is -31.9 percent, a drop from 41,122 to 28,005 (ACEA, 2020c). In June 2020, all EU member states experienced a drop in sales, except for France, where the number of registrations increased by 1.2 percent compared to June 2019 (ACEA, 2020e). This exception can be explained by incentives the French government introduced in June which aim to stimulate sales of low emission vehicles (ACEA, 2020e). In the first half of 2020, the demand in the EU contracted by 38.1 percent, with Spain (-50.9 percent), Italy (-46.1 percent), France (-38.6 percent) and Germany (-34.5 percent) being most affected (ACEA, 2020e).

The production losses due to factory shutdowns in the European Union (up until the date of writing) amount to at least 2,446,344 motor vehicles, the number including passenger cars, trucks, vans, buses, and coaches (ACEA, 2020f). In Germany, 30 days of downtime amounted to 600,000 units of production lost (finished cars). Because German car producers buy 40 percent of Slovene car part products (ACEA, 2020e), this had a negative effect on the Slovenian automotive industry as well. In Slovenia, the 27 working days of downtime amounted to 19,399 units of production lost (ACEA, 2020f).

3 Interviews

This section presents the aggregated views of the seven company representatives that were interviewed in August and September 2020. The companies chosen are either based in Slovenia (five out of seven) or are Slovenian subsidiaries of foreign companies (two out of seven) and are mostly first- or second-tier suppliers to automobile manufacturers. The representatives all reported a similar story of a total surprise that started in March, after which some parts of the automotive industry will never recover. “Companies” in this section refers to the companies where the representatives we interviewed work. Table 1 presents a summary of the short- and long-run effects of the COVID-19 crisis on the automotive industry that were discovered in the interviews.

As the production of semi-finished products and raw materials was halted first in Asia and than all over the globe, some disruptions in the supply chain appeared (Table 2).

Table 1. A summary of COVID-19 effects on the automotive industry

Short-run effects	Long-run effects
Demand	
• Unprecedented acute drop in new car sales	• Loss of consumer confidence • Loss of purchasing power • Credit market freeze • Electrification and other alternative fuel technologies to advance faster due to government subsidies
Supply	
• Negative impact on volume due to shutdown of production facilities and manufacturing • Pressure on auto part producers' liquidity due to loss of revenue, earnings and cash flows and increase in debt to bridge the crisis	• Lay-offs in companies who entered the crisis in a bad financial state • Potential changes in auto part manufacturers' own and final manufacturers' supply patterns

Source: Own research.

Table 2. Disruptions in the supply chain experienced by company

Company and company role in global value chain			Supply chain disruptions
Company 1	First and second tier supplier	Small private company	No disruptions, regional suppliers
Company 2	First and second tier supplier	Medium-sized private company	Disrupted, suppliers from Asia
Company 3	First tier multinational supplier	Multinational company	No disruptions, regional suppliers
Company 4	First tier multinational supplier	Multinational company	Disrupted, global suppliers shut down
Company 5	First and second tier supplier	Multinational company	No disruptions, regional suppliers
Company 6	First and second tier supplier	Multinational company	No disruptions, regional suppliers
Company 7	First and second tier supplier	Small private company	No disruptions, mostly regional suppliers

Source: Interviews, 2020.

The companies who were tied into the global supply chain had to adjust quickly as the shut-down in some cases occurred over night. They found new suppliers in other parts of the world, mostly Mexico and South America. Fortunately, many of the companies have regional suppliers and the lock-down occurring around the globe had little effect on them from the supply side.

All companies that were a part of our study recorded great results in the first quarter of 2020. In the beginning of April, the first red flags of the upcoming crisis appeared. There was a reduction of orders placed, which prompted companies to re-evaluate their projections. Most of them still underestimated the severity of the upcoming crisis, predicting only a 5 to 15 percent annual reduction in sales in

2020. By the end of the month it was clear that these projections were unrealistic. Firms projected an annual decrease in sales from 25 to 35 percent.

The lack of demand and the risk of infection prompted most of Slovenian automotive companies to shut down production for up to three weeks, with the two exceptions being a small general-parts-producing company and a producer of complex parts for vehicles of a higher price range. The former managed to keep the production running by doing business in Mexico, China, and India, where at that moment the lockdown was not occurring, while the latter attributed the presence of demand to their specific products and the fact that their customers are mostly producers in the higher price range. On the other side of the spectrum, in April 2020, a large multinational company achieved only 15 percent of planned sales of their product produced in Slovenia, the lowest in the last 50 years (Table 3).

Table 3. Sales drop by company

Company and company role in global value chain			Predicted decline in sales in 2020	Recovery expectations
Company 1	First and second tier supplier	Small private company	Zero to five percent annual decrease in sales	Full recovery in 2021
Company 2	First and second tier supplier	Medium-sized private company	20-25 percent drop in annual sales	Return to pre-crisis levels after 2021
Company 3	First tier multinational supplier	Multinational company	Around 40 percent sales drop in 2020	Return to 2018-2019 sales in 2025
Company 4	First tier multinational supplier	Multinational company	Realised only 7-8 percent of planned working days in April	Return to 2018-2019 sales in 2026
Company 5	First and second tier supplier	Multinational company	35 percent drop in orders in April, 45 percent in May	Did not state recovery expectations
Company 6	First and second tier supplier	Multinational company	Sales in 2021 to be at 85-90 percent of 2019	Expect demand to recover by 2024
Company 7	First and second tier supplier	Small private company	10-15 percent sales drop in 2020	Return to 2019 levels in 2022

Source: Interviews, 2020.

By the second half of May, the production mostly continued in a limited manner, improving through June, July and August. According to the manager in a big Slovenian company, the supply chain took two months to recalibrate to the new demand needs.

Some companies supplemented the lacking orders with increasing their safety stock. One interviewee said his firm was bullied by their buyer to establish a

30-day consignment stock out of their own pocket. This increase in working capital presented additional financial burden and increased the risk of a firm becoming illiquid. According to multiple representatives, the profit margins of their companies decreased as the heavyweights on the top of the supply chain squeezed their suppliers.

A surge of orders placed in August and at the beginning of September offers a cause for optimism in the upcoming autumn, when most companies hope to rebound close to precrisis production levels. The company supplying to automobile manufacturers in the higher price range is already working at 120 percent of its capabilities, even working on a Saturday to satisfy current demand. Reaching the precrisis levels of annual sales, however, will take time. Depending on the size, capital structure, product, rigidity and bargaining power of the company, the recovery is set to complete from 2021 up to 2026. The larger, more rigid and more leveraged the firm was before the crisis, the more time the rehabilitation process will take. Factors that positively influence the recovery time include involvement in the production of parts for electric vehicles and competitive advantage due to technological edge and skilled workforce.

Table 4. Use of government policies by company and liquidity loans

Company and company role in global value chain			Supply chain disruptions
Company 1	First and second tier supplier	Small private company	Did not use any help from the government
Company 2	First and second tier supplier	Medium-sized private company	Furlough compensation and government backed liquidity loans
Company 3	First tier multinational supplier	Multinational company	Furlough compensation
Company 4	First tier multinational supplier	Multinational company	Furlough compensation
Company 5	First and second tier supplier	Multinational company	Furlough compensation
Company 6	First and second tier supplier	Multinational company	Furlough compensation
Company 7	First and second tier supplier	Small private company	Furlough compensation

Source: Interviews, 2020.

To prevent a catastrophic liquidity crisis, high unemployment and a crash of economy, the governments all over Europe started to intervene. In Slovenia, the government offered a compensation for furloughed workers. It offered to refund firms 80 percent of salary of unoccupied employees which due to lack of work the companies had no choice but to temporarily go on furlough. The government also backed liquidity loans for the companies (IUS-INFO, 2020). All but one of the companies interviewed received compensation for waiting

for work, in addition, one also took out a governmentbacked liquidity loan. The company that did not use any help was a small private company that was able to stay liquid and their production demand would not be met with employees waiting for work (Table 4).

The firms tried to avoid resorting to the liquidity loans backed by the Slovenian government with one of the company representatives saying "no one takes those deals unless they are nearly dead". Only one of the firms we spoke to had secured their liquidity through such a measure. Its representative explained that the process of acquiring the loan was long and complicated. They point to Germany as an example of good practice, as their approach to the same problem was much quicker and more effective. The representative of a first-tier multinational supplier with operations in Slovenia stated that they acquired liquidity loans backed by the parent company. They chose this option as the process of acquiring such loan in this way was faster and the rates were better.

All companies we spoke to said they utilised the compensation for waiting for work granted by the government. All of them were pleased with the response of the government and stated the measures helped preventing a harsher lay-off policy. Because of the measure the companies were able to lay off fewer employees, but they will still be forced to downsize either in production or office jobs or both.

Only two of the interviewed companies have so far managed not to lay off any of their employees. One representative stated that they "… have good employees and are always looking for new workers. We employ ten students every year. and one out of these ten comes to work full time after finishing his or her student work period. We make products nobody else wants to make or they do not know how". The other stated that is was their conscious decision not to lay off any employees at the peak of the crisis, as they sensed the crisis would not last long and that they would soon have to work with full capabilities, which turned out to be true. Their "no lay-off" policy positively affected employee satisfaction and loyalty, which is crucial at the moment, as they are working at 120 percent of their capabilities.

Other companies were faced with a surplus in their workforce and have already laid off some of their employees, starting in April and May already, or are currently in the process. One of the companies had to lower the number of their employees by 20 percent. In the first step, they suspended contract workers and fixed-term workers. The next step was to lay off 20 of the lowest workers in the company – the employees with low performance scores and low potential. They have also had

some employees that were eligible for early retirement, who used this option, and they are currently rehiring contract workers. In another company, two projects just reached completion and did not get renewed by the buyers. The company will therefore have a surplus of employees and will have to lay off even workers on contracts of indefinite duration. The first response of yet another company was to cut management pay by 20 percent until the end of the year and cut all of their bonuses. At some point the management net monthly salary was lowered to €1,000. The production process still ran in three shifts, however, they quit working on Sundays and had to introduce part-time work. Layoffs started with contract workers and gave option to use early retirement to their employees. They did not want to lay off their workers just because they were not full-time employees.

The interviewees agreed the rights of workers in Slovenia are well protected. Those employed by the subsidiaries of Austrian and German firms mentioned that in the two countries the rights of workers are protected with even stricter measures, especially if the company is publicly traded. Germany and Austria introduced short-time working (Ger. Kurzarbeit), subsidizing part of the pay of employees on contracts of indefinite duration (Table 5).

Table 5. Effects of the COVID-19 crisis on the workforce

Company and company role in global value chain			Effects on the workforce
Company 1	First and second tier supplier	Small private company	• No lay-offs
Company 2	First and second tier supplier	Medium-sized private company	• Lay-offs, early retirement • Lowered management pay • Cancelled agency workers
Company 3	First tier multinational supplier	Multinational company	• Immediate short-time working arrangement for research and support • Lay-offs in Germany
Company 4	First tier multinational supplier	Multinational company	• Will have layoffs and early retirement • Will lay off employees on contracts with infinite duration
Company 5	First and second tier supplier	Multinational company	• Lay-offs – 20 percent of employees • Early retirement • Currently rehiring agency workers
Company 6	First and second tier supplier	Multinational company	• Adapted as much as possible, especially with agency workers on definite contracts
Company 7	First and second tier supplier	Small private company	• No lay-offs • Positive effects on employee satisfaction and loyalty

Source: Interviews, 2020.

The decreased general demand in the new cars market and disruptions in the supply chain have led to drastic reduction or even complete shutdown of new orders. For most of the firms the capital expenditures (capex) are connected to new projects and product lines. The lack of those prompted them to postpone most or all of the essential investments in the second quarter. A representative of a Slovenian company pointed out that their buyers, big German automotive companies, did not want to sign commitments. This made additional capex riskier as the companies had no guarantee that the products they would produce and sell would actually be paid for. Most of the interviewees expect their company capex to return to the planned level in 2021 when business stabilizes.

Two of the companies stated that their larger investments have not been affected by the crisis. One of them successfully carried out a large investment project just before the crisis, and the other is still planning to go through with one of their largest investments yet. They say this is due to careful planning before, the fact that they are healthy companies and invest only if they can fund a significant portion out of their own capital. One of the representatives stated that keeping up with the planned investments is important for a company in good shape even during a crisis, as investments represent optimism and are a good signal for both employees and customers (Table 6).

Table 6. Effect of COVID-19 crisis on investments

Company and company role in global value chain			Effects on investments
Company 1	First and second tier supplier	Small private company	• Went through with a large investment just before COVID-19 • Cancelled smaller investments • Prioritizing
Company 2	First and second tier supplier	Medium-sized private company	• Half of the investments into tangible assets moved to 2021
Company 3	First tier multinational supplier	Multinational company	• Postponed due to the postponement of projects • Cancelled all strategic investments
Company 4	First tier multinational supplier	Multinational company	• Lower investments • More control over investments into capex
Company 5	First and second tier supplier	Multinational company	• Stopped all investments • Prioritizing
Company 6	First and second tier supplier	Multinational company	• Stopped all investments except those tied to specific projects
Company 7	First and second tier supplier	Small private company	• All smaller investments progressed as planned • Currently preparing for a large investment

Source: Interviews, 2020.

Table 7. Preventive measures taken by the company

Company and company role in global value chain			Preventive measures
Company 1	First and second tier supplier	Small private company	• Masks • Disinfection • Social distance • Employees not leaving home regions
Company 2	First and second tier supplier	Medium-sized private company	• Provided PPE to employees • Measuring temperature • Moved machines to ensure distance • Work from home in administration and management
Company 3	First tier multinational supplier	Multinational company	• Work from home • Special office arrangements (less people on site)
Company 4	First tier multinational supplier	Multinational company	• Measuring temperature • Masks • Disinfection of all premises • Social distance
Company 5	First and second tier supplier	Multinational company	• Masks • Work from home • Clusters of employees that always work together • Disinfection
Company 6	First and second tier supplier	Multinational company	• Work from home
Company 7	First and second tier supplier	Small private company	• Masks • Meetings moved online

Source: Interviews, 2020.

As February turned into March, most interviewed companies started to perceive COVID-19 as a serious threat to their ability to operate. While office work could be and was moved to home offices, the production part of the automotive industry was impossible to move online; therefore, the companies operating in this industry had to implement all measures necessary to keep the production line going. Every company emphasized some forms of protective measures for their employees – from mandatory temperature tests before entering the company premises to a reduced number of seats in cafeterias and making face masks obligatory. However, this last measure has proven to be problematic during the breaks, as one company representative candidly reported, "Problem: break time, everybody goes outside, masks go off, cigarettes into their mouths." With time, employees have become laxer about following the preventative measures. Where the production process allowed for cluster production, strict measures

were put in place to prevent contact between the clusters, as a single infection would put the whole cluster into quarantine. Finally, to minimize the impact a cluster contamination would have on the production flow, a couple of companies trained office workers in the use of core machines to be able to bridge the quarantine gap (Table 7).

4 Opportunities

The industry disruption described in this chapter also presents opportunities for the survivors. To some extent, the situation is similar to that of 2008, as one company representative reported, "A company with good fundamentals and without debt can substitute certain failing companies. The only reason it might happen to a lesser extent this time is because companies are getting more support from the state". Be that as it may, this substitution is already taking place. A third of the companies we interviewed reported an anomalous increase in the future demand for their products from up the value chain, suggesting a failure of their usual suppliers. Additionally, the risks of the global supply chain exposed by this crisis have opened the door for a greater regionalisation in Europe, where Slovenia, due to its relatively low-labour costs and a high degree of employee knowledge and skills, may find itself in a favourable position. Another company representative emphasized the opportunity to present Slovenia as a reliable business destination and to break through into the higher added value market by saying that "the only advantage we have here in Slovenia is that we make better products. Even if we were to raise our productivity, you still cannot compete with Bulgaria or Morocco in terms of price. We need to make more complex products".

Interestingly, the companies producing parts used in electric vehicles have not seen a comparatively smaller drop in their demand and have, in a couple of cases, even exceeded their projections. This is in line with the data concerning the rapid improvement and rise of electric vehicles as a legitimate competitor to internal combustion engine vehicles.

Conclusion

The goal of this chapter was to showcase the impact of the COVID-19 crisis on the automotive sector. The viral outbreak and its unknowns presented a great challenge to the efficient and complex automotive manufacturing chain.

Through the interviews with representatives of the automotive industry in Slovenia, we found that this crisis is primarily one of demand. While not perceived as a serious threat in the beginning, a swift action followed when the COVID-19 impact became clear, including the reorganization of production, remote work, and cancelation of all non-essential investments. While the drop in demand was high in the spring of 2020, it recovered to a large extent during the summer. While the forecasts of the individual companies vary, most of them expect to reach their 2019 levels of sales by 2022. Only time will tell how accurate the predictions are.

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Marko Pahor, Nika Drobnič, Filip Jakob Pogačnik, Anita Rangus

THE IMPACT OF COVID-19 ON THE FINANCIAL INDUSTRY

Introduction

In contrast to the financial crisis in the year 2008, the crisis in 2020 did not originate in the financial sector. As the USB chief executive nicely pointed out, the 2020 crisis is driven by a different kind of fear. This time it is not only about people losing their assets or savings, but it is about people losing their health and in worst case even their life (Morris et al., 2020). This does not mean, however, that the financial institutions and especially banks do not play a major role. Nearly three quarters of the business owners indicated that their operations have been partially or fully affected by the crisis, and nearly half responded that they were seriously concerned that they might have to close their businesses if the shutdown will be prolonged (PWC, 2020b). Therefore, in this crisis, instead of being the trigger, banks have the role of a saviour as they provide a crucial liquidity to the businesses which have suffered the most (Buehler et al., 2020).

The purpose of this chapter is to present a response of the financial sector to the COVID-19 pandemic. As the spectrum of the financial sector is quite broad, we will focus only on commercial banks and insurance companies in Slovenia and Europe. The analysis is based on the relevant secondary and primary data. The primary data was collected in the form of six in-depth interviews with board members from the banking and insurance industries: a large general insurance company, a pension insurance company, the second and third largest banks, a smaller bank owned by a large international banking group, and a smaller specialized bank. All interviews were conducted between July and October 2020.

The chapter consists of three main parts. In the first part we focus on the financial sector before the pandemic. We present the importance of the sector within the economy, lessons from the 2008 crisis, the existing challenges and

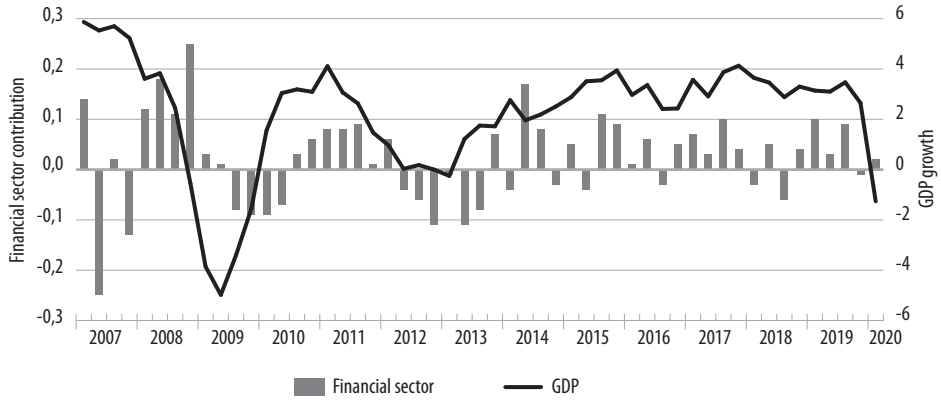
forecasts made before the pandemic. In the second part, we look at the impact of COVID-19 on the financial sector, outlining the consequences caused by the restriction of movement, the liquidity struggle of companies, and changes in household behaviour. Finally, in the last chapter we forecast the long-term impact of the pandemic on the sector and which path the sector will follow in the future in terms of digital transformation.

1 The financial sector after the financial crisis and before the COVID-19 pandemic

1.1 The significance of the financial sector in Europe and Slovenia

In Europe, the sector's value added accounts for six percent of total economic output, which is less than in the USA (around 7.4 percent) (Eurostat, 2020a; SelectUSA, 2020). Of all the countries, Luxembourg contributes the most to value added with 26 percent, while the rest of the countries contribute from three to nine percent. Slovenia falls below the average, contributing four percent (Eurostat, 2020a). Due to the COVID-19 pandemic, we can observe a negative trend in the first quarter of 2020 compared to the previous year (Figure 1).

Figure 1. Nominal GDP growth in the euro area (line) and the contribution of the financial sector to nominal GDP growth (bar), 2007-2020



Source: SORS, 2020.

Employment in the banking and insurance sectors fell by 6.3 percent in the European Union after the Great Recession in 2008, with the largest declines in

the biggest developed countries, such as Germany (10.5 percent decline), United Kingdom (8.3 percent decline), and Spain (12.9 percent decline). By comparison, Slovenia recorded a substantial 15.3 percent drop in employment in the banking and insurance sectors in the period from 2008 to 2019 (Eurostat, 2020b).

Prior to the pandemic, European countries were in a good position as their unemployment reached a record low of 6.5 percent in February of 2020, and 3.8 percent in Slovenia in December 2019 (OECD, 2019b; SURS, 2020). However, during the pandemic, central European countries lost more jobs in the banking and insurance sectors than other emerging European countries. However, more jobs were lost in less developed European countries and in countries that were initially affected by COVID-19, such as Italy and Spain. In Slovenia we can observe that the total number of employees in the financial sector is declining despite reaching a record low percentage for unemployment (Eurostat, 2020b).

1.2 Lessons from the 2008 Recession

The previous financial crisis in 2008 revealed some important problems in the banking sector, such as excessive lending, especially to customers with a high-risk profile. Moreover, these activities were not supported by adequate capital levels and liquidity buffers, thus the crisis drove many banks into liquidity and solvency problems (BIS, 2020). The rather reckless behaviour of banks has led to a spill over effect on the economy. For example, the average US household lost around 25% of its net assets between 2007 and 2009, which for all US households amounts to $17 trillion (Vanguard, 2017). In order to avoid the repetition of the financial crisis, banks underwent structural changes that made them more resilient to the future economic shocks, such as the COVID-19 pandemic.

The first structural change after the financial crisis in 2008 was recapitalisation. As a result, the Common Equity Tier 1 (CET 1) capital ratio of euro area banks gradually increased from 8.8 percent in 2008 to 15.7 percent in 2019, while the ratio of Slovene banks rose to 17.6 percent[1]. In addition, banks have also increased their liquidity buffers. The liquidity coverage ratio (LCR) of euro area banks rose from 89 percent in 2011 to 146.66 percent in 2019, and in Slovenia even to 321 percent in 2019 (Bank of Slovenia, 2020b; ECB, 2020a)[2]. The quality of bank loans has also improved since the last financial crisis. In

1 Minimum required CET 1 ratio in 2019 under Basel III regulation is 4.5 percent (BIS, 2019).
2 Minimum required LCR in 2019 under Basel III regulation is 100 percent (BIS, 2019).

2012, the European banks recorded the highest level of non-performing loans, with more than seven percent of gross loans defaulted or close to a default. The share then decreased to 3.3 percent in 2018 (European Commission, 2019).

Insurers survived the crisis relatively unscathed, and the solvency of the insurance sector did not appear to be at risk (Schich, 2010). As the Geneva Association pointed out, their impact on the financial system stabilized due to their role as asset holders on behalf of customers and policyholders. They learned from the crisis that risk governance and culture must be integrated into the whole organization, relying on a mix of risk methodologies, including qualitative assessments (Lehmann and Hofmann, 2010). Consequently, insurance supervisors are monitoring market and liquidity risks more rigorously on the basis of available financial and supervisory information together with relevant stress test results from the past (OECD, 2020a).

1.2 Challenges of the financial sector before the pandemic

Although European banks have transformed into more stable and resilient banks between 2008 and 2020, their profitability has still not reached the level of 2007, when the ROE was 10 percent. Moreover, the ROE still fell short of their cost of capital (eight to ten percent) as it reached 6.1 percent in 2018 (ECB, 2019b). The main reason behind the low profitability is the reduction of interest rate by the ECB (ECB, 2020a). On one hand, analytics hoped that interest rate would return to positive in the year 2022 (Morris et al., 2020), whereas on the other hand, there was a persistent fear of Japanification[3], which was becoming a trend in Europe (Srinivas et al., 2019; Mauldin, 2019).

Besides the negative consequences, the negative interest rates also caused positive consequences for the banks as the loan growth rate has increased from negative levels to around three percent[4]. Although the total value of loans outstanding was increasing, the loan-to-deposit ratio has been constantly falling from the year 2008 on. As for the banks, a low-interest-rate environment was also a problem for life insurers, who are exposed to a considerable interest rate risk due to their investments in fixed-interest securities. Persistently low-interest rates may also have an impact on the earnings and liquidity of life insurers. Within the scope of asset-liability management, life insurers endeavour to match

3 Japanification is a term for an economy which has persistent low GDP growth, low inflation/deflation, and interest rates around zero or even negative. As the first economy which tackled with those problems was Japan, the term is named after this economy (Maludin, 2019).

4 The pre-crisis growth rate of loans was 10-15 percent (European Commission, 2019).

the cash flows of liabilities with the cash flows of assets in order to avoid the formation of an additional asset-liability mismatch reserve. In periods of low interest rates, assets and liabilities cash flows can be seriously mismatched, exposing insurers to losses from low-profitability asset sales to meet current obligations to policyholders. During times of persistently low-interest rates, life insurers' investment income might be insufficient to meet contractually guaranteed obligations to policyholders which cannot be reduced (NAIC, 2020).

Even before the pandemic, both commercial banks and insurance companies were tackling the disruption caused by the technological financial advances that were already leaving their mark in the everyday operations. Fintech companies have been striving to digitalize and provide faster and more accessible services to consumers (Srinivas et al., 2019; PWC, 2020a). In addition, large non-financial companies, such as Alphabet (Google), Amazon, and Alibaba, announced their plans to offer financial services to their customers. Thus, the banks were put in the position where they had to choose between changing their business model or waiting for the fierce competition to run them out of the market (Čater et al., 2019).

1.3 The pre-corona forecast for the financial industry in the year 2020

In 2019, there were high expectations of a major economic disruption in 2020, which could be a consequence of many different factors. The main driver was the digitalisation, although there were also concerns about the looming consequences of climate change and the social impact. The latter disruption would force the banks to reprioritize sustainability as one of the leading objectives, which would require them to forego short-term gains for the long-term sustainability. Overall, the forecasts urged the banks to stay flexible and adaptable, as there was an uncertain yet expected threat of economic distress in the near future (Srinivas et al., 2019).

For the insurance sector, forecasts predicted a slowdown in growth in non-life insurance premiums for 2019-2020 in advanced countries as well as globally. More and more insurers wanted to strengthen their core systems, add capabilities, and enhance customer experience through artificial intelligence (AI), digitalization, new sales platforms, alternative product development, and other innovations. They also believed that insurers should be repositioning for

success throughout the 2020s to adapt to changes in consumer purchasing preferences, property use, and work habits (Friedman et al., 2019).

2 The impact of COVID-19 on the financial industry

Table 1 summarizes the technological effects, the effects of demand, and the effects of supply on the financial industry, that were gathered from the interviews. Each effect is more specifically described below.

Table 1. Summary of short-term effects on the financial industry

Source of the effects	Effects on the banking industry	Effects on the insurance industry
The government: imposing containment measures **The competition:** increasing offering of services through digital channels	Acceleration of digitalization	Acceleration of digitalization
Corporate customers: confronting with the loss of revenues	Growth in corporate loans and a decrease in quality of the outstanding loans	Paying compensations for business interruptions; providing financial support to policyholders in terms of premium payment deferrals and refunds by insurers
Household customers: uncertain about their future income and economic outlook	Fall in consumer loans and increase of household deposits	Adapted coverage terms and conditions; providing additional coverage compensation to existing policyholders or specific types of workers
The European Central Bank: imposing measures to contain the effect of the pandemic on the EU economy	Negative deposit and lending interest rates	

Source: Own research.

2.1 Acceleration of digitalisation

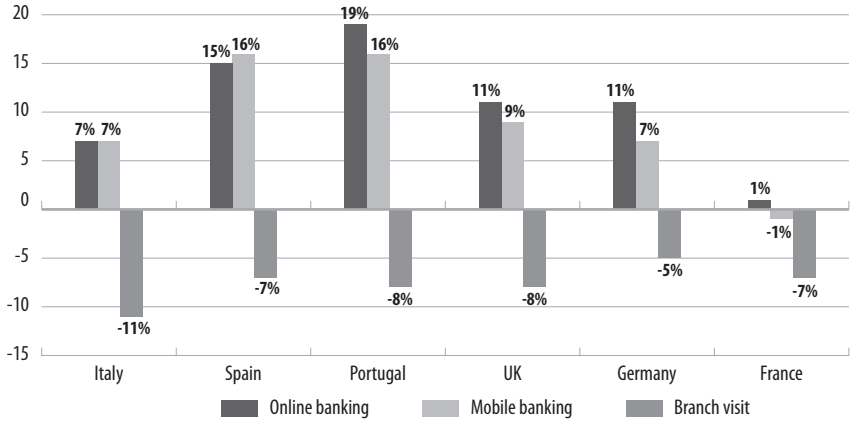
The best strategy to halt the rise of the pandemic is to limit personal contact, which is why the World Health Organization advised people to stay at home and avoid visiting other places such as shops, banks, etc. unless necessary (WHO, 2020). The advice soon became a reality when the Slovene government banned travelling outside of the home municipality (Ministry of the Interior of the Republic of Slovenia, 2020). Applying this recommendation and prohibition to the financial sector, we asked the sector representatives of the largest banks and insurance companies in Slovenia how they had managed and adapted their operations. They explained that the majority of the outlets had reduced working

hours (or even closed down) and strongly promoted the use of their services on digital channels instead of customers visiting a physical sales outlet. As financial services moved from branches to digital platforms in a relatively short time, the importance of digitalization has increased drastically.

Online banking, mobile banking, and tech insurance companies were already on the rise before the pandemic. A study by All Finance, which analysed Slovene banks before the pandemic, found that the number of users of mobile banking increased from 24 percent of customers in 2016 to 51 percent in 2019. In addition, 76 percent of all users also use online banking. They found that the number one factor influencing the choice of the banking company is its digitalization and not the trust in the banking company, which used to be the most important factor prior to the digitalization (Valicon, 2019).

Since the pandemic started, the use of online and mobile banking has increased even more. 30 percent of survey respondents used mobile banking apps more during the pandemic, and 35 percent online banking more than usual. Although the increase may only be temporary, more than half of the respondents indicated that after the pandemic they would like to use online banking more than they did before the pandemic (Crosman, 2020). The percentages for the European countries are not as high as for the US, as can be seen from Figure 2.

Figure 2. A shift in the use of banking services to digital channels (in net percentage points of respondents)



Notes: the survey by Lemerle et al. (2020) was conducted during April 2020 and was asking respondents whether they used the bank services in question during the specific two-week period more or less often or as often as before the pandemic. Net change was calculated by subtracting the percentage of the respondents replying they used the bank services in question less often than before from the percentage of the respondents replying they used them more often than before.

Source: Lemerle et al. (2020).

The pandemic has also forced Slovene banks and insurance companies to make changes that would lead to faster digitalisation. The interviewees explained that they are focusing on video calls, which can be used to obtain permission to use mobile banking. They also pointed out that they have cooperated with various fintech companies. But they also expressed that banks and insurance companies cannot perform digital transformation only in a matter of days. As a result, most of the banks and insurance companies have not really developed a ground-breaking digitalisation solution but have only increased the intensity of marketing the existing digitalisation solutions.

2.2 Helping the real economy to overcome the COVID-19 disruption

As a result of the lockdown measures explained in the previous chapter, many of the companies have closed their facilities and paused their income generating operations. Although some companies were able to operate online, many of them faced a drop in demand and, consequently, a disruption of the supply chain (Guerrieri et al., 2020). As the companies have zero to very low revenues but still have mandatory and persistent fixed costs, they are keen to maintain liquidity. As a result, banks currently play an important role in helping firms to overcome their income disruption.

From February to May 2020, banks in Europe recorded a 4.3 percentage point increase in the growth rate of corporate lending (ECB, 2020b). However, Slovenian banks recorded a different movement in corporate lending. In Slovenia, loans peaked in March 2020 with a loan growth rate of 5.7 percent, but then the growth rate declined to one percent in June. In March 2020, Slovenian banks also received an application for loan deferment in accordance with the Intervention Measure of Deferred Payment of Borrowers' Obligations Act. The number of loans applied for to be deferred amounts to 3.6 percent of all loans (Bank of Slovenia, 2020d). In addition, the Slovenian government offered a government guarantee for loans in accordance with the Act to provide additional liquidity to the economy and thus mitigate the effects of the COVID-19 epidemic. In total, only €16.5 million were granted in loans with government guarantees (Bank of Slovenia, 2020a).

According to our interviewees, the banks did not face any supply problems (lack of money for new loans), as they remained highly liquid even during the pandemic. Moreover, also the ECB created a supportive environment for liquidity provision. At the beginning of the pandemic, the ECB first expressed

the plan to keep interest rates at current levels until the inflation rate would reach two percent. Then in March 2020 they introduced €750 billion Pandemic Emergency Purchase Programme and later increased this to €1,350 billion, with which they are planning to purchase government and corporate bonds. In addition, the ECB offers banks the opportunity to take out loans at interest rates of up to minus one percent over a longer period of time as part of targeted long-term refinancing transactions. In June, more than 700 banks from the euro area applied to collectively borrow €1.3 trillion, which they intend to use for earlier loan repayments and purchases of government bonds (Arnold, 2020).

Despite the support from the ECB and the Slovenian government and despite the seemingly untouchable resilience of the banks, our interviewees expect that they will confront loan delinquencies or even defaults in the year 2021, when loan moratoriums expire. In order to maintain the banks' resilience to the ongoing pandemic and its consequences, it would therefore be advisable to increase their capital levels. This was one of the factors that, during the previous financial crisis, separated the rapid recovery of the better capitalised banks in the US and the banks in Europe with weaker balance sheet and slower recapitalisation (Jenkins, 2015).

With high loan loss provisions and an increase in risk weighted assets, banks' capital has already fallen from 16.06 percent in the fourth quarter of 2019 to 15.65 percent in the first quarter of 2020 and is likely to fall further (ECB, 2020b). The consulting company Oliver Wyman (2020) expects the loss amounts to be similar to the losses in the Eurozone crisis in 2012-14. However, non-performing loans have not increased in the first quarter of 2020. On the contrary, the loans have decreased from 3.22 percent in the fourth quarter of 2019 to 3.05 percent in the first quarter of 2020 (ECB, 2020c). Loan loss provisions in the first quarter were most notable in the US, where loan loss provisions rose 350 percent year on year. However, the European banks are reacting more conservatively, as they are not profitable enough to absorb the full amount of losses upfront (Noonan, 2020).

Nevertheless, even before the pandemic, it was difficult to raise capital organically with retained profit because it followed the downward trend before the pandemic. Moreover, the ROE share has already fallen to 1.21 percent in the first quarter of 2020 (Buehler et al., 2020). One of the measures presented by the ECB to maintain adequate capital levels in banks and insurance companies was the skipping of dividend payments. Bank of Slovenia (2020c) estimates that this measure has resulted in an additional credit capacity of €3.9 billion. Although

the ECB is behaving very precautionary with all the implemented measures, our interviewees assume that there is no fear of bank defaults in Europe.

Compared to banks, insurance companies have problems of a different nature. Quite a few companies were insured against business interruption, and because of COVID-19 insurance companies had to pay them compensations. In the UK, they estimated that three quarters of the costs arising from the crisis will be paid for business interruption. In addition to reducing demand, they also had a situation where their customers paid insurance premiums even though they did not use the insured asset during the pandemic, so the risk premium was disproportionate to the actual risk. Abroad, this was resolved by financial support to policyholders in the form of premium deferrals and reimbursements from insurers (Shaw, 2020). Our interviewees said that in Slovenia they decided to treat each case separately and those who have a good claims assessment will be reimbursed in the form of premiums.

The insurance industry has also highlighted the need for the Solvency II review to lead to targeted improvements, including fixing the volatility adjustment mechanism and significant reduction in the risk margin, while keeping the euro risk-free rate calibration and methods unchanged (Insurance Europe, 2020).

2.3 Households and their changes in behaviour

Due to the uncertainty about the outlook of our economy, households have changed their behaviour. Our interviewees stated that they are predicting two different scenarios: either households will fear that banks will face similar problems as in the last financial crisis and will try to withdraw money and trigger a bank run, or individuals will continue to have confidence in the bank but will lose confidence in financial markets and thus increase deposits.

As banks have seen a significant increase in deposits, we can conclude that the second scenario was realised. From the beginning of the year to the end of July 2020, deposits at banks in the euro area grew by 7.8 percent, almost the same rate as last year's annual increase. Slovenian banks have recorded an even higher increase, namely 10.4 percent (ECB, 2020c). Although deposits remain a relatively cheap source for banks' funding, they can also be a burden due to the negative interest rate. The president of the Association of German Banks explained that in 2018 German banks had to pay a deposit interest rate to the ECB in the amount of ten percent of sector's annual pre-tax profit (Morris et al., 2020)

During the COVID-19 disruption, many workers were consequently furloughed and are therefore uncertain about their future cash flow. As a result, households postponed purchases, especially of cyclical goods, which led to a decline in the growth rate of household credit (ECB, 2020c). Insurance companies have to adjust their packages due to psychological problems caused by stress and lack of socialization. Insurers in the EU adapted coverage terms and conditions (or interpreting coverage flexibly) in order to account for changes in behaviour (e.g. remote work) and to address various types of administrative challenges arising from restrictive measures. Several insurance companies voluntarily offer additional cover for existing policyholders or specific types of workers (e.g. health care workers) or businesses (hospitality sector, SMEs) (OECD, 2020a). Nevertheless, our interviewees from Slovenian insurance companies said that they see no need to change packages.

3 Challenges of the financial sector in the future

Although the COVID-19 crisis may not have been the direct cause of the main problems and future threats to the financial sector, it has accelerated the process and revealed additional weaknesses in the banking and insurance sectors. There are three main challenges that the banking and insurance sectors will have to overcome. The first is technological progress and digitalisation, followed by regulatory pressure, and finally the persistently low interest rates.

Banks and insurance companies have still not achieved the level of digitalisation that consumers would desire. COVID-19 has not only forced a large majority of the consumers to switch to digital options, but has also pushed consumer demand for better online financial services. The slow digitalisation of traditional banks has thus opened a path to neo-banks and digital non-banking companies. In 2023, the customer base of European neo-banks will account for 20 percent of the total population if the effects of the current pandemic are not taken into account (Chikova et al., 2019). In addition, Caplain (2020) expects significant investments by banks in their own systems, which will enable the automation of certain processes.

As banks will realise that they are lagging behind fintech companies, Ruddenklau (2020) expects an increase in takeovers of promising fintechs by traditional banks. He also claims that fintechs are perfectly suited for a pandemic as they have a lean operating model and can be up to 70 percent more cost efficient than traditional banks because they are built to scale and robust.

In line with the forecast and the ongoing pandemic, Europe's largest bank, HSBC, has already initiated a plan to lay off around 35,000 employees (Hendrikse, 2020). This is due to the technological shift of major banks towards rapid digitalisation in order to remain adaptable, flexible and competitive with the rapid emergence of neo-banks operating exclusively online. Notwithstanding the fact that the pandemic has forced customers to change the channel for using banking services, the representatives of the Slovenian banks we interviewed assured us that they do not plan to close any more branches or lay off any employees. The only exception would be the recent merger of the two largest Slovenian banks, where the reasons for closures and layoffs are not strictly speaking related to COVID-19.

Similar findings can be drawn from the analysis worldwide. BCG reports that only three percent of Americans would stop using branch banking altogether in response to the pandemic. Nevertheless, 24 percent of bank customers also indicated that they would visit branches less frequently than before the pandemic (Lake, 2020). In addition, since the major financial crisis in 2008, banks and insurance companies have come under pressure from regulators and the government. The regulators are trying to improve the stability and resilience of the financial sector, which puts strong pressure on banks' profitability. As a result, they are outperformed by the shadow banks which offer more flexible and adaptable services to consumers. A similar problem can be observed in Slovenia, where banks and insurance companies are struggling with the regulation which currently prevents customers from opening a new private account over the Internet. Nevertheless, due to the regulatory pressure banks were much better prepared when the COVID -19 pandemic hit the global economy and we can only expect this regulatory pressure to continue in the future (Carletti et al., 2020).

Furthermore, banks and insurance companies are struggling against persistently low interest rates, which, in combination with regulators, is putting even greater pressure on profitability. Due to the currently high liquidity in financial institutions, which is a direct consequence of the COVID-19, and the lack of investment, negative interest rates in developed European countries will persist in the foreseeable future (Carletti et al., 2020).

Conclusion

In addition to the challenges of digitalisation, low interest rates, and regulatory pressure, the future holds many questions for the banking and insurance sectors. Due to the ongoing COVID-19 pandemic, forecasts for the future are difficult to predict and the uncertainty is bigger than ever. Nevertheless, it will be crucial to keep a close eye on the economic activity in the coming months. If European countries succeed in maintaining the current process of reopening shops and preventing additional foreclosures or a further economic downturn, the following year 2021 may not look so grim as predicted.

In Slovenia, it will be important to observe what will happen after the postponements of credit loans due in March 2021. It will be crucial for the government to react correctly and intervene if necessary. Moreover, the wider macroeconomic aspect of developing an effective treatment for COVID-19 will play a significant role in preventing additional stoppage of the economy. Insurance companies will focus in particular on sustainability (where Europeans are ahead of Asia with the ESG) and accelerate the shift of insurance power from the West to Asia (they are expected to account for 35 percent of the insurance market by 2030) (Allianz, 2020). Although our interviewees implied a positive outlook for the future and a foreseeable upswing in two to three years, banks and insurance companies should remain adaptable, flexible and ready to fight the pandemic head-on.

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Mateja Kos Koklič, Ana Mihelič, Nuša Zidarn, Tjaša Anžič

THE IMPACT OF COVID-19 ON THE TRANSPORT INDUSTRY

Introduction

According to NACE Rev. 2 (Statistical classification of economic activities in the European Community), transport is divided between passenger and freight transport. It includes rail, pipeline, road, water, and air transport. Besides, side activities such as terminal and parking facilities, cargo handling, storage, etc. are also included. Moreover, mail transport is part of this industry as well (Eurostat, 2008).

This sector employs around 11 million employees and accounts for about nine percent of GDP in the European Union (European Commission, 2019b). Its network in the EU contains around 1.2 million of private and public companies. As a result of the fight against the COVID-19, the industry had to adjust its operations and practices. National lockdowns and travel restrictions have led to an unprecedented decline in road traffic, air travel, and public transport ridership (Budd and Ison, 2020). Still, it is ambitious to say how events will develop in the future because the pandemic is not yet finished (International Transport Forum, 2020).

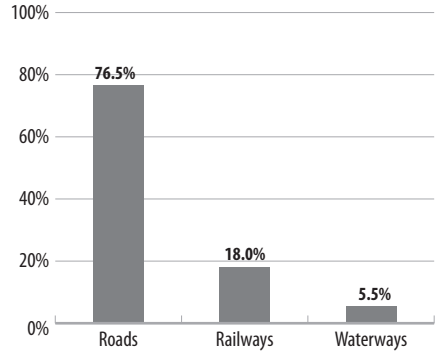
The aim of this chapter is to identify the impact of COVID-19 on the transport industry in the EU and Slovenia. The chapter is divided into three main sections. Firstly, we discuss dynamics in different sectors of transport in the EU and in Slovenia. We proceed with evaluating the transmission mechanisms and lastly identify the forecasts for the future. The chapter is based on secondary data and in-depth interviews conducted with several representatives of Slovenian companies that operate in the transport industry at home and abroad.

1 Comparative dynamics in the transport sector in the EU and Slovenia

Transport represented around nine percent of the total gross value added of the EU economy in 2019. In the year 2016, 17.2 percent of the EU's total exports were related to transport services. Moreover, it was estimated that transport accounted for approximately 13 percent of the final consumption of households in the EU (European Commission, 2019a). However, there are some negative external costs of transport, such as accidents, greenhouse gas emissions, air pollution, and noise, which were estimated to be four percent of the EU GDP in 2011 (European Commission, 2019b).

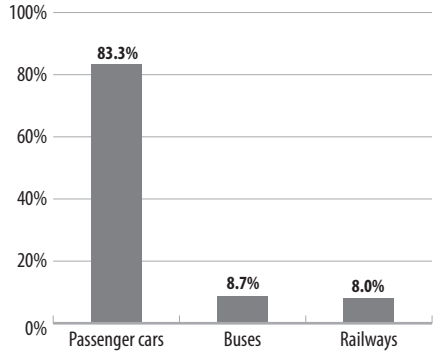
The majority of goods in the EU are transported by inland transportation whereas air transport plays only a marginal role in intra EU freight transport, with a share of 0.4 percent. Road transport has the largest share of EU freight transport performance among the three inland transport models (rail, road, and waterway). In 2018, road transport accounted for 76.5 percent of the total inland freight transport, followed by rail and inland waterways (Figure 1). Additionally, 83.3 percent of passengers travelled by a passenger car, followed by buses and railways respectively (Figure 2). In terms of passenger numbers, nearly 1 billion passengers travelled through EU airports in 2018, whereas 8 billion passengers travelled on national railway networks. In the period between 2009 and 2019 (before COVID-19), the number of passengers in rail transport remained relatively stable (Figure 3) (Eurostat, 2020a; Eurostat, 2020b; Eurostat, 2020c; Eurostat, 2020g).

Figure 1. Freight transport split for 2018, in percent



Source: Eurostat, 2020c

Figure 2. Passenger transport split for 2018, in percent



Source: Eurostat, 2020d.

Rail transport is the least developed in the EU. Therefore, since 1995 a series of legislative texts and acts have been imposed by the European Commission with a goal of creating a single European rail area (European Commission, 2016). The 4th Railway Package, which was also the last one, was confirmed in 2016 (European Commission, 2017). The aim of the single European rail area is to overcome outdated infrastructure, cut costs and improve the productivity of European rail networks. Its goal is to reach technical interoperability, standardize the systems and the equipment. In addition, lack of competition can be observed in both, freight and passenger rail transport. Furthermore, passenger rail transport is also facing low quality and low reliability of the service (European Commission, 2019a). The quarterly index numbers of carried passengers and goods transported in rail and air transport from 2009 to 2020 can be observed in Figure 2. In Slovenia, car trips account for over 86 percent of all passenger-kilometres travelled (5 percentage points above the EU average) and therefore make cars the most important passenger mode of transport. The motorway network has been the main area of investment in recent years in Slovenia. Yet, while the traffic has been rising steadily, the state road network infrastructure has remained under-financed in terms of quality and connections (the border region lagging behind the most) (European Commission, 2019a).

Forward analysing land transport, road freight transport represents 65 percent of all land freight transport, which is below the EU average (European Commission, 2019b). The rail market has no significant competition neither in freight nor in the passenger sector of the Slovenian rail market. The freight market is predominantly in the hands of a state-owned company. Rail freight transport covers 35 percent of all land freight transport, which is significantly above the EU average (European Commission, 2019b).

The country's railway structure and network should be upgraded, yet, there is no clear separation between the infrastructure management and transport operations. Both are operating under one railway holding, producing deficit year after year (European Commission, 2019a).

2 Evaluation of transmission mechanisms during the COVID-19 crisis

COVID-19 has had a huge impact on the whole world. There are different effects on the transport industry, short and long-run ones. In Table 1 we present a summary of the effects on demand and supply of the transport sector.

One of the transport systems affected by COVID-19 is public transport. Social distancing reduces the effectiveness of public transport significantly. It has severely altered mobility, resulting in a decline in total traffic, both cars and trucks. For example, in May 2020, Milan Metro started operating at 25 percent capacity. Moreover, Paris Metro was running at 75 percent capacity in the same period, while its number of journeys fell to only 20 percent of what was usual in the pre-lockdown. Berlin was one of the first cities to reopen its public system at full capacity, yet the number of passengers on its metro has been from 35 to 40 percent of the usual (Carbonaro, 2020). Generally, passenger transport losses in Europe are expected to exceed EUR 80 billion, with annual revenue in 2020 down by 57 percent (IRU, 2020). Global road transport (including freight transport) was nearly 50 percent below the average of 2019 by the end of March 2020 (Sung and Monschauer, 2020).

Many cities have reported increased use of cycling at the same time (Sung and Monshauer, 2020). In Basel, Switzerland, for example, there are reports that cycling increased by 110 to 120 percent from the norm during the lockdown (Sutton, 2020). In addition, once the operational system of the bike-sharing became a new normal, most cities reported an increase in the usage service (Vancluysen, 2020). The coronavirus pandemic has also been reflected in the transport sharing industry, such as car-sharing and scooter-sharing. In May 2020, car-sharing demand in Milan was down to 90 percent below the pre-COVID-19 levels (Penchin, 2020).

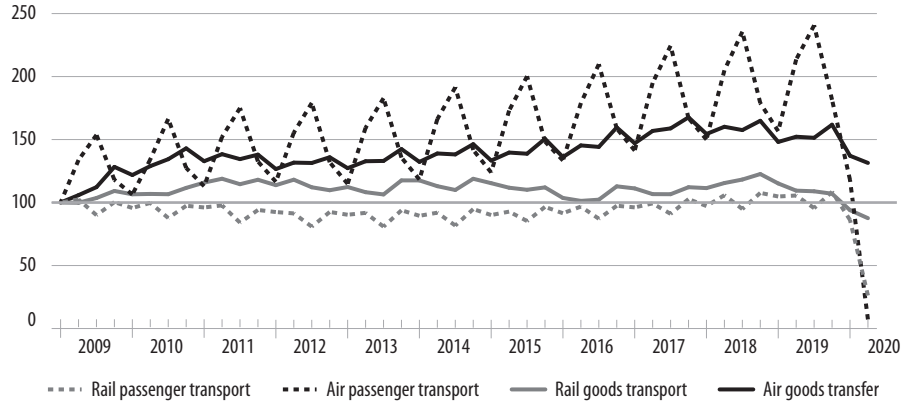
The spread of coronavirus has significantly affected both air and rail transfer throughout the EU. The 13 selected EU countries[1] which are the only ones Eurostat already provided data for all saw a major decline in air and rail passenger transport. The data for the first two quarters of 2020 reveal that the number of passengers already started to decrease in February and suffered a plunge in the second quarter (Figure 3). Airline revenues are expected to fall by 55 percent or $314 billion according to International Air Carrier Association (IATA). At the Ljubljana Airport, they tried to reconstruct a timetable as soon as possible, which enabled a partial resumption of air traffic (STA, 2020).

However, the data on freight transport for selected countries[2] that Eurostat at present already provides data for indicate that the quarantine had a lesser effect on companies dealing with freight transport (Figure 3). Goods transport

1 Croatia, Cyprus, Denmark, Finland, Germany, Hungary, Italy, Luxembourg, Lithuania, Netherlands, Norway, Slovakia, and Slovenia.
2 Bulgaria, Croatia, Greece, Ireland, Latvia, Lithuania, Slovakia, and Spain.

losses globally are expected to exceed EUR 550 billion, with an annual turnover down by 18 percent in 2020 (IRU, 2020).

Figure 3. The quarterly index number of carried passengers in rail and air passenger transport and the quarterly index number of rail goods and air goods and mail transferred between the years 2009-2020



Source: Eurostat, 2020a; Eurostat, 2020b; Eurostat, 2020e; Eurostat, 2020f.

The European Union has issued practical guidance on border management to ensure that the freight transport continued to operate during the lockdowns. According to the document, all EU Member States were required to assign all applicable internal border-crossing points on the trans-European transport network (TEN-T) "green lane" border crossings. Crossing these green lanes should not take more than 15 minutes no matter the goods freight vehicles are carrying. This ensures normal and safe protection of the EU's supply chains (European Commission, 2020).

Rail freight has so far proven to be resilient to the COVID-19 crisis. Operators shifted their capacity from seaport traffic to intra-European transport. Moreover, rail has adopted transport types of goods that have not typically been a part of its core business (Eurnex, 2020).

To analyse maritime transport, we have focused on container trade and port volumes. Interestingly, the freight rates have remained stable despite a decline in both, container trade and port volumes due to the COVID-19 crisis in the first months of 2020. Container carriers, in general, have high debt levels, which created insolvency risks, therefore, carriers are once again looking for ways to

reduce costs. For example, since the oil prices have dropped, they are re-routing the Asia-Europe route via Cape of Good Hope instead of a much shorter way through Suez Canal, which has high charges (International Transport Forum, 2020). A decline in container shipping results in less activity in ports. Volumes in the biggest world container ports declined by six percent in February and March 2020 compared to 2019 (International Transport Forum, 2020). The Port of Koper, Slovenian main port, faced a decline of 15 percent of the tonnes transferred in the first half of the year 2020 compared to 2019 (Dnevnik, 2020).

On the other hand, airlines faced an enormous decline in passengers. Additionally, since air freight is usually transported on passenger airplanes, air freight also resulted in a downturn. Some airlines have tried to increase their freight transport, using normal passenger airplanes only for freight transportation. Yet, this was not enough to fully meet the demand; therefore, prices of air freight are estimated to have increased from 20 to 30 percent across Asia-Pacific during 2020 or even up to 50 percent on the most popular routes, such as Hong Kong and Beijing. Compared to ship freight, air freight usually carries smaller goods (due to the space limitation), and essentials such as food and medicine (Hale, 2020).

Table 1. Summary of the COVID-19 effects on the transport sector

Short-run effects	Long-run effects
Demand side	
• Airlines are experiencing huge decline in the number of passengers • Demand for container freight is predicted to fall from ten to 20 percent • National and international freight transport is expected to be hit harder than freight transport within cities; urban freight is estimated to be eight percent below last year's estimations • Goods transport losses globally are expected to go down by 18 percent • Passenger transport losses in revenue in Europe are expected to go down by 57 percent	• Increased use of bicycles • Increased use of car and scooter-sharing
Supply side	
• Reducing freight transport, due to mobility restrictions; fall of 36 percent below the level foreseen • Less activity in ports • Prices of air freight are estimated to increase from 20 to 30 percent across Asia-Pacific	• Problem with container shipping is over-supply of the ships • Container carriers are reducing their costs

Source: Own research.

3 The perceived impact of COVID-19 on the Slovenian transport sector

The qualitative research examining the situation in Slovenia was conducted through interviews with representatives of seven companies. All of them operate in Slovenia, five of them operate also in the EU, out of which two are present also globally. The companies are perceived as market leaders in the transport industry. They create many jobs in Slovenia, ranging from 100 to 8,000 employees per company, with the biggest one creating 380,000 jobs globally. Two interviewed companies deal strictly with passenger transport, while others deal either with freight or both types of transport. Three companies deal with logistics for air, sea, road, and rail transport, two companies deal strictly with road transport, one deals with rail, and one deals specifically with mail transport.

According to the interviewees, COVID-19 has brought many changes to the industry. Most of them agreed that during the early stages, companies dealt with the initial shock and unpredictability of the newly formed situation. Even though most were struggling to comprehend the impact COVID-19 could have, they were quick to adhere to the safety precautions, such as disinfection, face masks, and keeping the distance.

Some companies had the advantage of second-hand information from their foreign partners and were able to adapt to the situation quickly, due to the nature of their business. Others were quick and proactive in recognizing new opportunities. However, not all companies were able to adjust, as the nature of their business and the government restrictions disabled them to operate during the lockdown. Companies that adjusted more effortlessly improved their performance, while others suffered losses and saw a decrease in profit of 10 percent or more. Some companies focused on a specific business activity even more, for example, one of the companies intensified transport of packages, where the operation doubled.

To contain the spread of the virus employees started working from home or were on stand-by until companies would start to operate again. Due to unpredictability and decreased performance, some companies had to resort to softer forms of dismissal, such as early retirements and termination of short-term contracts.

However, due to government actions, companies in the transport industry mostly managed to keep their employees. Measures such as crisis allowance were especially beneficial, not only because there was no dismissal (in some

companies), but because the job retention contributed to the credibility of the organization in the eyes of employees. However, one of the interviewees felt that the government aid left out certain sectors of transport. According to this interviewee, it also enabled companies to remain rather passive instead of proactively searching for alternative ways of doing business.

Quarantine has affected Slovenian public transport in diverse ways. Some companies were required to stop offering their services and were not able to adjust, as the lockdown restrictions did not allow them to find an alternative way to perform their business. Such companies have so far been able to survive because of their size, their importance in the Slovenian market, and government actions but might face more unpleasant times if the crisis persists. More agile companies that are also operating abroad and offer primarily freight transfer were able to find new proactive ways of coping with the COVID-19 crisis, such as focusing on B2C goods transportation and exploitation of other means of transport.

Travel bans and restrictions presented another challenge for the transport industry. As flights, bus, and train rides got cancelled, companies offering public transport had to adjust. The main challenge in terms of demand for organizations dealing with public transport was to reimburse tickets, reorganize trips, and maintain customer confidence. As their services came to a full stop, they also focused on retaining employees to provide a safe and stable environment and to be able to move forward and provide their service as soon as possible.

Organizations in the freight transport faced other difficulties. Normally, a certain amount of goods gets delivered by public transportation. However, travel bans disabled that option leaving these companies in search for alternative solutions to transport goods. Some companies dealt with air transport capacity constraints and found a solution in the establishment of new air routes for COVID-19 protective equipment and other products as well as an increase in the number of cargo planes. Moreover, companies dealing with logistics had to pay a higher price to get the needed space on the operating aircrafts.

Furthermore, companies dealing with freight transport have been affected by *factory closures* and decreased production. One transport sector which especially suffered due to this was maritime transport. Containers in which goods are moved and stored were emptier making this form of transfer costlier. Some companies have adapted by exporting and importing goods by rail transfer, others paid special attention to the changes in customer purchase behaviour

and strengthened their services in that field. Still many of them felt a negative impact of decreased production as it forced them to operate at a reduced capacity and suffer a profit loss.

Even though there was a decrease in profit, larger and more stable organizations did not experience major changes in the liquidity, but were mostly concerned about their clients' financial stability. To avoid potential non-payments, many companies introduced a new way of dealing with riskier clients, such as regular meetings and handling clients individually.

Interestingly, companies have managed to retain a positive relationship with their customers. Some of them worked hard on informing their customers about the situation and the reasons why some of their services were not available. Instead of meeting with clients in person, they took advantage of different technologies and kept the communication alive. In the beginning, some companies had difficulties communicating changes and restrictions to their employees and customers. Still, both companies and clients soon adhered to the proposed standards for public safety and showed tolerance for limitations and security precautions. The communication and care for the safety of all customers and employees resulted in greater *customer trust* in the companies.

Despite the restrictions and other setbacks, the sentiment among interviewees was relatively positive. They estimated that the effects of COVID-19 would continue to influence their business performance for the next two years, however, much of their business performance has already returned to normal and is expected to stabilize further. Still, some changes are inevitable and the future still holds a lot of uncertainty. Due to the unpredictability, most companies behave more conservatively than usual. They have already stopped all investments and intend to address only the most crucial investments in the future, as most companies have experienced a decrease in financial performance and need to compensate for it. Furthermore, companies are rushing to digitalize in order to enable their employees working from home. Most companies discovered that employees who are able to work from home perceive this type of employment positively and they intend to make it a permanent option.

Some managers believe they can learn from the situation and improve their business organization in the future. They plan to increase interdisciplinary communication, use different digital channels, and move the conversation and networking online. They assume such actions will result in new opportunities for employees and possibly open more jobs.

4 Forecasts for the future

COVID-19 has indeed changed the way of living and every industry needed to adjust on its own. The mobility restrictions due to the COVID-19 crisis are projected to reduce freight transport, measured in tonne-kilometres. It is expected that overall freight transport will fall below the pre-COVID-19 projections for the year 2020 by up to 40 percent. National and international freight transport is anticipated to be hit harder than freight transport within cities. Current projections for the rest of the year 2020 estimate urban freight activity to be eight percent below the estimate. One reason for this difference may lie in increased online shopping and therefore, an increased number of home deliveries (International Transport Forum, 2020).

Although decreased production and factory closures have reduced demand for many products, interviewees estimate that orders of personal protective equipment increased drastically, enabling some companies to patch losses and forcing others to find alternative ways of transport to increase their overloaded capacities.

Based on the interviews, we can assume that changes are inevitable. It seems that companies will behave more conservatively and focus only on the most crucial investments, as well as embrace digital transformation and enable as many employees as possible to work from home.

Disruptions and crises can bring a silver lining in the form of change towards a more sustainable transport behavior. However, governments are required to take decisive actions in order to avoid returning to the pre-crisis behavior. There have been multiple occasions that caused sudden shifts in transport demand in response to changes in transport disruptions or a different perception of the risk of travelling (Sung and Monshauer, 2020).

The pandemic has also resulted in a greater emphasis on digitalization in the transport sector. This trend is likely to continue and consequently, more delivery-based services will replace shopping in stores and online working could become more popular. The industry may also witness a rapid growth of automation where possible (Zhang and Hayashi, 2020).

Long periods of staying at home have brought about more stress, and people might find a release in the form of travel and tourism once this will be safe. However, restrictions and recommendations such as social distancing may

encourage people to rely on cars more, which could mean further trouble for companies in the passenger transportation segment. Furthermore, such long-lasting practices may change our communication styles and replace face-to-face communication with online social networking. This might again reduce traveling (Zhang and Hayashi, 2020).

The coronavirus and restrictions accompanying the pandemic also proved that behavioral changes can contribute to environmental sustainability and that transport plays a key role in this domain. The unprecedented shutdown in the industrial activity and the associated reduction in transport emissions have resulted in notable improvements in local air quality (Budd and Ison, 2020). Many cities have seen air pollution drop, meaning companies might voluntarily or not reconsider their way of doing business (Zhang and Hayashi, 2020). Moreover, previous crises show that supporting policies are needed to promote sustainable behavior and avoid negative consequences of people's calculus of risk, therefore, policies that increase trust in the safety of sustainable transport options will play an important role in the future (Sung and Monshauer, 2020).

Conclusion

There are still many unanswered questions about what the consequences of this pandemic will be. The duration of the COVID-19 pandemic is not known, therefore, it is impossible to foresee when the industry will fully recover to its previous business levels. Moreover, measures such as national and regional lockdowns have a major impact on transport, especially passenger transport, and the duration of these measures cannot be predicted (Iacus et al., 2020). Therefore, companies should remain alert as the post-pandemic reality could have many new and unfamiliar features.

COVID-19 has affected some fields of the transport industry more than others. Restrictions such as quarantine, social distancing, and banned travelling have had a significant impact on passenger transport and at some point forced the industry field to stop operating. Still, people started to adjust to the conditions and followed the government instructions. They searched for different types of transport, bicycles being one of them. They have adapted to working from home, which might influence the future of work in many companies. Generally, the overwhelming sentiment among companies is positive. As new business opportunities emerge, companies remain optimistic about the future and expect to learn and grow from the COVID-19 crisis.

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Tjaša Redek, Aleš Kuhar, Eva Erjavec, Ida Brcar, Carolina Lourenço,
Doroteja Minjovič, Katarina Pivko

THE IMPACT OF COVID-19 ON THE AGRI-FOOD SECTOR

Introduction

The outbreak of the coronavirus has had a devastating effect on society and world economy. On the short run, the coronavirus impact has been noticed also in the agriculture sector (Stephens et al., 2020). The impact was visible in all stages of the food supply chain, from the lack of seasonal farm workers to transport and logistics. Fortunately, there are no records of decrease in food production. Other problems arose with the irrational behavior of consumers that resulted in sudden food demand shifts, not only in Slovenia but also in the rest of the EU (OECD, 2020).

This chapter studies the characteristics of the agri-food sector, in particular its reaction to the appearance of COVID-19, relying on secondary statistical sources and primary qualitative data collection. The food supply chain in the agri-food sector is very complex as it represents the whole chain of businesses that produce and bring food to the final consumer – from farmers to several industries involved in food processing, as well as the retail and logistics system. This chapter focuses on the production of food in the agriculture, forestry and fishing sector, and manufacture of food and beverages.[1] Retail and logistics are excluded since they are dealt with in other chapters of this book.

The chapter consists of four parts. First, the characteristics of the agri-food sectors in Slovenia and in the EU are presented, including trade of food, fol-

1 This includes NACE categories A - Agriculture, forestry and fishing (A1 - Crop and animal production, hunting and related service activities, A2 - Forestry and logging, A3 - Fishing and aquaculture) and selected categories from NACE C: C10 - Manufacture of food products, C11 - Manufacture of beverages.

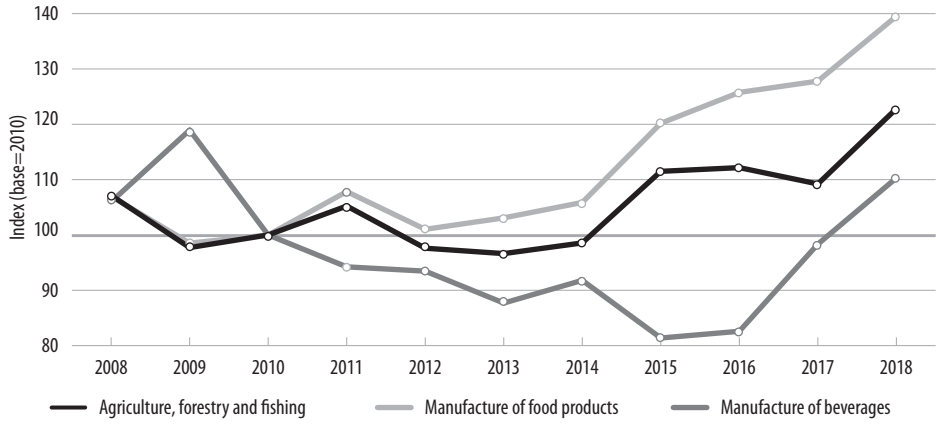
lowed by a study of the demand for food in Slovenia. The central part of the paper studies the impacts of COVID-19 on the agri-food sector based on secondary sources, and the final part presents practical implications based on the data from interviews.

1 Characteristics of the agri-food sector in Slovenia

1.1 Agri-food production

The agri-food sector comprises agriculture, fishing, and the food processing industry. In Slovenia, in 2018, agriculture, forestry and fishing contributed two percent to GDP, which is above the European average (two percent) and below the global average (3.43 percent) (Eurostat, 2019; Statista, 2020). Agriculture alone contributed 1.3 percent (Figure 1), while the contribution of fishing was negligible (Statistical Office of the Republic of Slovenia, 2020b). The country with the highest contribution of agriculture, forestry and fishing to GDP in Europe is Albania with 18.4 percent, and the country with the lowest is Luxembourg with only 0.2 percent (Eurostat, 2020). The agri-food sector comprises also two further branches from manufacturing (food processing, NACE C10, and manufacture of beverages, NACE C11). These two sectors in Slovenia contributed €619.4 million gross value added, which represented 1.4 percent contribution to GDP in the year 2018. The value added has been constantly growing since 2010 (Statistical Office of the Republic of Slovenia, 2020b).

Figure 1. Index of value added (2010=100) in selected industries in Slovenia in period 2008 - 2018 (constant prices, reference year 2010)



Source: Statistical Office of the Republic of Slovenia, 2020b.

In total, in 2018, there were about three thousand companies operating in Sector A (Agriculture, forestry and fishery), and another 2,360 in food-processing (Sectors C10 – Manufacture of food products, and C11 – Manufacture of beverages) (Table 1). While the number of firms in Slovenia increased by 43.6 percent between the years 2008 and 2018, the number of employees in agriculture, forestry and fishing, and in manufacture of beverages, declined by 17.9 percent, but the number of employees in manufacture of food products increased by 11 percent (Table 1). Most people were employed in the baking and pasta industry (C10.7 - Manufacture of bakery and farinaceous products), followed by meat production (C10.1 - Processing and preserving of meat and production of meat products), mostly in poultry (C10.1.2 - Processing and preserving of poultry meat). The companies that employed the highest number of people in the agri-food sector were Perutnina Ptuj d.d, Žito d.o.o., Pivovarna Laško Union d.o.o., Ljubljanske mlekarne d.d., and Mlinotest d.d.

Table 1. Number of enterprises and employees by activities in period 2008 - 2017 (SKD 2008)

	A - Agriculture, forestry and fishing		A1 - Crop and animal production, hunting and related service activities		C10 - Manufacture of food products		C11- Manufacture of beverages	
	Number of firms	Number of employees	Number of firms	Number of employees	Number of firms	Number of employees	Number of firms	Number of employees
2008	2,055	39,687	1,429	37,509	985	14,201	104	2,009
2009	2,252	37,884	1,589	35,475	1,084	13,566	110	1,983
2010	2,094	33,448	1,434	30,859	1,148	13,161	104	1,942
2011	2,108	38,757	1,419	36,208	1,230	12,860	110	1,775
2012	2,362	36,962	1,616	34,384	1,340	12,980	120	1,765
2013	2,763	38,207	1,803	35,671	1,873	12,644	165	1,741
2014	2,979	35,366	1,907	32,699	2,056	12,541	188	1,687
2015	3,047	29,886	1,902	27,219	2,137	12,841	195	1,623
2016	2,977	23,150	1,767	20,608	2,275	13,213	205	1,579
2017	2,881	24,989	1,673	22,519	2,264	13,761	216	1,524

Source: Statistical Office of the Republic of Slovenia, 2020d.

However, overall the share of these three sectors (A, C10, and C11) in total employment fell from 6.4 percent in 2008 to 4.4 percent in 2019, primarily due to a faster growth of other activities[2]. In the sector of agriculture, forestry

2 The fastest growing sector was Wholesale and retail trade; repair of motor vehicles and motorcycles (G), which increased by 0.6% in the last three years (Statistical Office of the Republic of Slovenia, 2020a).

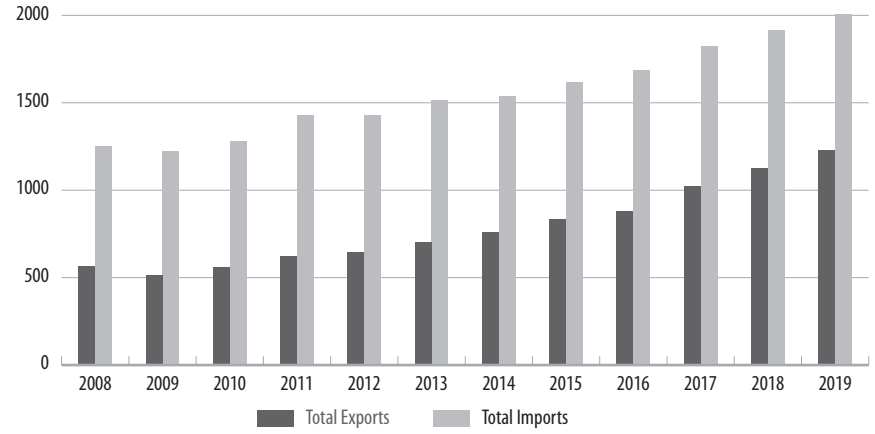
and fishing the number of companies in Slovenia was on average increasing, which can be linked to the general economic growth, higher acknowledgment of importance of organic and sustainable food production, and self-sufficiency in the agri-food sector (thereby increasing self-employment opportunities for small farmers).

Government subsidies, such as subsidy for young farmers, and sector development programs, such as schemes for small farms and cattle breeding farms, also supported the development of the sector and, stimulated entrepreneurship in the sector (GOV, 2020). The same positive trend can be observed in the food processing sector (Statistical Office of the Republic of Slovenia, 2020a). In manufacture of food products (C10) the total increase in number of companies in the last 10 years was roughly 140%, and in manufacture of beverages (C11) 125 percent. The lowest increase was in Crop and animal production, hunting and related service activities (A1), where the number of companies grew by 20 percent, while the whole sector A grew by 43 percent.

1.2 Trade in food and beverages

Besides domestic production, Slovenia relies strongly on food imports, although it also exports a number of products. Since 2000, exports of food have increased approximately 6 times in volumes (from 104,000 tons in 2000 to

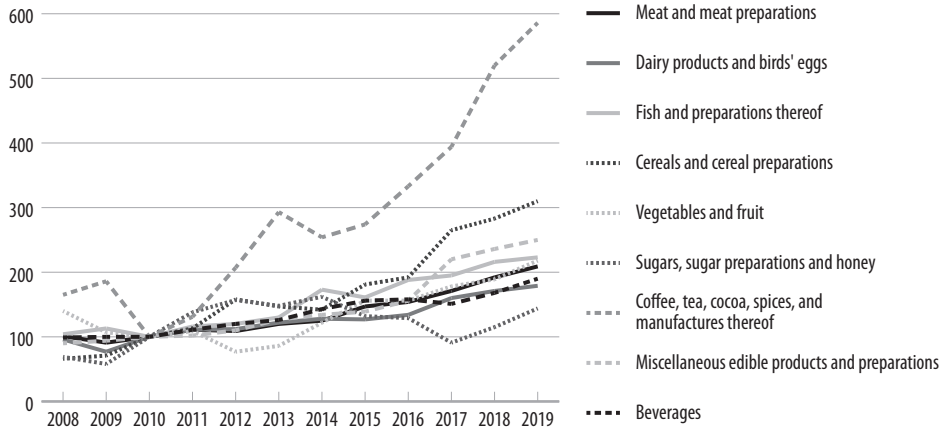
Figure 2. Total food and beverage export and import for Slovenia in period 2008 - 2019, in thousand tons per year



Source: Statistical Office of the Republic of Slovenia, 2020b.

629,000 tons in 2019), which represented also an increase in the value of exports from 286 million EUR to 1230 million EUR (Statistical Office of the Republic of Slovenia, 2020b).

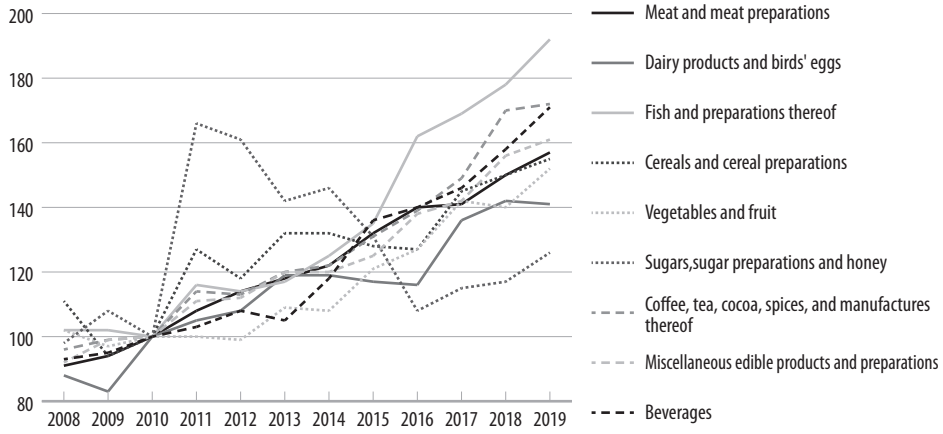
Figure 3. Index of export value of selected goods in EUR in period 2008 - 2018 (2010 = 100)



Source: Statistical Office of the Republic of Slovenia, 2020c.

Volume wise, the most exported products for Slovenia are cereals (Figure 3). Cereal exports increased from 147 thousand tons to 353 thousand tons in the period of 2010-2019. Exports of other goods have remained more or less stable throughout the years. In 2019, Slovenian exporters had the highest revenues from milk and dairy products (236 million EUR), meat and meat preparations (215 million EUR), miscellaneous edible products (200 million EUR), followed by vegetables and fruit (168 million EUR), beverages (139 million EUR), and cereals (128 million EUR) (it is interesting that cereals fall to sixth place according to their value in EUR, but the volume of cereals sold in kilos significantly dominates other groups) (Statistical Office of the Republic of Slovenia, 2020c). Even though the volume of exported cereals has increased significantly, the land (surface area) used in the production of cereals in Slovenia has not fluctuated accordingly. In recent years, grain prices in international markets have fluctuated greatly and their changes were quickly reflected in purchase prices in Slovenia, which have lowered significantly over the last few years. Slovenia started to import cereals from Croatia, mainly because of low prices. As a result, Slovenian producers of cereals have been selling products in Austria and Italy for a lower price than in Slovenia in previous years (Zagorc, 2017).

Figure 4. Index of import value of selected goods in EUR in period 2008 - 2018 (2010 = 100)



Source: Statistical Office of the Republic of Slovenia, 2020c.

Imports have grown from 810,000 tons in 2000 to 1320,000 tons in 2019 (Figure 4). Instead of "becoming self-sufficient", the value of imports in fact grew significantly; from 520 million EUR in 2000 to approximately 2000 million EUR in 2019, representing 3.7 percent of GDP of Slovenia (Statistical Office of the Republic of Slovenia, 2020c). The value of imported goods (Figure 4) is the highest for vegetables and fruit, where Slovenia has a lot of unused resources and unused potential (Deloitte, 2017), meat and meat preparations, as well as cereals and cereal preparations (Statistical Office of the Republic of Slovenia, 2020c).

2 Food consumption in Slovenia

Overall, Slovenia is increasing its food production. With increased awareness for importance of food self-sufficiency, it is also stimulating the development of the small entrepreneurial sector in agriculture. However, the supply balance sheet reveals that on average Slovenia has food deficiency (Statistical Office of the Republic of Slovenia, 2020b). The lack of variety that consumers desire further increases the importance of food trade. For fruit self-sufficiency rate was 32 percent, for vegetables 42 percent, for wheat 53 percent, and for potatoes 55 percent; cereals were planted on 56 percent of the fields (STA, 2020). In 2018, an average Slovenian consumed 54.8 kg of rice, bread and pastries, pasta flour, flakes, and grits, 36.9 kg of meat and fish, 74.6 kg of milk and other dairy products, 80.3 eggs, 10.5 kg of butter, margarine, oil or other fats, 43.9 kg

of fruit, 65.8 kg of vegetables, 16.1 kg of sugar (honey, sugar, marmalade, jam. chocolate, ice cream, cocoa), 3 kg of coffee and coffee substitutes, 36 liters of alcoholic drinks, and 76.9 liters of non-alcoholic beverages (Statistical Office of the Republic of Slovenia, 2020c). Since 2008, the consumption structure of households has changed quite significantly (Table 2). The highest increase in consumption is observed for milk products (134 percent), followed by butter (60 percent) and spirits (37 percent). The biggest decrease appears in the consumption of margarine (57 percent), marmalade and jam (44 percent), beans (43 percent), and wine (40 percent). A significant decrease is observed in the consumption of non-alcoholic drinks, fats, eggs, and dairy products, most likely due to health consciousness. The trend of consumption over the last 20 years has been decreasing, probably due to the awareness of environmental impact of food waste (Statistical Office of the Republic of Slovenia, 2020c).

Table 2. Changes in the consumption of basic food elements

Significant increase/increase	No change	Decrease
• Milk products (milk-based desserts, milk-based beverages) • Butter • Spirits (whiskey, liqueur, cognac, vodka, rum...) • Plums • Chocolate • Dried, salted or smoked meat • Bananas • Preserved and processed vegetables • Pasta products • Cream (sweet and sour) • Carrots • Tea cakes, salted and sweet biscuits	• Tomatoes • Red peppers - fresh • Ice cream	• Soft drinks (sodas, ice tea, energy drinks...) • Grapes • Honey • Beef (fresh and frozen) • Fruit syrups • Sugar • Other edible animal fats • Wine • Beans, dried peas, horsebeans, lentils • Marmalade and jam • Margarine and other vegetable fats • Milk and low fat milk

Source: Statistical Office of the Republic of Slovenia, 2020c.

Based on the data from Table 2, we can say that health awareness is increasing, especially in terms of sugar consumption (decrease of soft drinks, honey, sugar, fruit syrups, marmalade and jam) and fat consumption (animal fat, margarine, and fat milk). On the other hand, the increase in the consumption of fresh products (bananas, plums, vegetables, carrots) is in accordance with the trend as well. In addition, the decline in the overall food consumption can also be explained with more prudency in consumption, as a consequence of the 2008 crisis. In addition, in the years following the recession in 2008, consumers' desire for simplicity increased (Flatters and Willmott, 2009). We can possibly

expect a decreasing trend of consumption per capita in the following years, as a result of higher awareness of the environmental impact and the crisis that is expected to happen (Statistical Office of the Republic of Slovenia, 2020c).

Table 3. Summary of the effects of COVID-19 on the agri-food sector

Short-run effects	Long run effects
Demand side	
• Increased awareness of importance of food production and distribution • Closure of restaurants and hotels • Overconsumption in supermarkets	• Food deficiency and overall higher economic and social crises in third world countries • Growth of the online grocery delivery sector • Greater assistance and concern towards the agri-food sector • Partial positive impact of big retail chains
Supply side	
• Disruptions in transportation and distribution networks • Disruption of small producers' business • Overproduction • Labor shortages and fragilities	• Bankruptcy of many agri-food companies • Tensions between importing and exporting countries (international partner connections)

Source: Our own research.

3 Impacts of COVID-19 on parts of the agri-food sector

Similarly as in other sectors, COVID-19 has had significant impacts on the agri-food sector. However, at the moment, only short-term effects of the coronavirus can be observed, while the long-term effects can only be anticipated but not confirmed. Table 3 summarizes the main effects.

3.1 Short-run effects

The COVID-19 crisis has increased awareness of the importance of food production and distribution. Transportation restrictions threatened to disorder the food supply chain. Everything from processing to packaging, transport and sales was disrupted. The most important part of dealing with this crisis, in order to avoid a humanitarian crisis, was to keep livelihoods and food flowing through the supply chain, paying special attention to keeping supermarket shelves full (Food and Agriculture Organization of the United Nations, 2020).

Since April 2020, people who commute to work inside or outside their country have been particularly affected and labor shortages were seen worldwide. For

example, Spanish fruit farms suffered labor shortages due to border closures, which disabled the transition of Moroccan seasonal workers and resulted in a 50 percent fall in sales (Lavanguardia, 2020). In the agri-food sector, teleworking is scarce and live presence is essential. Farmers were particularly concerned with their fields that had to be processed, otherwise this year's harvest would be lost (STA, 2020).

Informal workers, either wage workers or self-employed, are very important in the agri-food sectors and were the ones who suffered most during the pandemic having no secure employment contracts, social protection or workers' representation (Food and Agriculture Organization of the United Nations, 2020).

The pandemic effect on logistics was another big nefarious consequence, particularly for exporting companies that were affected by disruptions in transportation and distribution networks. With the logistics challenges and costs increase, producers could not reach a big number of markets, resulting in high inventories, deficiencies in the delivery of quality perishable food (due to the time it takes to reach markets), and overall unbearable expenses (Mussell et al., 2020; Torero, 2020). In mid-April 2020, in Europe, truck traffic was 24 percent below normal. It decreased by more than 50 percent in Spain, 46 percent in France, and 37 percent in Italy. These transport and logistics issues were most noticeable in the delivery of perishable high-value products, such as fruit and vegetables, which were highly impacted due to quarantine measures and delays in border inspections (OECD, 2020).

Due to the closure of schools, restaurants and hotels after implementing the state-level stay-at-home orders, people were not allowed to eat out. One solution found for restaurants was take-away and home delivery, which allowed some businesses to keep their operations working. Today, the recovery of the economy in these sectors is progressing slowly but there are irrecoverable and inestimable losses (Freitas and Stedefeldt, 2020).

Tens of thousands of small producers (of family farming) in the world had no possibility to deliver products to their regular customers during the quarantine. With this, their livelihood was, in general, interrupted (Hobbs, 2020). On the other hand, this crisis was also an opportunity for agile businesses that started to invest in digital tools in order to react rapidly and adjust to the new reality. Indeed, the COVID-19 pandemic has enhanced changes in consumer behavior and induced new markets for agri e-commerce (Mustafa, 2020).

During the quarantine, a question arose whether Slovenia would be able to be self-sufficient if borders closed. Farmers started to be aware of their responsibility to produce enough food for everybody. The Ministry of Agriculture, Forestry and Food pressured farmers and individual households to grow more vegetables, not expecting the demand for fresh fruit and vegetables to fall so drastically that it forced Slovenian farmers to throw away 250 tons of lettuce (IZS, 2020). On the other hand, the consumer needs changed. People avoided going to stores and were buying mostly durable products.

3.2 Long-run effects

During the lockdown, tourism, restaurants, and schools ceased their market activities for a couple of months, and there was an overall change in demand as well, which could result in long-term effects. The prices of products fell (Reuters, 2020), companies were unable to reach customers, the financial situation was fragile, and sales were below expectations. With this lower overall income, companies were less able to pay fixed expenses and keep their activities alive (KGZS, 2020).

Because of the hospitality industry lockdown, agriculture companies were unable to reach consumers, so many of them decided to adapt to online retail and home delivery. This was easier for the ones who were already offering such services before the coronavirus, since delivery is logistically demanding and requires extra transportation costs. People preferred to order food online than going to the stores and be exposed to the virus. In the crisis peak, Slovenian online retailers experienced up to 300% increase in sales (Šubic, 2020).

Disruptions in food supply chains have created possible long-term tensions and food security risks between countries. Countries dependent on food imports became highly vulnerable to pandemic-induced supply chain breakdowns, and currency fluctuations, whereas exporting countries suffered a huge collapse in demand. However, some countries are trying to cope with each other to prevent such tensions. For example, France and Singapore formalized a joint ministerial declaration to encourage agri-food companies, importers and distributors from both countries to find opportunities for partnerships and trade collaborations in times of the COVID-19 pandemic (Remongin, 2020).

COVID-19 has been challenging retailers around the world. Interestingly, for some these challenges may have created opportunities. In the early stages of the COVID-19 pandemic, online delivery services started to be more requested in

order to help customers getting their supplies. This phenomenon, together with the overconsumption in supermarkets, allowed the enrichment of food retailers. Due to COVID-19, in the long haul, it is expected that online delivery services will "offer jobs to people who have recently been laid off, and thereby reinforce their commitment to the health of the community" (KPMG, 2020, p. 9).

Beyond everything that has already been analyzed, the biggest impact will be noticed in third world countries which strongly depend on the agri-food exports. It is not yet known how these countries with less economic power will be able to overcome this moment of great difficulty. It is clear more than ever that there is a need for responses and assistance adjusted to different realities worldwide (Torero, 2020).

4 An analysis of firm perceptions of COVID-19 on the agri-food sector in Slovenia

We conducted three interviews with industry representatives that focused on the expectations at the beginning of the COVID-19 breakout and their experiences with COVID-19, how the virus impacted them, what measures were taken to mitigate the short-term consequences, and what long-term consequences they might be expecting in the future.

After the onset of the pandemic and the imposition of the lockdown, firms reacted in different ways. Some closed down completely, others just partially. Workers were asked to limit their contacts with family members to help prevent the spread of the virus. In the food industry it was especially important to avoid shutting down due to infected workers. At the early stages of the COVID-19 breakout it was not clear how the situation would evolve, so different scenarios needed to be considered. It was crucial to ensure enough work force; therefore, the retired workers were considered as an emergency backup (Interview 2).

Slovenia is not self-sufficient in all agricultural sectors. During the COVID-19 crisis, a threat of an insufficient supply arose and the uncertainty of the situation led companies to increase their inventories. Slovenia strongly depends on Italy's export and transport routes. When factories in Italy were closed down, the whole chain collapsed, and Slovenian companies were forced to find new suppliers (Interviews 2 and 3). Bigger companies already had dispersed supply chains, which lowered their risk of inbound supply chains. COVID-19 had a lesser impact on the companies which had a diversified portfolio of products. With sales of some products falling to zero, they focused on the products bring-

ing the revenue. Mono-product companies had to rely on the government for aid. It also became clear it is important to have dispersed customers (Interview 2).

Consumer demand changed even before the lockdown. One-time bulk purchases increased, which caught retailers unprepared, resulting in non-consistent supply orders from the retailers' side. Flour, yeast, pasta, and other long shelf-like products were first to run out in stores. The dairy sector experienced a small decrease, whereas the meat segment experienced a much bigger loss due to the closure of public institutions and restaurants. The bakery sector experienced a 50 percent decrease in sales. Sales of beverages in stores remained the same, but they experienced a 100 percent decrease in sales in restaurants. The fruit and vegetable sector was weakened by Italy's lockdown (Interview 2).

COVID-19 has encouraged innovation in the agriculture sector. For example, Slovenia does not produce yeast, therefore, companies needed to make a plan how to satisfy this gap in the market. Due to the COVID-19 measures, companies were obliged to buy preventative equipment, such as disinfects, masks, and thermometers. Help from the government was expected, however, it was not sufficient to cover the basic costs. Therefore, companies stood up and helped each other with donations (Interview 1, 2, and 3). Several financial aid ideas were presented to the policymakers and most of them were realized. The government agreed on deferred payment of excise duties and deferred loan payments. However, it is still uncertain whether reducing restaurant taxes in order to help restaurants reopen will be considered as part of a solution to all companies down the supply chain. Sectors with highly regulated contractual relations noticed a lower impact of the crisis. It is expected that after the crisis long-term contractual relationships will strengthen and help with the recovery period (Interview 2).

Conclusion

In order to diminish the negative impacts of the economy backwardness several entities had to unite forces to help those who were most affected by COVID-19 through different types of resources. In the agri-food sector the help in terms of loans and guarantees for operational costs was provided by the European Union. "The European Commission will continue to support farmers and food producers, collaborate with EU member states, and take whatever measures are necessary to ensure the health and well-being of the people of Europe" (Wojciechowski, 2020).

Companies faced many challenges during the pandemic. In the short run they had to endure transportation delays and unpredictable demand, which resulted in higher inventories, and mitigate the risk of the virus spread. To overcome this tiring time, the agri-culture industry found the following strategic decisions useful in combating the shift in consumer behavior: diversified portfolio, dispersed customers, strong branding, and well-developed contractual relations.

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Irena Ograjenšek, Eva Matjaž, Polona Černič, Lejla Perviz

THE IMPACT OF COVID-19 ON THE CULTURAL AND CREATIVE INDUSTRIES

Introduction

Beside tourism, the reduction of social contacts implemented by governments around the world to contain the COVID-19 pandemic also hit the cultural and creative industries (CCIs) in the most vicious manner. The parallels and similarities between the two sectors abound. In a manner similar to tourism, the CCIs draw from and leave their economic footprint on all sectors of the economy. Consequently, due to their heterogeneous nature, they are difficult to analyze in a systematic manner.

There are not just numerous differing terms (cultural employment vs. cultural industries vs. cultural and creative industries vs. cultural and creative sectors) and definitions used to delineate CCIs from other sectors of the economy that obscure the picture, the fact is also that the System of National Accounts cannot capture the multiplicative impacts of CCIs in a wholesome manner. Drawing a further parallel to tourism, it would make a lot of sense to create a set of satellite accounts to tackle this challenge. Comparable to Tourism Satellite Accounts in purpose and structure, CCI Satellite Accounts could become a valid and reliable tool for highlighting important aspects of the sector for economic and social life.

Lacking this option at present, we work with the toolbox of definitions and official measurement instruments developed within the European Statistical System, when trying to assess the impact of COVID-19 on CCIs in Europe and Slovenia. In the process, we augment this toolbox by differentiating between traditional (physical venue-based cultural and creative offer) and modern (cul-

tural and creative offer based in virtual space) CCIs. Our working hypothesis emphasizes the need of traditional CCIs to embrace the virtual reality as a short-term adjustment to the new normality. In our opinion, this is not only an opportunity for suppliers of traditional cultural and creative goods and services to assess their creative practices, but also to critically evaluate and adjust their business models in order to survive the pandemic, keep the existing and capture new customers.

Our analysis builds on available written sources (industry reports and statistical data) as well as the survey data collected from Slovenian cultural and creative workers in two waves (the first wave took place between April 6 and May 3, 2020; the second one between September 29 and October 25, 2020).

The chapter is structured as follows: we first provide a definition of cultural and creative industries and explain the toolbox of definitions and official measurement instruments used to capture their employment characteristics and economic footprint. The pre-pandemic profiles of CCIs in Europe and Slovenia are presented and discussed next. This discussion is followed by a subchapter dedicated to the analysis of COVID-19 effects on the CCIs in Europe and Slovenia. An overview of COVID-19 related threats and opportunities for CCIs concludes the chapter in a form of lessons learned and a future outlook for the sector.

1 Definition of cultural and creative industries

The term *cultural industries* was introduced in the 1980s (O'Connor, 2000) and pertains to "those activities which have their origin in individual creativity, skill and talent, and which have a potential for wealth and job creation through the generation and exploitation of intellectual property" (Fleming, 1999). Using economic terminology, *cultural and creative industries* can be defined through processes of production, distribution and consumption of cultural and creative goods and services (O'Connor, 1999; Pratt, 2001); *cultural and creative goods and services* being primarily of symbolic nature, their economic value deriving from their cultural and creative value.

CCIs worldwide are powered by a complex ecosystem in which a majority of micro firms, non-profit organizations, and creative professionals (usually operating on the margins of financial sustainability) provide their goods and services to the minority of large public and private cultural institutions and businesses (OECD, 2020).

Table 1. Cultural sectors in NACE Rev. 2 and cultural occupations in ISCO-08

Cultural sectors (economic activities) — NACE Rev. 2	
18	Printing and reproduction of recorded media
32.2	Manufacture of musical instruments
58.1	Publishing of books, periodicals and other publishing activities
59	Motion picture, video and television programme production, sound recording and music publishing activities
60	Programming and broadcasting activities
74.1	Specialized design activities
74.2	Photographic activities
74.3	Translation and interpretation activities
90	Creative, arts and entertainment activities
91	Libraries, archives, museums and other cultural activities

Source: Eurostat, 2020a.

Cultural occupations — ISCO-08	
216	Architects, planners, surveyors and designers
2353	Other language teachers
2354	Other music teachers
2355	Other arts teachers
262	Librarians, archivists and curators
264	Authors, journalists and linguists
265	Creative and performing artists
3431	Photographers
3432	Interior designers and decorators
3433	Gallery, museum and library technicians
3435	Other artistic and cultural associate professionals
3521	Broadcasting and audio-visual technicians
4411	Library clerks
7312	Musical instrument makers and tuners
7313	Jewelry and precious-metal workers
7314	Potters and related workers
7315	Glass makers, cutters, grinders and finishers
7316	Sign writers, decorative painters, engravers and etchers
7317	Handicraft workers in wood, basketry and related materials
7318	Handicraft workers in textile, leather and related materials
7319	Handicraft workers not elsewhere classified

A combination of two standard classifications is used in the framework of the European Statistical System to capture the employment characteristics of CCIs (see Table 1). The measurement instrument to measure CCI employment is the EU Labour Force Survey (LFS; Eurostat, 2017). Note that the list of cultural sectors from NACE Rev. 2 excludes economic activity 62 – *Computer programming and consultancy*, which, among other creative activities, also features computer games design, a prime example of a modern cultural and creative industry with the cultural and creative offer predominantly based in virtual space.

The key challenge when trying to determine the employment characteristics of CCIs is to assess the proportion of the chosen economic activity and/or occupation that genuinely belongs to the realm of CCIs. Eurostat (2020a) provides an

example of *sports, recreation and cultural centre managers* (ISCO Unit Group 1431). This is an occupation with a strong CCI component. Unfortunately, the size of that component cannot be precisely quantified. Given that Eurostat follows a conservative approach in its estimates, the occupation is excluded from calculations of an aggregate for cultural employment in its entirety. Further to that, the EU Labour Force Survey only focuses on the respondents' primary (main) jobs. The CCI jobs are often a side (secondary) activity and therefore not captured. To top it all, CCI employment includes all persons working in economic activities that are listed in Table 1 - regardless of whether the person is employed in a cultural occupation (he or she might be on the cleaning services team). At the same time, it also includes persons with a cultural occupation, even if they are employed in a non-CCI economic activity (for example, a photographer working for the crime investigation team).

To capture the economic footprint of CCIs in terms of created value added, cultural activities as covered by the EU's structural business statistics and business demography statistics are used (Eurostat, 2020b). As a consequence, the list of cultural sectors from Table 1 is further expanded by additional 10 economic activities, including distributive trade of books and periodicals, activities of news agencies and architects, as well as video tapes and disks rentals, yet still excluding computer games design. That makes a direct comparison of economic results and employment figures to the CCIs impossible.

Given all these methodological deficiencies, it is safe to conclude that figures on CCI value added and employment are far from the usual standards of reliability and validity characterizing the European official statistics. Even Eurostat (2020a) points out that they are most likely underestimated.

2 Pre-pandemic characteristics of cultural and creative industries in Europe and Slovenia

2.1 Cultural and creative industries in Europe

Based on the methodology described in the previous subchapter, Eurostat (2020a) estimates there were 7.4 million people (3.7 percent of the total number of the employed) in the EU-27 area who were carrying out a cultural activity or had a cultural occupation in 2019. In most EU member states, the percentage

of the young employed (aged 15 to 29 years) did not exceed 20 percent of the overall CCI employment.

Women accounted for a slightly lower share of the EU-27 CCI employment than men (47.7 vs. 52.3 percent). In 2019, an estimated 82 percent of men in cultural employment worked on a full-time basis compared to an average of 91 percent for the whole EU-27 economy. In comparison, the share of women working on a full-time basis in cultural employment was 68 percent (compared to an average of 69 percent for the whole EU-27 economy). This indicates a smaller gender gap within the CCIs in comparison to the economy as a whole.

Across the EU-27, 32 percent of the cultural and creative workers were self-employed in 2019, compared to an average of 14 percent for the whole economy. This means the relative weight of self-employment in the field of culture was more than twice as high as the average for total employment. It also indicates that more women than men worked as self-employed.

Overall, the European cultural and creative workers were well educated (34 percent had an upper secondary or post-secondary non-tertiary level of education; and 59 percent a tertiary level of education).

The business statistics for the CCIs at the EU-27 level are only available for the year 2017 (Eurostat, 2020b). There were more than 1.1 million firms in the sector, representing approximately five percent of all firms within the non-financial business economy. The value added at factor cost was 145 billion euros. That is equivalent to 2.3 percent of the non-financial business economy total. For comparison, the value added of the sector was slightly higher than for the motor trades sector (139 billion euros) and chemical products manufacturing (130 billion euros). The total value of market sales of goods and services was 375 billion euros, which represented 1.5 percent of the total turnover generated within the EU-27's non-financial business economy.

2.2 Cultural and creative industries in Slovenia

The relative importance of the CCIs (as measured by its share within the non-financial business economy based on the number of enterprises) was 6.6 percent in Slovenia in 2017 (Eurostat, 2020b). In 2019, 4.9 percent of the total number of employed persons in Slovenia were carrying out a cultural activity

or had a cultural occupation (Eurostat, 2020a). The percentage of the young employed (aged 15 to 29 years) was 16.3 percent of the overall CCI employment.

Women accounted for a slightly lower share of the Slovenian CCI employment than men (48.4 vs. 51.6 percent). An estimated 86 percent of men and 81 percent of women in the sector worked on a full-time basis. The latter percentage is much higher than the EU-27 average (which is 68 percent). The share of the self-employed cultural and creative workers in Slovenia was 26 percent (the average for the whole economy was 12 percent).

Almost 62 percent of Slovenian cultural and creative workers had a tertiary level of education, which is 2 percentage points higher than the share at the EU-27 level.

Due to a different methodological approach, the results above differ from a comprehensive CCI profile within the Slovenian economy drawn by Murovec et al. (2020) for the period from 2008 to 2017. According to their research, the CCIs represent 10.5 percent of total registered business units in Slovenia. Among legal forms of organization, private (individual) entrepreneurs are strongly predominant with 56 percent. This share is much higher than in other sectors of the Slovenian economy, where it amounts to 43 percent. The share of limited liability companies in the CCIs is 23 percent. Compared to the rest of the economy (33 percent), this share is important 10 percentage points lower.

As many as 65 percent of all organizational units in the CCIs are located in the Western Slovenian cohesion region. This is in line with the global reality of capital cities disproportionally successfully drawing both financial resources and creatives into their vicinities as they offer homes to national theaters, state opera houses, philharmonic orchestras, museums and galleries, as well as festivals and educational institutions in the related fields.

In 2017, sales revenues of all registered business units in the Slovenian CCIs amounted to 2.964 billion euros and accounted for 2.7 percent of sales revenues generated in the entire economy (a share similar to that of the automotive industry).

In the same year, the CCIs employed a total of 27,777 people (3.6 percent of employees in all sectors of the economy). Limited liability companies were the most important employers in the CCIs (55 percent of all employees), as well

as in the rest of the economy, followed by public institutions (32 percent of all employees in the CCIs).

Most people in the CCIs were employed in the *Publishing of books, periodicals and other publishing activities* segment (25 percent), followed by *Computer games design* (20 percent). The *Creative, arts and entertainment activities* segment, which is otherwise the largest in terms of registered business units, employed only 10 percent of all employees in the Slovenian CCIs. This points to (on average) a very low number of employees in these business units.

A good tenth (12 percent) of registered Slovenian cultural and creative workers were self-employed. This indicator's value is probably most shockingly different from the Eurostat's estimate of 26 percent of the self-employed in the CCIs.

3 The effects of COVID-19 on the cultural and creative industries

3.1 State of affairs in Europe

A significant low point for CCIs was achieved in March 2020. It is characterized with an almost complete disruption of the traditional (physical venue-based cultural and creative offer) CCIs, further accentuated by the almost complete disruption of flight routes connecting the European capitals and consequently by an enormous drop in city tourism.

Since the first lockdown, it has been the modern (cultural and creative offer based in virtual space) CCIs which help traditional CCIs deal with the aftermath of COVID-19 related consequences. In the process, an unprecedented online consumption of cultural goods and services, which goes hand in hand with a notable increase in digital literacy of the general population, is one of the unmistakable developments.

But what about the scientific quantification of monetary and non-monetary effects? For the time being, the jury is still out. Several surveys on this and related topics are currently in progress or have just recently been finished in Europe, for example, a survey carried out by the European Creative Business

Network (2020) or those of the Creative Industries Policy & Evidence Centre (2020). For Slovenia, we created and carried out our own survey.

3.2 State of affairs in Slovenia

Our analytical exploration of the COVID-19 effects on the cultural and creative sectors in Slovenia is based on the alternative well-being theories (Ransome, 2010) and innovation typologies in the CCIs (Hotho and Champion, 2011). The practical framework is provided by the New European Agenda for Culture (European Commission, 2018) and the New Work Plan for Culture 2019-2022 (Council of the European Union, 2018), which define CCIs as the fundamental pillar of a common European identity and a driver of creativity and innovation in the economy and society.

The driving force behind our empirical research is the Poligon, Institute for Development of Creative Industries, in cooperation with the Center for Creativity operating under the auspices of the Museum of Architecture and Design. Our questionnaire consists of forty-one questions covering the following topics:

- *CCI characteristics* — respondents' legal form of operation; subareas of cultural and creative operation.
- *Respondent characteristics* — gender; age; education; residence location; workplace location; number of persons in the household with a regular income; net monthly income of the respondent and household; ownership/rental of apartment/house.
- *Financial impact of the COVID-19 crisis* — number of cultural and creative workers who stayed at home without any work; cancelation of arrangements; share of tenants of business premises; agreement to reduce rent in practice.
- *Impact of the COVID-19 crisis on creativity* — adjustment of creative activities; work efficiency.
- *Governmental response to COVID-19 crisis* — assessment of government measures; future of the CCIs; future of the society as a whole.
- *Resilience and ability of cultural and creative workers to survive the crisis* — available savings; changes in turnover; structure of the current revenue.

The data were collected from the Slovenian cultural and creative workers in two waves (the first one took place between April 6 and May 3, 2020; the second one between September 29 and October 25, 2020). In the first wave, a total of 1,521, and in the second wave, a total of 1,578 Slovenian cultural

and creative workers participated. That represents approximately four percent of all active workers in the Slovenian CCIs (as shown in the previous subchapters, due to different methodologies, the data on the size of the entire population of cultural and creative workers in Slovenia differ; consequently, important socio-demographic data, e.g., on gender and age structure, are also missing).

The survey included Slovenian cultural and creative workers regardless of their legal status: students, contract workers, self-employed in culture, private entrepreneurs, employees in companies and private institutions, associations and cooperatives, as well as employees in public institutions.

In comparison with the European Statistical System practice, the creative activities in our questionnaire are classified in much broader terms. They include: architecture; landscape architecture; film, audio, video; photography; music; fashion design and textile design; graphic design; product design; service design; advertising and marketing; software and videogame development; research and development; performance arts (theater, music, dance); visual arts (illustration, sculpture, painting); intermedia arts; media (TV, radio, print media, online media, etc.); literary creation and publishing; creative crafts; creative tourism, and other.

The majority of our respondents in both waves are women (over 60 percent). Their mean age is 38.8 years (SD[1]=9.6 years). The majority of respondents (53.4 percent) have at least a university degree and either the status of private entrepreneur (22.4 percent) or self-employed in culture (22.1 percent). They are most active in the fields of film, audio and video (11.3 percent), performance arts (10.7 percent), graphic design (10.6 percent) and visual arts (8.2 percent). Almost half (48.5 percent) of the respondents are active in two subfields of the CCIs, 12.9 percent in even three or more. Among those who selected the answer option "other", most of them responded that they "were working cash-in-hand".

As many as 64.4 percent of the respondents reside in the Central Slovenia statistical region, where most of them also work (60 percent). The average number of years of work experience in the CCIs is 12.2 years (SD=8.9 years). One third of the respondents is paying market (22.1 percent) or non-market rent (10.1 percent) for dwelling. Just under a fifth of the respondents is repaying a loan for the apartment/house in which they live (19.0 percent).

1 SD stands for standard deviation

The main findings of our empirical research can be summarized as follows:

- Over one third of our respondents were forced to stay at home with no work during the lockdown. Among the most affected were filmmakers and audio/video artists, performance artists, musicians, photographers and creative tourism workers.
- Almost 80 percent percent of all respondents reported having experienced loss of business during the lockdown. The average value of business losses in March was 2,945 euros. The projected losses for April and May averaged 5,983 euros.
- More than two thirds of all respondents who worked during the epidemic reported lower or much lower work efficiency. The main reasons for the decline in productivity were distress due to the epidemic, slower work processes online, childcare and education, various household chores, and blurred lines between work and free time.
- The respondents took the survey before, during and after the adoption of the first government anti-coronacrisis package. Almost two thirds characterized the government measures for the CCIs as insufficient. They proposed several solutions: cutting red tape in aid application procedures, a universal basic income for everyone, giving priority to those most in need, helping those who will feel the late effects of the crisis, and greater government and EU incentives for the entire sector.
- The respondents expect business to decrease by an average of 44 percent in all subfields of the CCIs compared to 2019. The effects of this crisis are believed to be more long-term and numerous compared to the financial crisis a decade ago. Finding clients will supposedly be even more difficult than before, they will pay less for the work performed and will be often late with payments.
- More than a third of the respondents had a net monthly income of 500 to 1,000 euros already before the crisis. Merely one fifth of the respondents earned more than 1,500 euros a month. Those with the lowest income were visual artists, landscape architects, performance artists and creative craft workers, while those with the highest income were software developers and videogame developers. The respondents had on average a little less than 6 months worth of savings.
- Even though it is often said that the CCIs are highly dependent on public funding, self-assessed sources of revenue for 2019 showed that workers in the CCIs earned an average of 62 percent of their income commercially, i.e., through the sale of goods and services to end consumers. Calls for applications (government and local and EU funding) accounted for an average of only 10 percent of self-assessed revenues in 2019. The highest percentage of public funding was in intermedia arts, though still a mere 25 percent.

The results show that those working in the Slovenian CCIs led modest lives even before the crisis, most of them from hand to mouth (which is also one of the findings in the studies by Ograjenšek, 2018; Ograjenšek and Perviz, 2015; as well as Ograjenšek et al., 2012 on the Slovenian registered self-employed in culture). Several months of standstill in traditional (physical venue-based cultural and creative offer) CCIs, which obviously stand no chance of returning to the normal levels of operation in 2020, therefore present an extreme threat to many cultural and creative workers already facing severe social hardship.

4 Lessons learned and a future outlook

Given its impact on the society and economy, the COVID-19 pandemic is one of those unique historical events that have little or no commonalities with previous critical situations in our lifetime. The (German) Federal Government's Centre of Excellence for the Cultural and Creative Industries (2020) points out that given these characteristics, conventional measures and support programs of recent crises cannot be simply adapted and reapplied. In any case, the SARS pandemic in 2002 and 2003 was hardly noticed in Europe, as it did not result in lockdowns and mobility pattern changes. Yes, the global economic and financial crisis at the end of the previous decade was severe and characterized by a breakdown in demand for goods and services. However, there was no supply shock, which meant that governments were able to rely on economic stimulus programs to increase demand.

In the current COVID-19 pandemic, the CCIs and many other sectors of the economy face both a supply and a demand shock. The use of an economic stimulus package and consumption measures can therefore only be recommended to a limited extent. Above all, the income- and employment-boosting measures should be used. The problem is that those measures are not always accessible, nor adaptable to the new and non-standard forms of employment in the CCIs (freelance, intermittent or hybrid - for example, combining salaried part-time work with freelance work) that tend to be more precarious (OECD, 2020). SME finance measures should be better adapted to the needs of businesses based on intangible assets. Similarly, innovation supports, at present largely catering to technological innovations, should be adapted to other forms of innovation more common in the CCIs, such as innovations in format, content, media mix, as well as new ways of working, new business models, and new forms of co-production.

It would also make sense for governments to harness the CCIs to shape infrastructure investments (KPMG, 2020), thereby contributing to skills and creativity development both in general population and the workforce. As the British Council (2020) puts it, "Access to arts and culture during lockdown has been vital for so many: assisting cultural connectivity, stimulating creativity and supporting [mental] health and wellbeing." Educators are already increasingly focusing on developing creative skills of, and offering creative experiences to, students in formal and informal educational processes. A resilient creative and adaptable workforce in all sectors of the economy should be equipped to deal with the new normality.

The OECD (2020) is another institution which points out the potential of massive digitalization, hand in hand with virtual and augmented realities, for creation of cultural experiences in isolation. It notes how many traditional public and private providers of cultural and creative goods and services have already moved their content online for free to keep and possibly broaden their audience (the examples include the Louvre and the Vienna State Opera; in Slovenia, the Beletrina Publishing Institute and Cankarjev dom, Congress and Cultural Centre Ljubljana). While provision of digitally mediated cultural contents for free is not sustainable in the long run, it does represent the first step towards the business model transformation. For that, improved digital access (beyond large metropolitan areas) is a necessary prerequisite. As such, it completes the circle started with KPMG's suggestion for governments to harness the CCIs to shape infrastructure investments, as mentioned at the beginning of the previous paragraph.

In the short run, however, the CCIs need to survive. Our recommendations to this end are based on our empirical findings and overlap with those made by the OECD (2020). First and foremost, CCI firms and workers should not be excluded from the governmental income- and employment-boosting measures due to their non-traditional business models and employment contracts. This requires necessary adjustments to eligibility criteria along with a continuous review and simplification of related administrative processes and procedures as quickly as possible, at all administrative levels, including the EU level.

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III.

NAVIGATING THROUGH THE CRISIS

Tjaša Redek, Polona Domadenik, Matjaž Koman, Nada Zupan

THE IMPACT OF COVID-19 ON SLOVENIAN COMPANIES AND THE ROLE OF REMOTE WORK

Introduction

COVID-19 has caused major disruptions for businesses and people. Although business environment has been for some time characterized as VUCA (volatile, uncertain, complex, and ambiguous; Bennett and Lemoine, 2014), the speed and intensity of the global spread of the virus caused an unprecedented shock. Even if the effects are short-term, many businesses will fail and others will have to change and transform in order to survive. Many companies were caught by surprise (Buchheim et al., 2020), especially when in order to contain the spread of the virus most governments implemented social distancing and even lockdowns. Companies had to deal with broken supply chains, reduced demand for their products and services, and increased uncertainty (Hassan et al., 2020). They needed to reorganize work to protect employees and their health. The biggest remote work experiment in history took place in many companies where their employees had to work from home for the first time (Calgiuri et al., 2020). Compared to previous crises, for example, the financial and economic crises a decade ago, COVID-19 has put a lot of strain directly to human capital. It has changed the ways people work, moreover, it has also affected their health (not only physical but also mental) and general well-being (Carnevale and Hatak, 2020). Therefore, it is not surprising that human resource management as a corporate function has played a very important role in crafting company responses to the COVID-19 crisis (Meister and Brown, 2020).

The purpose of this chapter is to examine company responses to COVID-19 in Slovenia, with a focus on remote work. We begin by describing general findings about how companies around the world responded in the first three quar-

ters and what the effects on employment and ways of working were. Then we turn to the Slovenian case, first by describing expectations held by companies with regard to COVID-19 effects on their business performance, followed by data on adopted measures and their impact. Next, the remote work as one of the commonly introduced measures is analyzed in more details. We finish with a discussion and recommendations.

1 The impact of COVID-19 on companies in the literature

Most companies have been negatively impacted by the COVID-19 pandemic. For example, in the April 2020 survey, German companies reported on average a 21 percent loss of income (Buchheim et al., 2020). In a similar survey carried out in the UK in March 2020, 39 percent of firms expected a drop in revenues to be above 10 percent (Bloom et al., 2020). For 85 percent of Russian companies, the outbreak had negative effects on their financial indicators; however, for two percent of Russian companies the financial indicators improved during the COVID-19 crisis, while remaining the same for 10 percent (Statista, 2020). To mitigate the negative effects, firms have shortened working time and reduced workforce, postponed or cut investments, and used existing or negotiated new credit lines (Buchheim et al., 2020).

The effects of the crisis differ between industries[1] and countries. Among the most negatively affected companies have been those operating in the travel industry (Uğur and Akbıyık, 2020), while companies in the ICT sector in general, especially in the video game and esports industry, have experienced a boom as a result of the crisis (Statista, 2020). The size of the companies has also played an important role. While both large and small firms felt the negative effects of COVID-19, small firms have been more vulnerable (Kwak, 2020). The main reason for SMEs struggling to survive, compared to larger firms, lies in the fact that SMEs have been facing more severe resource constraints than larger firms. One fifth of SMEs reported that they would shut down permanently within three months if without government support. This number was even higher for young firms (ITC, 2020). A survey of more than 5,800 small businesses in the USA revealed that on average, the firms reduced their active employment by 39 percent and that almost half of the sampled firms (43 percent) had to be temporarily closed for a few weeks during the crisis.[2] The permanent risk of closure is negatively associated with the expected length of the crisis. To be

1 For more on the effects of the crisis in different industries in Europe see Redek et al. (2020).

2 One of the reasons lies in the fact that the median firm with $10,000 of monthly expenses had only about two weeks of liquidity.

more precise, if the crisis lasted for 4 months (till December 2020), only 47 percent of businesses expected to be open compared to 72 percent if the crisis lasted for a month (Bartik et al., 2020a).

As already pointed out, large firms are not immune to the COVID-19 pandemic. A study that investigated the impact of COVID-19 on Chinese companies shows that COVID-19 has had a negative impact on firm performance, decreasing investment scales and reducing the total revenue (Shen et al., 2020). In most negatively affected industries (tourism, catering, transportation) lower revenues resulted also in negative profitability. The study also shows that firms that were financially constrained and had less investment or lower sales revenue before the crisis, were hit harder by the pandemic. The more negative effects on SMEs compared to large firms were confirmed also by Juergensen et al. (2020) and Adian et al. (2020). Furthermore, the lack of government support for entrepreneurial projects was reported by Giones et al. (2020).

The battle with the virus has taken its toll on the labor market. COVID-19 has affected 80 percent of workers globally (Deloitte, 2020). A lot of people have lost their jobs despite the COVID-19 measures easing down in many countries. In the eurozone, unemployment rose to 7.9 percent in July. The number of people in work fell by 2.6 percent in the EU (2.8 percent in the euro area) in the second quarter of 2020, the sharpest decline since records began in 1995. The ILO (2020) is estimating a decline in global working hours of 12.1 percent in the third quarter of 2020 compared to the pre-pandemic figures, which is equivalent to 345 million full-time jobs. In addition, the global labor income is estimated to have declined by 10.7 percent. Pouliakas and Branka (2020) estimate that about 45 million jobs in the EU-27 labor market (23 percent of total EU-27 employment) are at a very high risk, while another 22 percent of the workforce is also exposed to a considerable degree. The negative effects of COVID-19 will increase labor market segmentation as it will disproportionately hit more vulnerable groups of people (e.g. women, older and younger workers, non-natives, lower-skilled, precarious work arrangements, employees in micro companies), which will further contribute to inequalities. Namely, the inability to perform a job remotely or having a job that cannot be done remotely is a high predictor of job losses. In addition, Fana et al. (2020) report that among the EU countries, labor markets in Southern European countries and Ireland were affected by COVID-19 the most.

The pandemic has increased the number of people engaged in remote work. In 2019, only 14 percent of EU workers had at least some experience with remote work. However, there is great variability among countries. Sweden has the

highest share (37.2 percent), while Bulgaria has the lowest share of remote work with 1.1 percent of workers who had any experience with teleworking. In Slovenia, the share of workers engaged in remote work a year prior to the COVID-19 epidemic was slightly above 15 percent (Cedefop, 2020). Forty-five percent of small firms and a half of large firms in the USA were able to move at least some of their employees to remote work (Bartik et al., 2020a). A survey on the National Association for Business Economics (NABE) members that represent executives in larger companies shows qualitatively similar increases (Bartik et al., 2020a). Similar results were found by Bick et al. (2020) and Brynjolfsson et al. (2020). However, the number of workers who can potentially work remotely is limited. In the EU, only 25 to 33 percent of all jobs could potentially be performed from home (Boeri et al., 2020). For the USA, Dingel and Neiman (2020) found that roughly 37 percent of jobs have the potential to be done from home. However, there is considerable variation across industries and/or occupations.

Although COVID-19 has led to a substantial increase in remote work in order to maintain activity and provide safety for their employees, research suggests that companies that were forced to implement remote work approached it rather hastily and offered much less support to remote employees compared to the pre-COVID-19 free choice to engage in working remotely (Belzunegui-Eraso and Erro-Garcés, 2020). Nevertheless, many firms have not moved to remote work, either because they assessed it could lead to productivity losses or the work was just not possible to be done remotely. Remote work has been more often used in industries with better educated and better paid workers, where employers believe there will be less productivity losses caused by remote working (Bartik et al., 2020b). Regarding the long-term effect, employers of more than one third of the firms that switched to remote work believe that remote work will remain more common in their companies – the new normal – even after the COVID-19 crisis ends (Bartik et al., 2020b).

Among HRM measures adopted by companies due to COVID-19, researchers have identified health and safety as the main priorities during the pandemic (Bailey and Breslin, 2020), with mental health requiring special attention (Spence, 2020). At the center of these measures were adjustments to new working conditions, either related to work from home or to enacting new workplace policies and procedures limiting human contact for those working on-site, and providing various support schemes for employees to better manage their work and balance it with family obligations (Caligiuri et al., 2020). Due to the massive shift to remote work and digitalization, the pandemic has made it even more obvious that companies need to increase employee skills, especially

digital ones, but also those that support the new ways of communication and collaboration (Sheppard, 2020).

There has been little research on how HRM actually responded to COVID-19 at the company level. Bersin (2020) surveyed more than 1,350 HR managers and business leaders who were reporting on 53 different HR practices. He then identified ten which seemed the most impactful and grouped them into three strategic areas: (1) employee health and well-being, (2) business agility and change, and (3) adaptive transformation which includes reinventing work, jobs and talent management practices. As far as the overall approach of the company with regard to HR goes, Bersin (2020) identified four models, from the simplest one (adopted by 18 percent of the companies), when not much was done differently and companies were just hoping for the best, to the most frequent one focusing on employee health and well-being (about half of the companies, 46 percent adopted this approach). The more complex models of agile HR and complete HR transformation were adopted by 15 percent and 21 percent of the companies, respectively.

2 The impact of COVID-19 on Slovenian companies and the role of remote work

COVID-19 has had an expectedly marked impact on Slovenian companies as well. A firm level survey in October 2020, which complemented the surveys being done at the end of March, June, and August 2020, revealed that the expectations of companies have remained fairly negative since the onset of the COVID-19 crisis; however, they have changed with the general health circumstances. In continuing, the survey explored the adjustments Slovenian companies made in order to overcome the economic problems more efficiently, especially the implementation of remote work. However, it was primarily the manufacturing sector that had to face numerous challenges regarding the organization of work.

2.1 Methodology

The analysis is based on a survey at the time (October 2020) when the epidemiologic situation was deteriorating and just before the government imposed some stricter social distancing measures. The respondents were employees in middle and top management positions in Slovenian companies. The questionnaire comprised overall 36 questions, in the first part addressing general com-

pany data (size, industry, ownership), the expected impact of COVID-19 on the economy, the company, and different aspects of corporate performance. These questions mirrored the ones used in surveys from April, June and August 2020, thus providing an opportunity for a temporal comparison. The second part of the questionnaire focused on the organization of work before, during, and after the epidemic, the role and evaluation of remote work, as well as the changes the companies implemented in order to overcome the crisis more easily, which includes also the evaluation of policy measures.

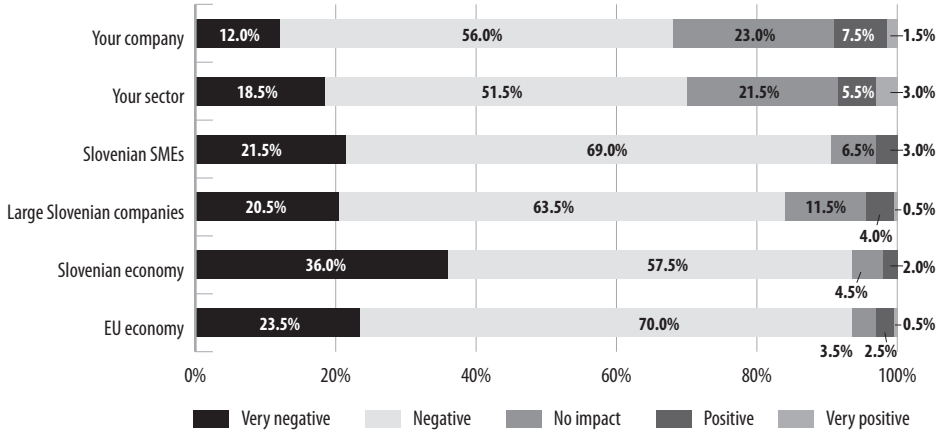
The survey was completed by 200 respondents. Twenty-eight percent of them were from large companies, 35 percent from medium-sized, and 37 percent from small companies, the smallest company having 5 employees. Eleven percent of the respondents were from manufacturing, ten percent from retail, similarly also from education and healthcare, while six percent were from ICT and the same also from financial and insurance services. For the purpose of the analysis, companies were grouped into: (i) manufacturing with construction, (ii) business supporting services (utilities, retail, transport), (iii) other business services (ICT, finance, other business services), and (iv) public sector (public administration, education and healthcare).

2.2 Business sentiments and growth expectations

In accordance with the health situation business sentiment has changed from being more to being less positive. In April 2020, 97 percent of the respondents anticipated that the impact of COVID-19 on the European and Slovenian economies would be negative or very negative. Around 88 percent of the companies reported that the impact would be negative or very negative also on their sector and the company itself, as the average expected the crisis to last for 13 months (Redek, 2020a). By June 2020, when the health situation improved, optimism grew slightly and this was still evident in late August. Primarily, the share of companies that were very negative about growth prospects declined. While 43 percent of the companies expected a very negative impact in March 2020, the share deteriorated to 32 percent in June (Redek, 2020b) and decreased even further as at the end of August, only six percent of the companies expected a very negative impact on the European economy (Redek, 2020c). However, in October 2020, the average expectations were overall negative, with over 90 percent expecting a negative impact on the EU economy as a whole. Nevertheless, significantly fewer companies had very negative expectations. Similar holds for the expectations about the impact on the Slovenian economy. If in March about half of the companies expected a

very negative impact, »only« a quarter of them expected a very negative impact in late August, while 73 percent expected a negative impact (Redek, 2020c). In October, possibly due to worse health statistics, the respondents were again a bit more negative with 36 percent of the companies again expecting a very negative impact on the Slovenian economy as a whole (Figure 1).

Figure 1. The expected impact of COVID-19 on the economic situation

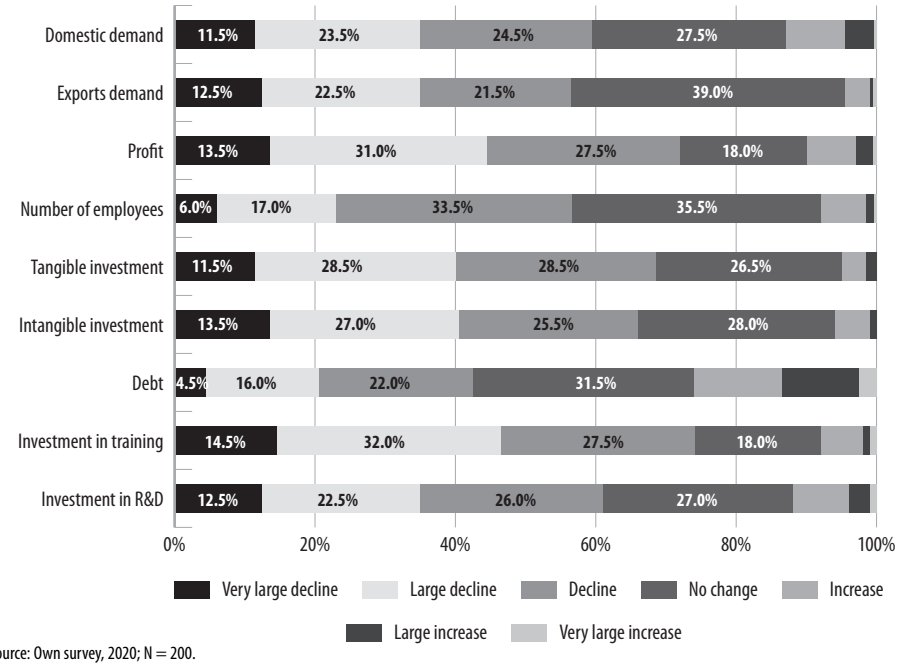


Source: Own survey, 2020; N = 200.

On average, the manufacturing and services sectors were both relatively unanimous in their evaluation of the extent of the impact on the European and Slovenian economies at large, however, in the evaluation of the impact from the sector's perspective, manufacturing was more negative with almost 70 percent expecting a negative (47 percent) or a very negative impact (23 percent). The share of those with a very negative outlook in services was around 10 percentage points lower and in total around two thirds expected a negative or a very negative outcome. In the spring, the crisis was expected to last for 13 months (Redek, 2020a), in October, the respondents expected the crisis to last for 20 months already.

Companies also report negative expectations about the impact of COVID-19 on domestic demand, where almost 60 percent of companies expect a decline in demand and similarly large is also the share of companies that expect lower export demand. Over 80 percent of the respondents expect a decline in profit, and close to 70 percent plan to reduce both, tangible and intangible investments. Investments in R&D are expected to drop by 60 percent, with the largest toll being on the investment in training, where as many as three quarters of the respondents foresee a decline (Figure 2).

Figure 2. The expected impact of COVID-19 on selected categories



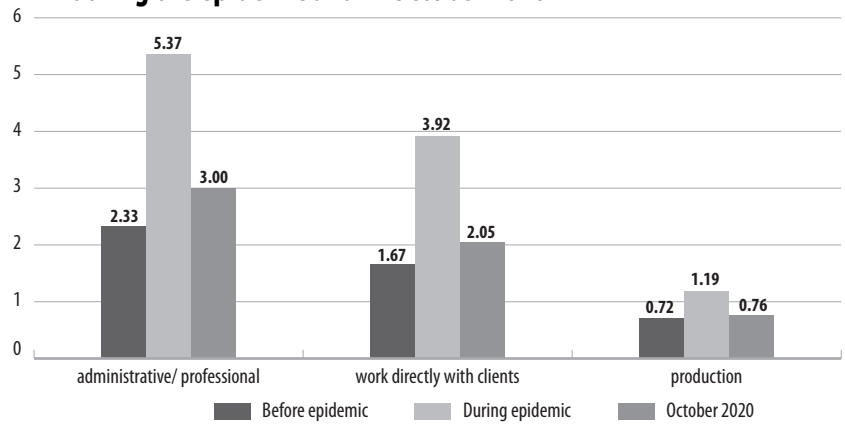
Source: Own survey, 2020; N = 200.

The respondents from small companies were more often worried about the decline (very large, large or just a decline) in domestic demand (67 percent in comparison to 58 percent of the large-firm respondents), while the respondents from large companies more often worried about the decline in export demand (62 percent). Small companies also reported more liquidity problems and a decline in R&D investments; however, in general, the negative impact was in general expected by more than 60 percent of the companies. In the long term, a decrease in investments, tangible and intangible, as well as in R&D and training is expected. Manufacturing has been to a larger extent affected by the decrease in exports (in total 60 percent reported a decline compared to 45 percent in services) and domestic demand, where two thirds of manufacturing companies reported a decline in comparison to around half of the respondents from the service sector. Consequently, the fear of profit decline was also expressed by a relatively higher share of manufacturing companies. Similarly, the tangible and intangible investment decline is expected to be more pronounced in manufacturing, while the R&D investment decline is expected to be more noticeable in services.

3.2. Remote work and general work organization

Remote work was very important for companies during the epidemic. According to Kearney (2020), around half of companies had emergency plans and 70 percent of those were efficient. Similarly as our respondents pointed out, one of the immediate, widely expected consequences was the decline in revenue, investments, and employment (Kearney, 2020). Overall, 56 percent of our respondents expected COVID-19 to negatively impact employment, 65 percent of the respondents from small companies, 57 percent from large companies, and 47 percent from medium-sized companies. Interestingly, the respondents from the service sector expected a decline in employment to a lesser extent than those in manufacturing. While in manufacturing, 37 percent reported a small, 18 percent moderate, and 8 percent a large decline in employment; in services, 14 percent reported a small, 17 percent moderate, and 7 percent a large decline in employment.

Figure 3. The number of deciles of employees working from home before, during the epidemic and in October 2020



Source: Own survey, 2020; N = 200.

However, where possible the surveyed companies adjusted quickly. The majority of the respondents reported that before the pandemic, 20 percent or less of administrative workers and professionals worked from home, and the figure was even lower for those employees who worked directly with clients. During the epidemic, around half of administrative and professional workers and around 40 percent of employees that worked directly with clients were working from home. After the epidemic, the situation started to normalize, however, the share of those respondents who still reported a larger share of workers working from

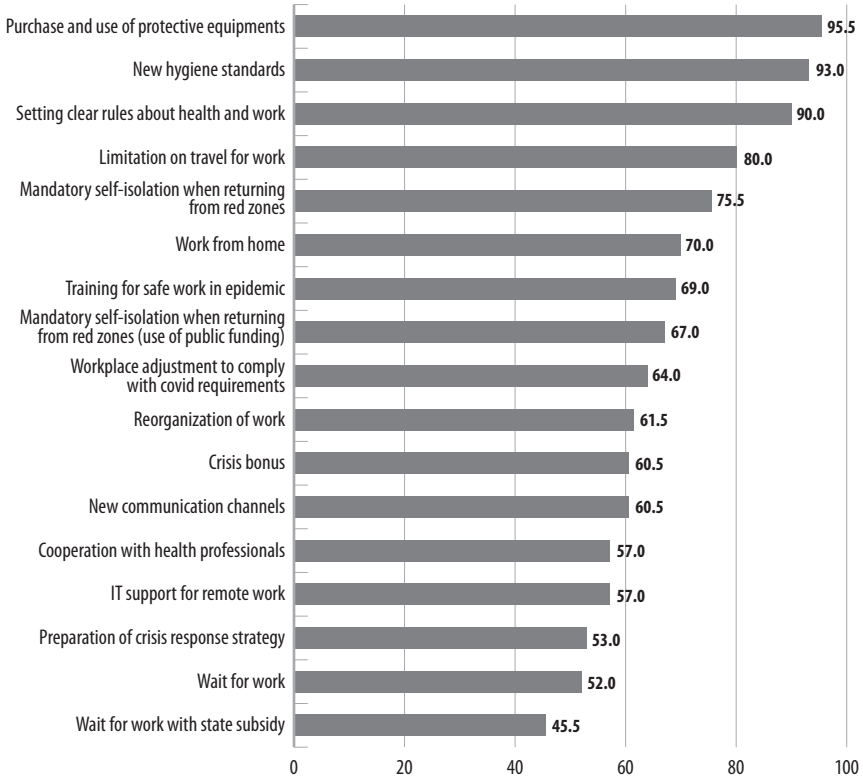
home remained above the pre-epidemic one. Only in the case of production workers, as expected, the share of those working from home remained relatively stable (Figure 3). The adjustment was strong regardless of the firm's size. Before the epidemic, the largest share of those working from home, regardless of the type of work, was reported in small companies and was significantly larger than in medium-sized and large companies, with an average of one decile difference. During the epidemic, firms regardless of size organized work for on average half of administrative and professional staff from home, however, the adjustment in large firms was weaker for those who worked with clients and especially for production workers, where on average respondents reported less than ten percent of workers working from home.

Interestingly, in October 2020, with regard to remote work, small and medium-sized firms returned close to the pre-epidemic levels, while in large firms, work from home remained to a large extent, especially for administrative and professional workers. There were also significant differences between industries that dated back to the pre-epidemic times. In the service sector and public administration, the percentage of workers working from home was reported to be significantly higher for administrative and professional tasks than in manufacturing, where the share was most often reported to be below ten percent, while in the aforementioned sectors it varied between 20-30 percent. In manufacturing, the share of professionals and administrative employees working remotely increased, on average, to between 30-40 percent, while in services it amounted to between 50-60 percent for the same type of employees. In all cases, after the epidemic, the share of employees working remotely dropped, especially in manufacturing, where the share of production workers working from home was very low anyway. Around a third of the respondents who experienced remote work, evaluated the overall experience as better than expected for the company and employees, and approximately the same share of respondents (35 percent) reported that it was as expected. Interestingly, personal satisfaction of the respondents was much lower, as only 32 percent reported it to be better and 20 percent to be worse than expected.

Beside remote work, companies implemented also a number of other measures to support safe work, as well as ease the transition to remote work. Not surprisingly, 90 percent of the respondents or more reported of implementing the use of protective equipment, setting new hygiene standards, and setting clear rules about the health protocols for coming to work. In 70 percent of companies also training for safe work under new conditions was implemented. Companies limited work-related travel and personal participation on different events and

required isolation when returning from endangered zones, largely reorganized work, including remote work, setting up new communication channels, as well as IT support for remote work. Sixty percent of the respondents reported paying a crisis bonus (Figure 4).

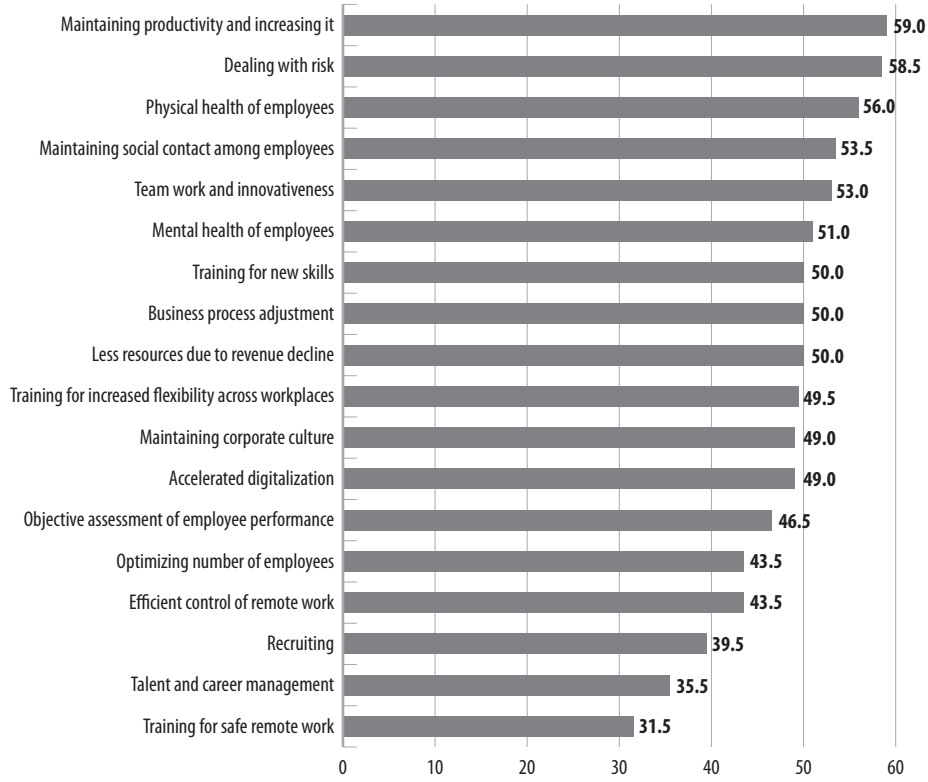
Figure 4. Measures implemented in companies to support remote work and other work-related measures



Source: Own survey, 2020; N = 200.

However, companies faced also a number of obstacles and challenges related to organizing work during the epidemic. Referring to the challenges (Figure 5), more than half of the respondents agreed that significant or the most significant ones were maintaining and increasing productivity, dealing with risk, maintaining physical health of employees, revenue decline, maintaining social contact, and team work and innovativeness.

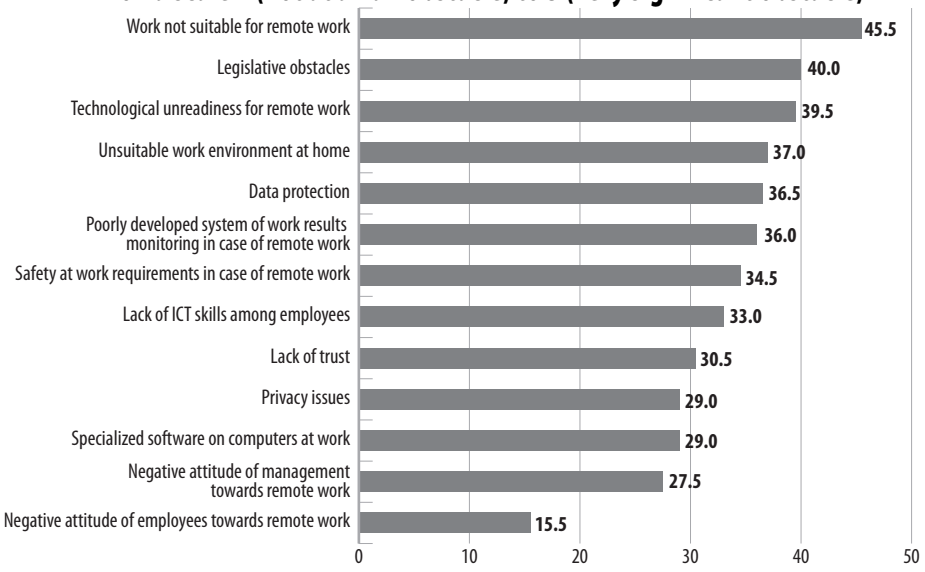
Figure 5. Challenges in organizing work (percent of the respondents that selected "significant" and "very significant challenge" on a scale 1 (not at all a challenge) to 5 (very significant challenge)



Source: Own survey, 2020; N = 200.

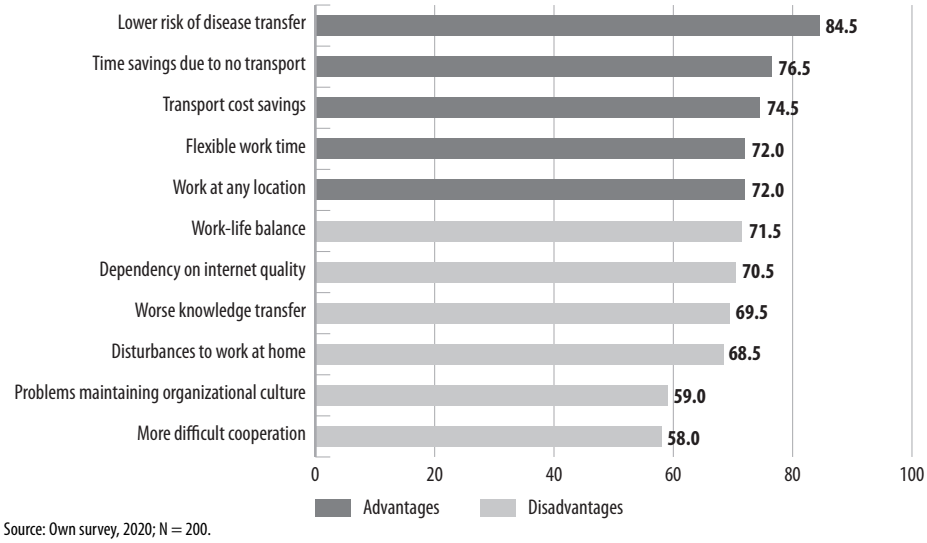
Referring to the obstacles (Figure 6), as expected, the lack of suitability of work to be done remotely, legislative obstacles, and technological readiness were significant or the most significant obstacles for around 40 percent of the respondents. Comparatively, large firms reported physical health of employees to be a significantly larger challenge, with digitalization, training for new skills, measuring employee performance, legislative obstacles, lack of trust, control of remote work, and a negative attitude of management to remote work also being reported as obstacles in large companies. However, medium-sized companies had significantly more problems than both large and small ones in terms of the lack of ICT skills, software issues, and technological equipment needed for remote work.

Figure 6. Obstacles to organizing remote work (percent of the respondents that selected "significant" and "very significant obstacle" on a scale 1 (not at all an obstacle) to 5 (very significant obstacle)



Source: Own survey, 2020; N = 200.

Figure 7. Advantages and disadvantages of working remotely (percent of the respondents that agreed or completely agreed on a scale 1 (completely disagree) to 5 (completely agree)



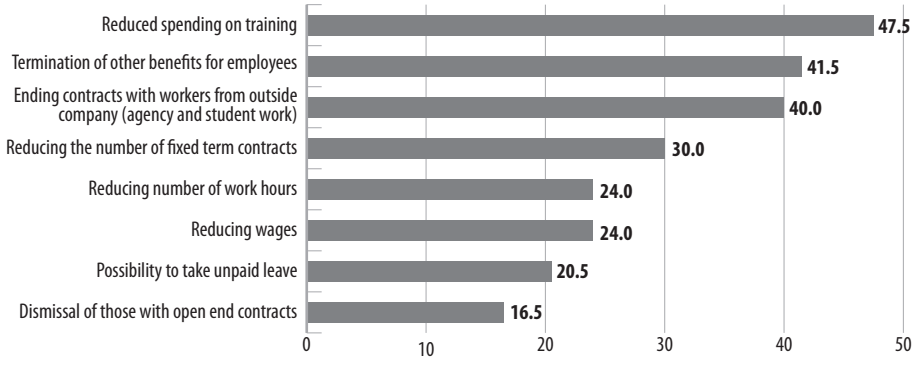
Source: Own survey, 2020; N = 200.

The respondents also pointed out some advantages and disadvantages of working remotely. Lower disease spread risk stands out as the biggest advantage, followed by savings in transport time, flexible work time and work place, and transport cost savings, as more than 70 percent of the respondents perceived those as the advantages of working remotely. Among the disadvantages, maintaining work-life balance, dependency on the quality of internet connection, more difficult cooperation and lower knowledge transfer were evaluated as the most profound by around 70 percent of the respondents.

3.3 Future outlook and policy evaluation

During the epidemic and after the first wave companies implemented several above mentioned changes to help overcome the crisis. The respondents also report measures that are expected to be implemented by the end of 2021 to ease the consequences of the epidemic (Figure 8). More than 40 percent of the respondents expect reduced investment in training, terminating other benefits for workers and terminating cooperation with agency workers and students. Other measures are less likely to be implemented according to our respondents, including terminating cooperation with workers on fixed-term contracts. Interestingly, medium-sized companies stand out in all these measures, with the exception of terminating cooperation with external workers (students, agency workers).

Figure 8. Work related cost saving measures in companies expected by end of 2021 (percent of the respondents that selected "likely" and "very likely" on a scale 1 (not likely at all) to 5 (very likely)

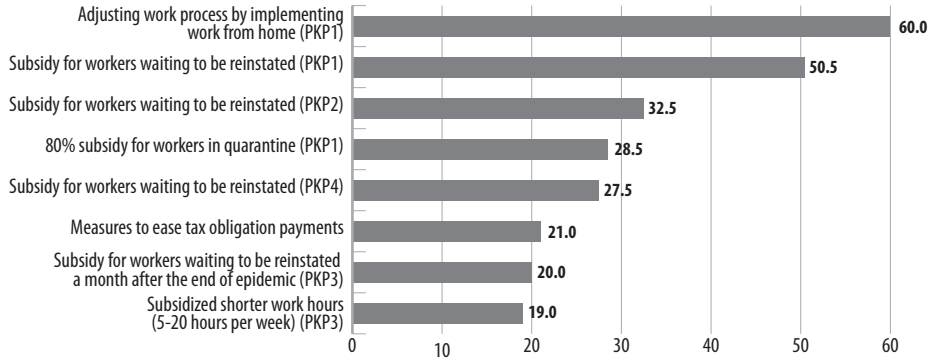


Source: Own survey, 2020; N = 200.

Companies have also used state measures (Figure 9). The most commonly used was the ability to implement work from home, followed by using a subsidy

for workers who were at home waiting to be called back to work. The measure was implemented to ease the pressure on companies and reduce the high unemployment risk. It was well accepted and was also one of the more used ones in the months that followed. Also, a subsidy for those who were in quarantine was relatively widely used. Respondents also shared their evaluation of state measures. While some government measures (e.g. subsidized furloughs, subsidized work hours) continued to be in force from April on in anti-coronacrisis legislative packages 2, 3, and 4 (PKP1, PKP2, PKP3, and PKP4), they continuously received very high evaluation ratings. Also, the subsidized shorter work hours schemes were well accepted. In addition, the respondents stressed the usefulness of measures related to tax payments, which included possible delays in tax payment or even exemptions, although these were reported as used only in about a fifth of the companies.

Figure 9. State measures to combat COVID-19 crisis (percentage of respondents that report using a selected measure)



Source: Own survey, 2020; N = 200.

Discussion and conclusions

Comparing four points in time, April, June, August and October 2020, Slovenian companies reported most positive sentiments regarding the length of the crisis and effects of COVID-19 on business in June and the least in April and October. This suggests that COVID-19 has already been perceived as more of a rollercoaster that a smooth ride. Just at the time of writing this paper, the Slovenian government again declared an epidemic, stricter measures regarding people movement and closing of some businesses. It was declared that measures will last for 30 days, but worsening of the epidemiologic situation is creating an even greater uncertainty. It would be important to have clear communication about

the expected measures and timing, because Bucheim et al. (2020) discovered on a sample of German companies that those companies that expected a longer shutdown were more likely to lay off employees and cancel or postpone investment projects. The uncertainty could be even more detrimental for manufacturing companies, which already have it more difficult than some service companies due to reduced demand and are also not able to move many jobs online. The Slovenian sample also confirms that the COVID-19 crisis is more difficult for small companies, therefore, not only short-term but also more structural and long-term measures to support their renewal and growth through innovation, internationalization and networking would be needed (Juergensen et al., 2020).

The response of Slovenian companies with regard to work organization and human resource management practices mostly resembles what could be observed in other countries. It is interesting that while more than half of the companies expect that pandemic will have a negative impact on employment, laying off full time employees does not seem to be the preferred labor cost-cutting strategy. It scored as the least likely among all cost saving measures (2.5 on a 5-point scale from 1-not at all likely, to 5-very likely), so if reductions do happen, it will be mostly for agency workers and those on fixed-term contracts. This suggests that Slovenian companies are successfully using the core-periphery employment model (Lepak and Snell, 1999), which increases flexibility to mitigate shocks and crises while protecting the core human capital. It is unclear at this stage if this is an intentional HR strategy or just a reaction to high protection of full-time employees in the Slovenian labor legislation.

It might be worrying though that scaling down on employee training will be the most likely cost-saving measure. Especially so, as many argue that upskilling and re-skilling are key to competitive workforce post-COVID-19 (Adecco, 2020; Sheppard, 2020). Moreover, the PIAAC study in 2016 revealed that Slovenia is lagging behind in adult skills, especially digital, compared to most OECD countries (Domadenik et al., 2016), and lifelong learning in Slovenia was very low already before the COVID-19 stress test (Javrh, 2018). Further cuts in planned training budgets will diminish the possibility to upskill and reskill workforce. The intention of Slovene employers to cut training investment should be taken very seriously by policymakers. The current health and economic crisis points to the fact that new competences, especially digital ones, are very important in the VUCA reality. Therefore, it would be necessary that the government properly addresses this issue in the forthcoming rescue packages and follows the model of obligatory training for workers on temporary leave, as already implemented by the German government during the financial crisis.

Overall, we may argue that most companies operate under what Bersin (2020) calls a model focusing on employee safety and well-being, possibly with more emphasis on safety and a bit less on support for employees, which has been identified as crucial in times of COVID-19 (Carnevale and Hatak, 2020). Despite the fact that over 90 percent of employers reported enacting safety measures, it has to be noted that in the employee survey (Domadenik et al., 2020), about one fifth of employees reported that they had to continue working during the epidemic under the same conditions as before and without protective equipment at least for some time. However, only half (53 percent) of the companies reported that they prepared a crisis response strategy that would lead to unnecessary inefficiencies in case of a new epidemic wave. About two thirds of the companies reported work reorganization, and 70 percent remote work. Similar to what was reported for EU countries (Eurofound, 2020), the share of employees who worked remotely during the epidemic has significantly increased, mostly for professional and administrative work, and more in services than in manufacturing. Overall, the experiences with remote work have been evaluated in a more positive than negative way, even though it seems that employers were a bit less satisfied than employees (for more information see Domadenik et al., 2020 in this book). In addition, like most others, Slovenian companies also report that they are planning to keep some of the remote work as their new normal. As they see the current legislation as one of the major obstacles, the obvious recommendation would be a speedy and inclusive process of revising the legislation.

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Marko Jakšič, Žiga Agostini, Ramon Babič, Gaber Gašperlin

THE SUPPLY CHAIN AFTER THE GLOBAL PANDEMIC

Introduction

The global pandemic has exposed serious flaws in supply chains, as the focus on cost reduction and maximization of value added has led to the adoption of heterogeneous supply chains that combine off-shoring with just-in-time (JIT) (Goldberg, 2020). The push towards JIT locally has resulted in the reduction of inventory levels, while off-shoring has moved the parts of production with lower value added to low-cost regions where inventory levels are higher due to longer lead times. This approach significantly relies on accurate forecasting and is quite exposed to external shocks like the global pandemic is.

During the COVID-19 pandemic, global supply chains were put to the test with export restrictions and various external shocks. For example, export restrictions on PPE (Personal protective equipment) meant that often the countries which were hit the hardest and had to stop their production of PPE (if they even had any) were left without the much-needed face masks and other equipment (Simchi-Levi and Simchi-Levi, 2020). While PPE has received the most headlines, a similar situation could be observed across other industries as well.

The purpose of this chapter is to understand how companies can better navigate the turbulent environment they have found themselves in and adjust their supply chains to be better prepared for any future disruptions. The chapter is structured in three parts. The first part deals with how COVID-19 caused disruptions in supply chains in the form of immediate shocks and the persistent uncertainty afterwards. The second part addresses an analysis of managerial actions taken by Slovenian companies and explores appropriate steps taken to cope with the issues explained in the first part. The third part deals with long-term actions that will be taken by Slovenian companies to avoid the same

supply chain problem in the future and our strategic recommendations based on the analysis of the recent trends related to the supply chain recovery during and after the pandemic.

1 Covid-19 impacts on the supply chain

Prior to the COVID-19 pandemic, supply chain trends were towards optimizing the supply chain, focusing primarily on the lowest production cost possible. That resulted in rather long and complex supply chains, particularly when they included a lean and global approach, which caused a lower flexibility to quickly respond to shocks and being more exposed to risks, as transparency and resilience were not in focus (Buatois, 2020; Lund et al., 2020).

Table 1. Disruptions in the supply chain by company

Company	Disruption
Auto-parts manufacturer	• Increase in lead times • A drastic decline in demand
Pharmaceutical company	• Production capacity issues • A surge in demand
End consumer retailer	• Significant delays and unavailability of certain products • An overall decline in demand, while demand online increased.
Manufacturer of aluminium intermediate products	• Insignificant disruptions to the supply chain • Decreased demand
High-tech electronic equipment producer (medium size)	• Some components initially unavailable • No demand shock due to long-term contracts
High-tech electronic equipment producer (small size)	• Insignificant disruptions to the supply chain • A significant drop in demand
Mechanical components manufacturer	• Supply shortages of raw materials • Increased demand

Source: Interviews, 2020.

To analyse the supply chain disruptions in Slovenian companies, both secondary data sources as well as primary data collection sources were used. In-depth interviews were conducted with the representatives of five large Slovenian companies from different industries with more than 250 employees, one medium and one small company. The companies we interviewed are an auto-parts manufacturer, a pharmaceutical company, an end consumer retailer, a manufacturer of aluminium intermediate products, two high-tech electronic

equipment producers, and a mechanical components manufacturer. In the in-depth interviews the participants were asked about the challenges in their supply chains and response measures during the COVID-19 situation, as well as their strategic intentions for the future. The interviews were conducted in August and September 2020. A short overview of the companies and disruptions they faced during the COVID-19 crisis is presented in Table 1.

The COVID-19 pandemic has significantly affected supply chains around the globe from the demand and supply side. The effects, however, varied depending on which tier of the supply chain a company is in (Kumar et al., 2020). Table 2 summarizes the main effects on the demand and supply sides.

Table 2. A summary of the COVID-19 effects on supply chains

Immediate shocks	Persistent disruptions
Supply side	
• Supply shortages due to the manufacturing delays in China • Movement restrictions between countries reduced the logistics capacity and increased lead times • Panic buying within the supply chain	• Possible disruptions in case of future lockdowns due to an increased number of COVID-19 cases • Stockpiling throughout supply chains • Variable utilization of production and logistics capacities • Supply chains pressurized on building up resilience
Demand side	
• Drops in demand for most industries as lockdowns started • A rapid shift to online retail • Increase in demand for pharmaceuticals and groceries	• Inventories started to build up and the increased capacities went underutilized • Changes in the structure of the end consumer demand (increase in online over brick and mortar) • Possible recurrence of swings in the immediate demand within supply chains • A potential restructuring of supply chains to shift and rearrange demand flows

Source: Own research.

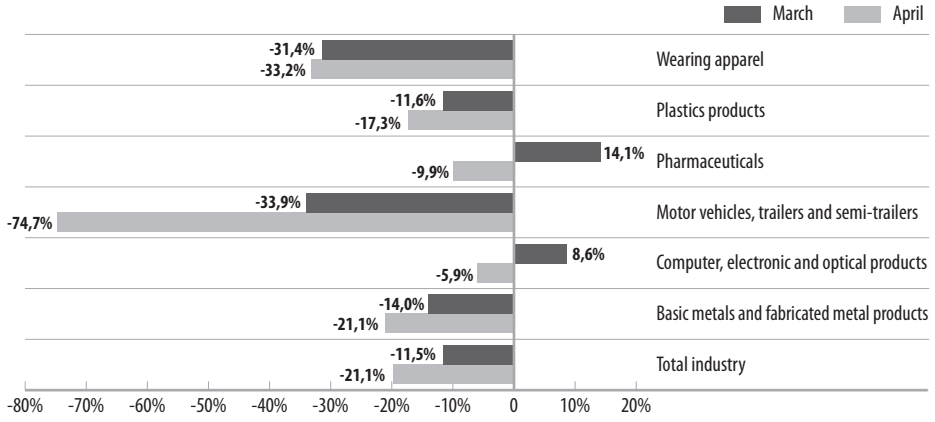
1.1 Immediate shocks

The initial supply shock happened in China as the annual shut down of the Lunar New Year was extended by the quarantine lockdowns and travel restrictions. This caused the shutdown of factories from January 24 to February 9. However, the later date marked just the partial restarts of some factories, as only 70 percent of the large industrial enterprises and 43 percent of small and medium-sized businesses managed to restart operations by the end of February, with very few reaching their full capacity. This caused significant delays in the supply of products and materials from China causing further halts and delays down the supply chain (Kilpatrick and Barter, 2020).

The supply shock then transitioned to Europe, which was a consequence of the initial wave caused by the lack of supplies from affected regions and manufacturing shutdowns due to health risks. Furthermore, the supply shock occurred in North America soon after, as COVID-19 spread globally (Lierow et al., 2020).

On the supply side, the effects on the supply chain were in the form of unavailability, delays, and uncertainty in the material supply. Additionally, the logistical capacity was reduced by lowering the ability to ship and receive products and border lockdowns even preventing it. Moreover, the problem of ensuring sufficient workforce capacity for manufacturing and shipping was present as well (Kumar et al., 2020). The total industrial production in the EU27 experienced monthly declines of 11.5 percent and 19.7 percent in March and April, respectively (Figure 1).

Figure 1. Industrial production growth rates by selected industries in the EU27 in March and April 2020



Source: Eurostat, 2020a.

The lockdowns and decreased demand affected the automotive industry most, as its production fell by more than 70 percent in the two months following February 2020 (Figure 1). The situation was similar in the Slovenian auto-parts manufacturer as it had considerable complications in obtaining supplies from Asia. The late delivery of certain components slowed down their entire production, which led to difficulties in meeting some of their outstanding orders. On the other hand, a significant number of orders were lost due to plant blockades in Brazil, where one of their main customers is located.

In addition, the retailer also experienced delivery difficulties, as most of its products are sourced from China, Pakistan, and India, where delays in production were common. In China in particular, the extended supply bottleneck was due to the proceeding Lunar New Year holidays. Furthermore, the EU production of plastic products, which accounts for a significant proportion of the retailer's supply, fell by 17.5 percent in April (Figure 1).

Metal production and processing in the EU27 fell by 14.0 percent in March and by a further 21.1 percent in the following month (Figure 1). However, the effect was specific to the type of metal. For example, the surveyed producer of aluminium intermediates did not experience any significant supply shocks as its origin is African, while the producer of stainless-steel products experienced a significant metal shortage in the market, since a significant part of the mining and production capacity is located in Asia.

The pharmaceutical industry was one of the few industrial sectors to record an increase in production, as production in the EU27 rose by 14.1 percent in March 2020 (Figure 1), which can be explained by the surge in demand (Figure 2). A similar situation was also observed in Slovenia, as the pharmaceutical company surveyed was able to increase production. Nevertheless, they experienced minor supply shocks from their Asian suppliers.

Similar to pharmaceuticals, the production of computer, electronic and optical products in the EU27 increased by 8.6 percent in March 2020 (Figure 1). This is consistent with the Slovenian companies we surveyed, as they did not report any drastic supply shocks that would affect production, even in the case of high-tech niche equipment with very few manufacturers in the market. These supply chains entered the crisis with relatively high inventories and, due to the highly automated production their vulnerability to lock-outs was lower.

The logistics on both the distribution and procurement side of the supply chain were affected by the immediate general decline in the demand for the intercontinental trade. However, there were differences in the effect on the logistics based on commodity, trade lane, and mode of transport. For example, trade of automotive products was projected to decline significantly more than agriculture produce and food (Condon et al., 2020). Due to disruptions to other modes of transport and the need for a fast response, companies were turning to air transport. Since approximately 40 percent of airfare capabilities come from the spare space of the passenger flights, which were drastically reduced during the pandemic, the capacity of airfare transport decreased (Zimmer-

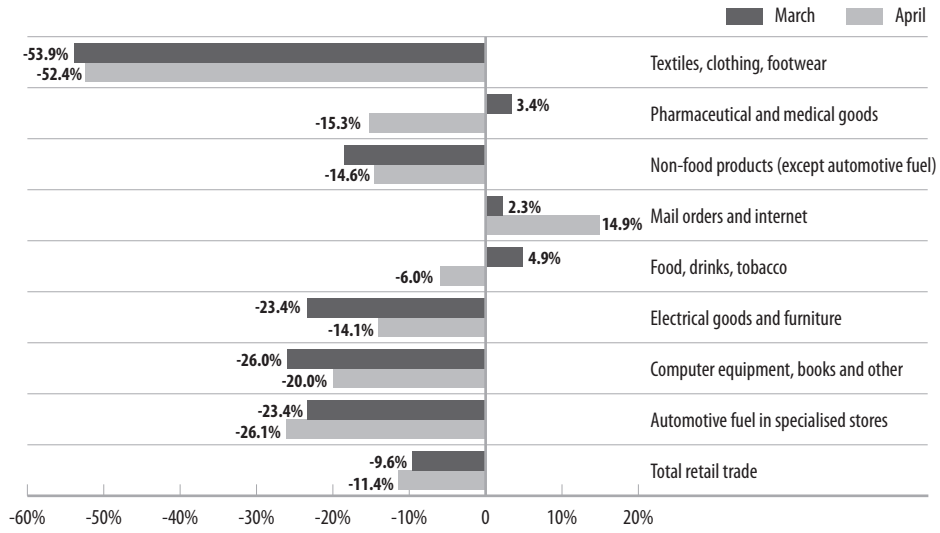
mann, 2020). The delays were common in all modes of transport, often also due to delays at borders, increasing the lead times by 75 percent compared to the pre-crisis levels. The largest delays were present in the sea transport, as crew members experienced restrictions moving off vessels and were potentially obliged to serve a 14-day isolation period, which meant the cargo would have to do that as well (Antonenko and McGarry, 2020). The problems in sea transport were also reported by two of the interviewed companies. The auto-parts manufacturer and high-tech electronic producer stated that due to uncertainty and delays in sea transportation they had to ship parts via air. For them, this resulted in higher logistic costs but they had no other options if they wanted to receive parts needed to fulfil their customers' orders on time. Since contracts with their customers were already signed, they were not able to charge a higher price, which resulted in lower profits.

Soon after experiencing supply shocks, demand shocks followed soon after, particularly in regions where the health pandemic became a fact. As in any crisis with the rise of uncertainty, there was a decline in demand for durable goods, particularly automobile products, as new car registrations fell by 76.3 percent in April 2020 compared to the same month last year (ACEA, 2020). This was also felt by the auto-parts manufacturer who experienced a significant decline in demand in conjunction with the supply shock. The retail sector most impacted by the demand shock was textile, clothing and footwear, which experienced more than 50 percent monthly declines in March and April in the EU27 relative to the previous month (Figure 2). Moreover, the retail volume of non-food products declined by 18.5 percent in March and further 14.6 percent the next month in the EU27 (Figure 2). One of the effects of the lockdowns was quick restructuring of traditional end consumer distribution channels. Since brick-and-mortar stores were either closed or simply viewed as an unnecessary risk, consumers have opted towards internet purchases, which saw an increase of 14.9 percent from March to April (Figure 2). The interviewed retailer has also experienced a decline in demand, particularly from the brick-and-mortar revenue loss. However, it did experience an increased demand in online sales, but not enough to offset the decline in other channels.

The two manufacturing companies we studied experienced opposing demand changes, as the manufacturer of aluminium intermediate products experienced a significant decline in demand whereas mechanical component manufacturers had an increase in demand. This increase was common for the whole pharmaceutical industry, as the demand in the EU27 increased by 4.9 percent in March relative to the previous month (Figure 2). The interviewed pharmaceutical

company has also experienced an increase in the demand for its core products, particularly for pain mitigation.

Figure 2. The volume of retail trade sales growth rates by selected industries in the EU27 in March and April 2020



Source: Eurostat, 2020b

While there was an increase in the production of computer and electric parts in March, the demand for electrical goods and furniture in the EU27 declined by 23.4 percent relative to the previous month (Figure 1). The analysed small high-tech end consumer electronic producer experienced a drastic decline in demand, cutting their customers' orders by half. However, the medium high-tech electronic producer that sells to research and educational institutions, has not experienced a decline in demand, which can be attributed to the binding long-term contracts with their clients.

1.2 Persistent disruptions

The experienced demand shocks can have a significant domino effect on the supply chain, especially if there is a lack of transparency and limited flexibility throughout the chain. A change in the end consumer demand can contribute to a larger swing in the demand within the supply chain because of the speculative exaggeration of demand. This inflated orders further increase the pressure on

the suppliers up the supply chain and create significant backlogs. All this skews the forecasting models, as they are not based on the real end consumer demand. This ultimately results in overproduction and puts pressure on increasing the capacities. Production temporarily often exceeds the end consumer demand, the inventories start to build up, and demand is finally met, inevitably followed by the swing in the opposite direction resulting in underutilization of the increased capacities. This is known as the bullwhip effect (Lee, 2004).

End consumers themselves could witness this effect as the widely known toilet paper rush which happened in the U.S. Despite the fact that the toilet paper is produced locally in the U.S., the retailers could still not get it to the shelves effectively when there was irrational buying behaviour taking place in the marketplace. There was no shortage of staff or capacity restrictions upstream in the supply chain. Because of the global panic and hype, the demand skyrocketed overnight resulting in no stock on the shelves (Wieczner, 2020).

While the immediate effect was obvious to anyone, many were not prepared for the aftermath. The retailers' push to stock the shelves resulted in people overbuying to stock up; sales went up, forecasting models reacted accordingly, and the supply chain went into overdrive. That is when the bullwhip effect swung its whip. The push to meet the demand allowed consumers to stock up on products, which quickly reduced the demand for the product, while supply chains were still increasing their inventory levels. The situation turned around, from understock to overstock (Wieczner, 2020; Reese, 2020).

The interviewed pharmaceutical and retailer companies did not feel the effect of these swings due to their large inventory levels. This allowed them to absorb the initial shock, remain flexible and pivot when needed. The mechanical components manufacturer stated that they had great communication along the supply chain, which they took advantage of and suggested their consumers to buy in bulk at the time when production was fully operational, not knowing if and when the lockdown would occur. Together with the sufficient stock of materials, this allowed them to reduce the speculative ordering and prevent the extreme demand swings in the following months. Although the year-over-year growth of online sales in the end market slowed down in July, we can expect COVID-19 to cause a persistent increase in the share of online sales (Ali, 2020). This has been the trend before as well, so the pandemic has merely accelerated the change.

For some companies, the strategy of "going back to normal" did not turn out to be feasible, despite the fact that the situation has normalized temporarily. On the other hand, the winners of the crisis are companies that captured the opportunities on the market, but they still need to prove they are able to face the challenges of the crisis aftermath. Supply chains will be experiencing oscillations for months to come, as supply shortages and economic perturbations distort true underlying long-term demand. The bullwhip effect and increased uncertainty are likely to be features of the so-called 'new normal'.

2 Short term response

The first step in the short-term response is understanding the state of the whole supply chain and tackling the issues as swiftly as possible. In order to tackle these issues, the companies have to face four challenges: ensuring active communication with suppliers, getting to know inventory levels throughout the supply chain, reorganizing production and distribution capacity, and maintaining financial viability to ensure business continuity (Alicke et al., 2020).

2.1 Communicating with suppliers and customers

Communication is vital, especially in understanding how the orders are fulfilled. The current deliveries should be located and possible manufacturing delays from suppliers examined to have a better understanding of the possible delays, determining a list of critical components that are supplied form high-risk areas and have little or no alternative sources from lower-risk locations. To mitigate these risks a company may onboard a new supplier or collaborate with the existing suppliers. The use of information technology innovations has significantly contributed to transparency as ERP systems simplify the tracking and tracing of resources and as such improve the understanding of the supply chain dynamics. Through better understanding the potential, issues are found faster enabling a quicker and more efficient response (Brun et al., 2020).

The interviewed companies had a good overview of their direct suppliers, which was built through frequent meetings. Still, there are some differences among industries. For instance, the manufacturing companies sourcing essential raw materials have a clear understanding of the initial suppliers in the value chain. This is possible due to a well-established supply chain which is highly concentrated and condensed in a few geographical locations. On the other hand,

a company in the pharmaceutical industry has significant regulatory requirements in sourcing the ingredients resulting in a good understanding of the second-tier suppliers and beyond. The understanding of second-tier suppliers is also present in the auto-parts manufacturer. Although rare, some Slovenian companies have ERP systems integrated with their suppliers allowing for the availability of real-time data. This being said, videoconferencing was still the most used means of communication among all the interviewees.

2.2 Getting to know inventory levels throughout the supply chain

The second challenge is estimating the available inventory along the whole supply chain. This is connected with communication since it also requires information sharing. The current levels of inventories of the companies within the same supply chain influence the lag of the supply shock effects on the end consumer. Awareness of inventory levels also dictates the production of which parts should be prioritized in the recovery period. The shortage-buying behaviour should be accounted for, as the experienced spike in demand for certain items may not be realistically sustained in the medium term (Sillitoe, 2020). The recurrence of the pandemic outbakes significantly affects the demand side and further complicates the decision for the rapid ramp-up of the production pushing focus on the flexibility.

The companies interviewed primarily participated in supply chains that had substantial inventory levels along the chain. In the manufacturing companies, they sourced the raw materials from suppliers with nearby storage facilities. For the aluminium, storage in the Port of Koper was able to absorb any shocks on the supply side which were very minor as sourcing was from Africa. For the other minerals, this was not the case. Particularly, mechanical component manufacturer experienced supply shocks as Chinese suppliers of stainless steel became unreliable during their lockdowns. That prompted them to find suppliers within the EU, which experienced a temporary surge in demand that exceeded their capacity resulting in uncertain deliveries.

The retail company did have a reasonable level of inventories, which were still not enough to ride out the supply shock explained above. The lack of supply depleted existing inventories of certain items and made them unavailable for a certain period. The supply shock was also accompanied by a decline in demand, causing them to support the temporary closures of European factories.

The pharmaceutical company had enough inventories of core products to sustain the demand surge, as there was a large pressure on the availability of the products from the public health standpoint. Although a lot of their suppliers are in Slovenia, the upstream supply chain in Asia presents an important factor in the pharmaceutical supply chain. However, their established dual sourcing strategy enabled them to ensure business continuity. Partially beneficial was also their relative size that enabled them to transfer some of the risks to their suppliers.

The Slovenian company that produces auto parts did not build up the inventory at the beginning of the COVID-19 situation because they believed the virus would not become an issue in Europe. They were wrong and the consequence of this was a shortage of specific parts. Now, after the first wave, they are building up inventory preparing for the second one. Since they cannot be sure if the lockdown will occur again, they are purchasing all the parts they can get so they would not have to stop the production again.

2.3 Reorganizing production and distribution capacity

Furthermore, disruptions can be addressed with adaptations to production and distribution capacity with a focus on employee safety and afterwards on the operational and financial implications the adaptations may bring. To ensure a smooth transition along the chain, logistic capacity needs to be secured as well. Particularly due to time-sensitivity and trade-offs, an appropriate mode of transportation needs to be selected to account for various impediments (Queiroz et al., 2020).

The pandemic prevention protocols introduced in the manufacturing processes did not pose significant issues in the larger companies interviewed, as they were able to obtain hand sanitizers and PPE and the existing partial automation enabled for the social distancing measures to be met. The larger issue in the manufacturing companies posed a lack of workforce to meet the increased demand during the pandemic, especially since the hiring process was difficult due to the unavailability of medical checks. To offset this, the companies had to rely on the overtime as well as the temporary transfer of desk job workers into the production process.

The interviewees have not reported significant negative consequences for their logistical capacity as cargo transportation was possible. However, there was some rerouting necessary, especially towards faster options, such as trains,

as opposed to ships and in a rare occurrence via airfare, which became even more expensive. The auto-parts producer reported that they had received ordered parts via planes, since the ships were not fast enough, which enabled them to produce their final products and meet the deadlines of their final buyers.

2.4 Maintaining financial viability

Moreover, the recovery must be executed with the need and the availability of cash and the net working capital in mind. The management of those two is vital as pressure on liquidity during a crisis is dire. The financial state of the companies determines the possible strategies, as only companies with liquidity can afford a proactive approach to the external shocks, such as securing additional supply and maintaining or building up their inventory levels, whereas those with poor liquidity have rather limited options to react to supply chain shocks and are primarily forced to search for ways of decreasing their costs in the time of the crisis. A better position can be achieved by continuous stress testing of the cash requirements and focusing on freeing up the capital locked in the supply chain. This can be achieved with a better organization of distribution and tracking orders to determine the non-essential supplies (Mogaji, 2020).

Moreover, the changes in all three buffers: inventory, capacity, and time affect the profitability as they all reduce the efficiency of the operations and cause additional costs. The mechanical component manufacturer has increased the inventories to mitigate supply chain risks at the expense of liquidity. The pharmaceutical company has had significant redundancies within the supply chain that greatly improve the resilience but at the cost of the high working capital. As the pandemic impacted the Slovenian companies, they experienced different pressures on profitability. A common measure among the interviewed companies which were in a better financial position was to aid their suppliers by paying prior to the payment deadline.

3 The way forward

Apart from causing disruptions to supply chains around the world, COVID-19 has also been a learning opportunity for the companies and has catalysed change by exposing various risks in supply chains. We share some recommendations for mitigating these risks, as well as explore what trends we can expect in the future.

3.1 End-to-end visibility

End-to-end visibility in the supply chain is one of the ways of limiting the bullwhip effect because it enables all the parties to make more rational decisions (Cai and Luo, 2020). The use of information technology, such as connected ERP systems, simplifies the tracking and tracing of the resources and as such improves the understanding of the supply chain dynamics. Through better understanding any potential, issues are found faster enabling a quicker and more efficient response (Brun et al., 2020).

The interviewed companies either already have established visibility with their immediate supply chain parties in the form of connected ERP systems or are planning to introduce such systems. For those that have already had these systems in place, they have proven their value, although it is worth noting that in the end a lot of problems were being solved by having frequent conference calls with suppliers or buyers. While the awareness of the importance of the whole supply chain acting towards a common goal has increased, the end-to-end visibility remains a long-term goal.

3.2 Near-shoring vs. off-shoring

While intuition may suggest that off-shoring increases exposure to disruptions, COVID-19 has proved otherwise. Globalization goes hand in hand with diversification - a pillar of risk management. The COVID-19 pandemic has hit different places at different times with varying severity. As some were in full lockdown, others were just starting to record first cases, and then when the first-hit countries started to recover, the others were approaching the peak of the curve (Goldberg, 2020). Companies should therefore seek to diversify their supply chains in order to not be dependent on a single region. In this way, a company can ensure the ability to produce regardless of where disruption occurs because it will always have access to a supplier that is not experiencing disruptions.

Based on the conducted interviews we should therefore not expect the trend of offshoring to reverse but to continue with resilience in mind, together with costs. Some notable exceptions here are, for example, the pharmaceutical company facing strict regulations which prevent them from making any changes to the supply chain in the short term; the company manufacturing from aluminium has limited options due to a small number of aluminium mines and production

in the world, and the high-tech company we interviewed cannot procure certain components from other suppliers, due to the specificity of them.

3.3 Balancing lean and resilience

So far, in real-life supply chains the focus has often been on the operational aspects of lean supply, guaranteeing on-time and quality deliveries. However, similar to off-shoring, we should not expect companies to abandon lean supply chains as a result of COVID-19 disruptions since the companies with strong vertical integration or good relationships with their suppliers managed to get through the crisis better. In the future, we can expect a push for more integration and better communication in lean supply chains (Pisch, 2020).

In our interviews, we observed that the companies' plans to approach this challenge are very industry dependent. In the pharmaceutical company, for example, they are required to keep stock to be able to produce certain types of medicine and because of this they do not plan any significant changes. The manufacturer of aluminium intermediate products, on the other hand, has been able to rely on their supplier and also does not plan any drastic changes. The auto-parts producer is planning a transition to consignment warehouses near their customers.

3.4 Adaptable production and logistics

Since predicting every possible disruption on the supply or demand side of the supply chain is impossible, the ability to adapt to a new situation is crucial. Moreover, even real-time data and holistic understanding of a company's sales trends will be useless without the agility within the supplier network to act on what that data is telling them. Some companies have very good data integration but lack the ability to leverage supplier networks during a surge in demand (Wilding et al., 2020). In the future, it will be crucial for companies to be working with multiple suppliers they can rely on to be able to get material even if one of the suppliers is taken out by a disruption. The ability to quickly onboard new suppliers when needed is vital, especially if having multiple suppliers is not possible or if all fail.

The possibility to do this can vary from industry to industry. For the interviewed Slovenian pharmaceutical company onboarding new suppliers is

problematic since there is a large number of regulations that make it harder to change the existing and onboard a new supplier compared to the retailer where there are relatively few regulations. For the auto-parts manufacturer, the obstacle to onboarding new suppliers is car producers mandating which suppliers they can or cannot use. The high-tech electronic equipment producers, on the other hand, are unable to simply switch producers due to the high specificity of some of the components they need.

The preferred option however is to mitigate the risks conjointly, and in order for such collaborations to be successful healthy relationships with suppliers are needed. Supply chain managers should therefore seek to develop relationships that will enable them to trust their suppliers and buyers (Sharma et al., 2020). This was also supported by the experiences of our interviewees, who highlighted the importance of being able to trust their suppliers and support each other through the challenges.

On the demand side, adaptability can mean leveraging multiple distribution channels since a lot of retailer businesses with an online sales channel have experienced an increase in demand. Omnichannel strategies are a clear form of revenue streams that are more shockproof (Rajasekharan, 2020). The studied retailer has also experienced this trend and was able to offset some of the declines in brick-and-mortar sales with online traffic.

Conclusion

While COVID-19 is proving to be quite a challenge for supply chains, both globally as well as in Slovenia, it is also a learning opportunity and a catalyst for some much-needed changes. In the past, the changes in supply chains were mostly focused on cost-cutting and COVID-19 has exposed the risks that were created as a result. While there is no one-size-fits-all solution, all supply chain managers will also have resilience in mind when deciding on the way forward. This includes improving the sharing of information up and down the supply chain, fostering relationships with strategic partners, using technology to better understand and manage the supply chain, and diversifying sourcing as well as distribution.

The companies in Slovenia we have interviewed were better prepared for the disruptions in their supply chains then we initially expected. Still, they have all learned valuable lessons from the crisis and are already planning improvements

in the areas mentioned above. Finally, the common thing in the success stories we have heard was having good relationships with partners in the supply chain, which underlines the main message: Together We Can!

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Matjaž Koman, Anja Hladnik, Karin Javornik, Maj Lenaršič, Aljaž Martinčič

ADRIA MOBIL

Introduction

The financial crisis of 2008 sent a powerful shock through the leisure vehicle sector. Luxuries such as expensive caravans and motorhomes are generally something customers stray away from in times of financial distress. However, such crises do not just cause a temporary drop in demand in the economy, they also often fundamentally change customers' habits and priorities. The current pandemic is making us rethink the value of personal space, pushing many away from going on vacation using mass transit options and/or staying in tourist-packed accommodations. Caravanning may be emerging as one of the better substitutes (Clifford, 2020). As Daniel Onggowinarso, Managing Director of Caravanning Industry Association (CIVD), states: "Caravanning is one of the safest forms of holiday in these times, as you travel individually with a leisure vehicle and only with people from your own household, and are largely self-sufficient thanks to your own sleeping, living, cooking, and sanitary facilities" (Onggowinarso, 2020).

It is vital that Adria Mobil, a Slovenian leisure vehicle manufacturer from Novo Mesto, takes the right steps and uses these very specific circumstances to their advantage. Their recent growth and accomplishments positioned them perfectly to use this crisis as a springboard to truly become one of the biggest European brands in the sector (Adria, 2019). In light of the responses to the COVID-19 pandemic, this chapter presents an analysis of the company and the leisure vehicle sector. The first section includes a look into the industry, general pre-2020 trends, and the COVID-19 impact on the main competitors in the segment. The second part focuses strictly on Adria Mobil, their perspective and response to the current situation, as well as their future outlook.

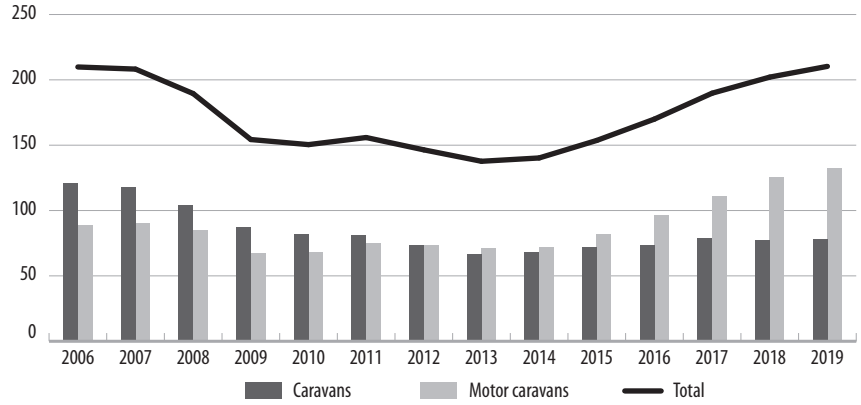
1 Industry overview

Caravanning tourism (commonly referred to as leisure vehicle tourism or, more commonly in the United States, recreational vehicle (RV) tourism) is a subset of self-drive tourism. Camper trailers, van conversions, caravans, or motor caravans allow a more comfortable adventurous experience than, for example, backpacking or camping, while providing the freedom from being bound to one place and strict schedules that usually come with vacationing in hotels and apartments (Hardy and Gretzel, 2011). Other more straightforward factors that define an average caravanning tourist are the expensive nature of buying or renting such a vehicle, a sizeable time investment needed, and the need for comfort when accommodating a group of people, which altogether makes the sector especially attractive to older well-off individuals with families (Hardy and Gretzel, 2011).

1.1 Past industry trends

Looking back into the caravanning industry and comparing the numbers of newly registered leisure vehicles in Europe, we can observe that before 2012 caravans were more popular than motor caravans among Europeans. But the trend has changed since 2008, as is evident from Figure 1. Within the last ten years, the number of new caravan registrations has remained almost unchanged (± 80,000 units), and new motor caravan registrations have almost doubled (from 68,397 to 131,970 units) (Caravaning Industry Association e.V., 2020a).

Figure 1. Newly registered leisure vehicles in Europe 2006-2019, in thousands



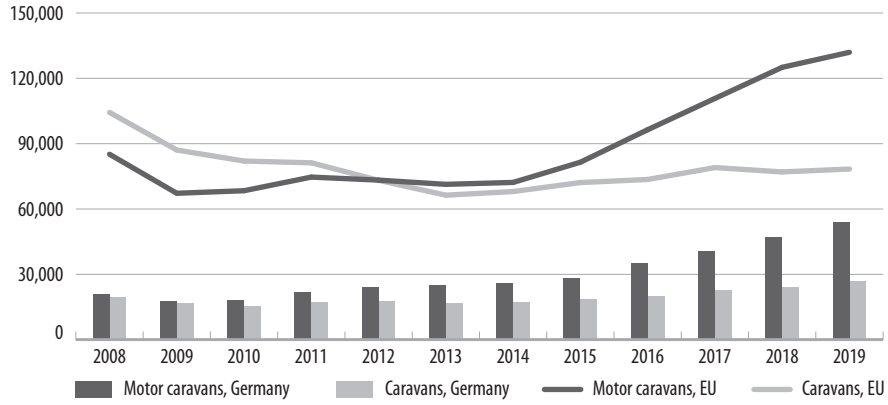
Source: CIVD evaluation of ECF member registrations, reports 2006-2020.

The caravanning industry in Europe hit the peak in 2006, when more than 200,000 new leisure vehicles were registered. Since the caravanning industry is sensitive to economic cycles (Caravaning Industry Association e.V., 2020c), the financial crisis in year 2007 and the later European debt crisis from 2008 on caused an extreme decline of newly registered leisure vehicles in Europe (Caravaning Industry Association e.V., 2018).

After 2014, the industry recovered and experienced a significant growth that persisted until this year, 2020. In 2019, all European markets registered an increase in leisure vehicles sales, with the most robust increases in Germany, Spain, Belgium, and Switzerland.

When looking into the numbers of registered leisure vehicles per country, Germany is the largest market in Europe for both caravans and motor caravans (Caravaning Industry Association e.V., 2020a).

Figure 2. Newly registered leisure vehicles in the European Union (EU) and Germany in 2008-2019



Source: CIVD evaluation of ECF member registrations, 2020.

It is evident from Figure 2 that the numbers of newly registered leisure vehicles in Germany, after the decrease in numbers in 2008 and 2009, were slowly but steadily increasing between 2011 and 2014, while other European countries were still experiencing a decline (Caravaning Industry Association e.V., 2018). From 2014 on the numbers of newly registered leisure vehicles in Germany increased substantially. In 2018, Germany for the first time supplanted the UK as Europe's strongest sales market of new caravans sold, due to the uncertainty surrounding the Brexit and the negative economic impact this situation had.

Today Germany represents over 40 per cent of the market share of newly registered motor caravans in Europe.

The second largest motor caravan market in Europe is France, which is the only European country that experienced stagnation in 2019 (Caravaning Industry Association e.V., 2020a). Despite the Brexit and as opposed to caravans, the UK experienced a slight increase of newly registered motor caravans. Strong gains happened in Spain and Switzerland with a total of 2,000 new registrations in the previous year. Due to new fiscal regulations on emission-based vehicle taxation introduced in 2018, Sweden and Norway faced considerable declines in new registrations of motor caravans (Caravaning Industry Association e.V., 2020a).

There are quite a few European manufacturers of leisure vehicles. The biggest player in the motor caravan segment EU in period 2018/2019 was with a 30 percent market share Trigano Group, which owns more than 20 brands and acquired Slovene manufacturer Adria Mobil in 2017. The second largest market share has Hymer Group with 25 percent, followed by Knaus Tabbert Group with 8 percent. This segment is quite consolidated from the point of view of producer groups, and very fragmented from the point of view of individual brands, especially if compared to the caravan segment. On the other side, the top players in in caravan segment are the Hobby Group with a 25.6 percent market share, the Hymer Group with 15.3 percent, and the Knaus Tabbert Group with a 15.6 percent market share in 2019. The Trigano Group held a 13 percent market share in the European caravan market in 2019 (Caravaning Industry Association e.V., 2020a).

With respect to overall turnover, the Trigano Group and Hymer Group are the largest in the EU with each having annual sales of around 2.2 billion euro in 2018/2019.

1.2 Caravanning in 2020

The record numbers of new registrations in 2019 continued into the start of 2020. The general optimism was quickly shut down by the lockdown in March and April, normally prime time for leisure vehicle sales. The comparison of new registrations in 2019 and 2020 is depicted in Figure 3. Generally, during the time of financial distress, the sales of expensive luxury products are among the first to decline. This can be easily illustrated with the case of Elkhart, a small city in Indiana that produces nearly 90 percent of American leisure vehicles. When the

economy went through the recession in the US from 2007 through 2009, the unemployment rates in the town were among the highest in the country (Briggs, 2020).

An overview of the industry response to the crisis is provided in Table 1. Industry response to COVID-19. The COVID-19 pandemic did not just hurt the demand side, the lockdown also halted the production side, forcing many industry leaders to stop the production for a period entirely. The industry immediately responded with the introduction of new safety and hygiene policies, as well as the splitting of some departments into office presence and home office (Aboutcamp BtoB, 2020c). In addition to these measures, the action programme of the French Trigano also included a reorganisation of production schedules, a focus on the recovery of customer receivables, and a general reduction of the staff costs (Aboutcamp BtoB, 2020a).

Table 1. Industry response to COVID-19

Short-term response	• Temporary cessation of production • Introduction of new safety and hygiene policies • Flexible working time models and splitting some departments into office presence and home office • Reorganisation of production schedules with the focus on recovery of customer receivables and reduction of the staff costs • Postponing introduction of the new 2021 ranges
Long-term response	• Turning leisure vehicles into a substitute for hotels and apartments • Making the business model more sustainable in order to attract a new generation of customers • Focusing more on offering experiences rather than ownership • Focusing on products that are more sustainable, lightweight, and electric

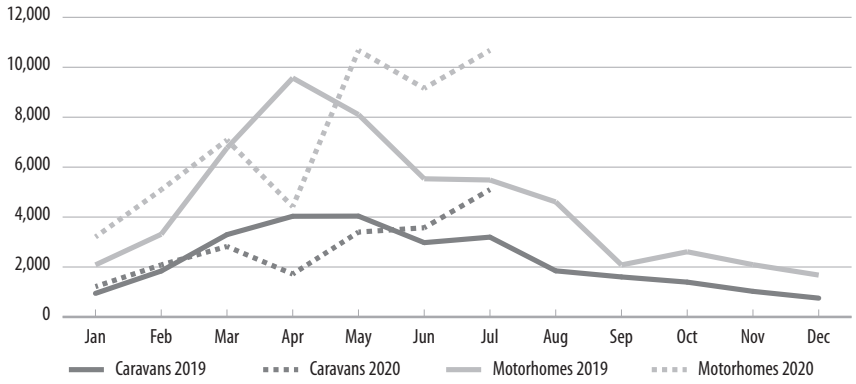
Source: Own research.

Some of the short-term responses, such as remote working possibility and generally new, more flexible schedules, are turning into permanent solutions. It is looking increasingly likely that they are here to stay. The temporary shutdown of the production also forced multiple companies to postpone the introduction of the new 2021 ranges. That may not be all bad news as the crisis is causing a reshuffle. While some customers will be inevitably lost due to the financial distress, a surge in online searches related to leisure vehicles shows new customers will be replacing them. Companies would have to adjust their ranges to reflect that anyway (Aboutcampt BtoB, 2020e).

Country responses might also have a lasting effect on the industry power dynamics in the coming years. Some companies received swift and robust

support from their governments, while others were largely left to fend for themselves. Companies generally believe that governments should be quick to introduce further sustainable measures, such as tax deferrals and the bridging of loans to keep caravan manufacturers agile and alive (Aboutcamp BtoB, 2020b; Aboutcamp BtoB, 2020c). Border crossing policies are also crucial for the caravanning industry. Closing borders cuts off camps and parks from many of their customers and severely limits caravanning tourists from some of the benefits of spending their vacation on the road because it forces them to search for substitute locations domestically.

Figure 3. New registrations of leisure vehicles in Germany in 2020



Source: CIVD analysis of the figures from the Federal Motor Transport Authority in Flensburg, 2020.

The numbers after a little more than half a year in 2020 are reasonably encouraging. While the virus did cause an expected slump in new registrations and production of new vehicles in April, some industry experts are suggesting that this form of tourism may emerge from the crisis more robust than ever, due to enabling social distancing practices not possible in most other types of tourism (Caravaning Industry Association e.V., 2020b; Clifford, 2020). German registration numbers (displayed in Figure 3) show a swift recovery in May, resulting in the record number of new first half-year registrations and a 14.8 percent increase in the last year with the motorhome market share continuing to increase (Caravaning Industry Association e.V., 2020d).

The financial results for the two biggest leisure vehicle producers in EU reveal that for both Trigano Group and Hymler Group in fiscal year 2019/2020 (for Trigano Group fiscal year ends at the end of the August, while for Hymler Group ends at the end of the July) their net revenues decreases between 5-6 percent from previous fiscal year.

2 Adria Mobil

Adria Mobil d.o.o. (hereinafter Adria) is today one of Europe's leading manufacturers of leisure vehicles. Their brand Adria is one of the most popular and preferable brands within the caravanning industry, especially in the European market. Their beginnings date back to 1965, when they introduced their first caravan and sold it in Sweden (Adria, 2019). Today Adria Mobil is part of Trigano, which is a leading manufacturer of motor caravans and perceived as one of the most luxurious brands on the market among customers.

Trigano is a group of companies specialized in the design, manufacture, and sale of leisure vehicles, camping equipment, and related services. The company originated in 1935 as a textile manufacturer and later specialized in distribution of camping and sporting goods (Trigano, 2020). Today they are a publicly traded company, employing more than 8,700 employees under more than twenty different brands (The Wall Street Journal, 2020). Most of their sales (79.5 percent) are represented by motorhomes, with 42,783 vehicles sold across the European region in 2018-2019. Their main export market is Europe with half of the sales made in France and Germany (Market Screener, 2020).

Although in 2017 Adria was acquired, the company continued to act independently and autonomously. Adria has its own marketing, sales network, distribution system, and product development departments. Extensive knowledge and experiences in these departments present the company's biggest competitive advantages. Their own advanced distribution system enables them presence in the whole EU region and a product-oriented development with a strong focus on excellence and design enables them to continuously innovate and retain competitive advantage. Additional value is added through their marketing approach and by in-house development in their manufacturing plant in Novo mesto, resulting in very little overhead.

Today Adria Mobil operates in many markets within three continents – Europe, Asia and Australia (Adria, 2019). On August 31, 2019, the company employed 1,090 employees. The number of employees has increased throughout the last five years, which is consistent with the rise in demand and vehicle registrations in the same period. In the financial year from September 1, 2018 to August 31, 2019, the Adria Mobil company realized net sales revenues at the level of EUR 407 million and volume sales at the level of 15,241 units – 7,543 caravans and 7,698 motor caravans (Table 2, Adria, 2019).

Table 2. Financial performance

	2014	2015	2016	2017	Jan 1, 2018 – Aug 31, 2018	Sep 1, 2018 – Aug 31, 2019
Net sales revenues [EUR]	215,154,588	261,790,389	322,187,803	349,961,000	263,612,000	406,506,000
Net profit [EUR]	9,370,000	11,614,518	27,279,611	28,771,000	46,723,000	35,763,000
Number of employees	559	666	911	972	1,044	1,090
Indebtedness [EUR]	35,656,000	32,649,447	28,417,902	27,268,000	34,104,000	5,894,000
Short-term assets [EUR]	89,164,000	96,700,385	111,361,855	112,870,000	147,056,000	156,015,000
Short-term liabilities [EUR]	42,666,000	47,588,927	56,923,416	80,508,000	111,699,000	87,764,000
Liquidity	2.09	1.94	2.12	1.40	1.32	1.78
EBIDTA [EUR]	15,175,000	14,193,961	31,618,000	37,104,000	32,942,000	40,865,000
Sales of caravans [N]	3,888	4,638	5,534	6,149	5,030	7,543
Sales of vans and motorhomes [N]	4,629	5,399	6,308	6,765	4,814	7,698

Note: Liquidity is defined as the ratio between short-term assets and short-term liabilities, while indebtedness is taken directly from the company's business report.

Source: AJPES, 2020.

Earnings before interest and tax (EBIT) for the same year presented EUR 38 million, while a year before EBIT was EUR 31 million. Liquidity improved significantly in 2019 compared to 2018, with increased assets and a decrease in debt (Adria, 2019).

2.1 When the virus hit

Before the coronavirus crisis, Adria Mobil had a leading role in the segment of recreational vehicles. At the end of year 2019, before the official pandemic, Adria Mobil already detected some cooling down through excess demand, by their estimate, around 5 percent on the industry level. Even though Europe followed the start of the coronavirus crisis in China at the end of 2019, everybody was taken by surprise when it actually reached Italy, followed by the surrounding countries. According to the management, Slovenian companies, including Adria Mobil, were fast to respond, adopting new measures and procedures. These measures included detailed instructions to improve employee safety and correct market approach which was based on the current understanding of short-term changes in the supply chain, inventories, and changes in the work process.

Employee safety measures included measuring body temperature when coming to work, wearing face masks, working in intervals, and general social distancing. Additionally, company limited business trips and visits of external guests, while still maintaining a collaborative and engaging business environment. This proactive approach is the main reason for the excellent epidemiological picture in the company, enabling them to continue working as normal as possible. As mentioned before, Adria is completely autonomous of the Trigano Group and has managed responses to the epidemic crises independently.

Table 3. Adria Mobil response to COVID-19

Short-term response	• Detailed instructions to improve employee safety (measuring body temperature, wearing masks, working in intervals) • Limiting unnecessary business trips and visits of external guests • Daily adjustments of manufacturing and supply plans due to torn supply chains • Producing only previously ordered products and products in demand
Long-term response	• Planned investments in renewal of technological processes and new production lines are not effected • Constant investments in the renewal of product collections and marketing.

Source: Summarized from text.

In the time of the first lockdown, management saw challenges in torn supply chains, mitigation of which required daily adjustments of manufacturing and supply plans. These plans included stocking up in a week or two weeks of inventory per each supplier, which ensured that enough raw material was available at any given time during this period. To prevent the piling of finished products, the company decided to produce only previously ordered products and the ones, for which they assumed that will be absorbed by the market. In the end, the consequences of market and supply chain uncertainties remained present even two to three months after the initial crisis.

2.2 Short-term response

To mitigate the effects of the coronavirus Adria Mobil took advantage of government actions. The Act Determining the Intervention Measures to Mitigate and Remedy the Consequences of the COVID-19 Epidemic focused on the field of labour law. Key measures under the new law were the possibility of ordering part-time work, the possibility of the employers to obtain a state reimbursement (subsidy) for the time when employees were (partially) furloughed (waiting for work from home), and extending the measure of subsidizing those employees for

whom employers could not provide even part-time work for business reasons. The institute of reimbursement of salary compensation to employees temporarily waiting for work allowed reimbursed employers up to 80 percent of salary compensation and all social insurance if this compensation did not exceed the maximum amount for unemployment set out in the Labour Market Regulation Act (Remec and Polak, 2020). As management looks back, they are satisfied with the government actions but are at the same time dissatisfied with the limitations imposed on some of these measures. The condition that prevents employers whose revenues decreases by less than 10 percent in 2020 compared to 2019 from the reimbursement of salary compensation is a good example of these type of constraints. However, if the conditions set by the government are not met when submitting annual reports for 2020, the employer will have to return the received funds. Due to these limitations management decided not to use the institute of government emergency loans, as it was too complex and rigid compared to similar actions offered in western Europe. These limitations impacted only Slovenian companies as they are imposed by the Slovenian government, which gave an unfair advantage to the competitors. Additionally, Slovenian companies would greatly benefit from simpler government actions and laws concerning employees, such as German / Austrian "kurzarbeit", avoiding problems of interpretation, frequent changes, unnecessary costs, and redundant paperwork.

2.3 Long-term consequences and strategic response

Even though the manufacturing plant was closed for two weeks, part of the administration kept working together with the development and marketing departments. Additionally, due to good management decisions and government actions, there were no layoffs needed up until now. These achievements enabled Adria Mobil to keep up with the competition, lowering the impact of current events. To follow all restrictions enforced by the National Institute of Public Health, a work-from-home culture was established where possible. Management sees this as one of the possible permanent options when it comes to work culture, but in a more hybrid version and with better support from the government.

In the field of investments, Adria Mobil had investment cycles in place even before the coronavirus phase started, which they have already completed or are completing at the moment. These cycles include investments in the renewal of technological processes, new production lines, technologies, etc. Along with these, Adria Mobil regularly invests in the renewal of product collections and marketing. In the field of new technologies, management also considered the

option of introducing all-electric motorhome vehicles, but reached the decision that the market is not ready yet, mostly due to the lack of electrification in the van segment, keeping in mind that vans are most often used as a base for motorhomes.

2.4 Future plans

Currently, near the end of the third quarter, management regularly tracks inventories and inquiries at their distributors in order to predict the trends in the upcoming months. They are optimistic about the near future and growth, as recent events forced people to rethink and change the way they spend their free time outdoors, especially in the tourism segment. Now more than ever mobility and privacy of motorhomes is preferred over overcrowded hotels and airplanes. According to the management, many new customers have entered the market in the last two to three months, which should bring comparable numbers of registrations to last year's results. This kind of outcome seemed unreachable only three months ago when the drop in the nine-month period was twenty percent with no optimistic prediction concerning the coronavirus situation.

Adria Mobil management is looking positively into the future as the trend of outdoor-oriented activities seems to be growing, especially with the baby boomer segment which represents a big part of their current customer base. When it comes to long-term predictions, they remain realistic while observing global events, such as the Brexit, and macroeconomic indicators in order to predict consumer confidence and market growth in these uncertain times. Given this year's situation, they are content that Adria Mobil will be able to present their products in caravanning exhibitions in Germany and France, since only 4 out of 14 exhibitions will take place. The company is aware that the digital promotion of products such as 360° walkthrough can only get the customers to some point, but nothing, especially in this industry, can replace the in-place physical shopping experience.

Conclusion

Despite the general optimism that the caravanning industry may continue to rebound faster than other types of tourism, the possibility of the pandemic extending deep into the next year still threatens many manufacturers' well-being. OECD predicts a 60 percent decline in international tourism that could

go up to 80 percent if the crisis is prolonged until December, which is looking exceedingly likely (OECD, 2020). In light of this, industry players seem to be staying pragmatic in their forecasts. The sales growth planned for the year 2020 have been brought down a notch or two. Adria Mobil adjusted their projections in which this year's sales now match the last year's. At the same time, François Feuillet, CEO at Trigano and President of the European Caravan Federation, stated that the 12 percent drop in GDP would not come without its consequences and stressed the importance of primarily providing support to the whole network of the industry in these difficult times (Aboutcampt BtoB, 2020e).

The long-term future will also be prominently impacted by new priorities in the next generations of consumers. The rise of remote work and technology development may result in enabling customers to look at motorhomes and caravans as permanent living solutions, and the focus on sustainability might make the vehicles more lightweight and electric. The trend of fully electric options can already be seen on the market, however, there are still many challenges of going fully electric, especially in terms of range and autonomy. Management has already considered the electric alternative to the existing solutions in the caravan segment but decided against it because the technology is still not good enough. Business models of the major players are potentially focusing more on offering experiences rather than ownership (Barber, 2019).

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Tomaž Čater, Nina Mušič, Ula Pucelj, Nina Strmljan

LOTRIČ METROLOGY

Introduction

LOTRIČ Metrology represents top Slovene and foreign producers of measurement for pharmaceutical and laboratory equipment and, at the same time, the driving force of progress in the field of metrology. They have been performing calibrations and developing state-of-the-art and technologically advanced solutions for almost three decades. Their mission is to spread the culture of excellence through accurate measurement and professional testing.

The company is well aware of their responsibilities, they strive to offer high-technological services, therefore, they emphasize the importance of hihgly qualified workforce and their recruitment processes. As a result, they are able to take care of metrological measurement accuracy even in the current epidemic. The purpose of this chapter is to discuss the company's primary response to the COVID-19 crisis, their guide for survival and building resilience. The company's initial perception of the crisis is addressed first, followed by their short-term adjustments to better cope with the crisis. We also discuss the company's perception of the government's anti-COVID-19 legislation packages and then conclude the article with the company's long-term response and impact on their sustainability strategy.

The information was gathered on the basis of in-depth interviews with the company's management team members: CEO, Director of development, Technical director, CFO, and Director of sales and marketing. Information on the company's sustainability orientation in times of the COVID-19 crisis was additionally collected with a short questionnaire in the last chapter, focusing on the long-term consequences and the strategic response.

1 About LOTRIČ Metrology

LOTRIČ Metrology is a large Slovenian family-owned company, originating from Selca in the Gorenjska region. It has been growing and developing ever since its founder and CEO began his career by establishing a business for calibrating scales, weights, and pipettes. Their main field of operations is developing highly perfected, yet easy to use metrology products and services. To name a few, they offer calibrations of weighing instruments, barometers, manometers, and more, for which they issue certificates. The LOTRIČ Metrology certificates are issued within one workday after the completed measurements, they are available at all times through their web application MeoL, and guarantee traceability to national or international etalons. The company as well offers different testing procedures in industries such as the plastic and rubber industry, the metal industry, and the automotive industry. Besides the services, they also produce their own products, such as EXACTUM smart sensor hub, a measuring system for automatic control and automation. This product can be used across multiple fields, such as medicine, agronomy, laboratories, museums, and warehousing.

Table 1. Assets, profit, liquidity in LOTRIČ Metrology in the period of 2016-2019, in €

Element	2016	2017	2018	2019
Assets (€)	3,677,636	4,211,369	5,023,152	5,862,156
Profit (€)	373,389	300,754	380,726	402,737
Liquidity	1.25	1.61	1.77	3.12
Indebtness	0.40	0.38	0.36	0.34
Revenues (€)	3,254,214	3,185,919	4,262,924	4,496,109
Number of employees	50	52	66	81

Note: Liquidity is defined as the ratio between current assets and current liabilities, while indebtedness is the ratio between sum of short and long-term liabilities and assets.

Source: LOTRIČ Metrology, 2020b.

The company's target segments include metrology laboratories, medicine, pharmacy, and mobility. Since they offer so many services, they strive to cover 95 percent of their clients' metrology needs. Their competition is mostly accredited laboratories, such as Metrel d.d., ELPRO Lepenik & Co. d.o.o., and SIQ (Slovenski Inštitut za kakovost in meroslovje), to name a few.

LOTRIČ Metrology altogether employs over 170 people and has subsidiaries operating in Austria, Germany, Croatia, Bosnia and Herzegovina, Serbia, and Macedonia (LOTRIČ Metrology, 2020a). The countries where the company is

physically present are their core markets. Alongside those, they also have partners from several different countries, e.g., Italy.

Overall, the company's financials have been stable for the past few years. Table 1 presents the overall financial performance of the company. To additionally evaluate LOTRIČ Metrology's position before the COVID-19 crisis, we observe the liquidity of the company, which had a constant growth throughout the years before the epidemic.

2 LOTRIČ Metrology and COVID-19

LOTRIČ Metrology has been successfully fighting the virus and its consequences the whole time. In the beginning, they needed some time to adapt their current business processes to changes, but they did it very well. This section consists of the company's initial perception of COVID-19 and its impact on the financial performance.

2.1 When the virus hit

The outbreak of COVID-19 has disrupted the economy on global levels, and its impact is immense. According to the CEO, the initial perception of the crisis was similar to a war situation. It felt like it was happening from a large distance, and everybody was monitoring it through the media, and then suddenly, it started to approach very fast. Their perception of the whole situation has changed considerably since it first hit the company in February compared to July when they were already actively responding to changes. The director of sales and marketing noted they were partially ready for such a situation since they operate under the business excellence model (EFQM), which helped the company by pre-defining external and internal influences; thus, the model gave them some guidelines on how to react to the situation more straightforwardly.

Nevertheless, the reorganization of working processes, establishing contact with clients, and upgrading client relationships was crucial at the time. Fortunately, LOTRIČ Metrology had been investing a lot of resources into digitizing their products and introducing digitally more advanced processes to their workers for several years already, which was, in such a situation, very convenient. The company used 14 percent of their revenues for investments in 2019 and expects the proportion to stay similar in 2020. Investing in both tangible and intangible

resources during such times has proven to be very efficacious. In January, February, and March 2020, the company was still experiencing prosperous months. Only after that, they started to notice how everything is gradually closing.

2.2 The effect of COVID-19 on the financial performance

For a more in-depth look into what was happening during the crisis, we observe the company's income statements (Table 2). There is a large change visible in April 2020. The revenues in April amounted to 51.7 percent of those in March, and company's income statements show satisfactory outcomes considering that many other companies were desperately fighting for survival.

Table 2. Revenues in LOTRIČ Metrology in the period of Jan-May 2020 compared to Jan-May 2019 in €

Year	January	February	March	April	May	January-May
2020	343,343	393,098	457,976	236,649	498,643	1,929,709
2019	283,068	377,526	454,957	364,864	399,485	1,879,900

Source: LOTRIČ Metrology, 2020b.

3 The company's short-term response

The virus burdened the company in three separate areas; restrictions, supply, and demand, yet the impact of the virus was not as bold as it was in some other companies. Table 3 summarizes the key impacts on the company and the responses taken. Throughout the subchapters those impacts and responses are described in depth through the eyes of the board of the directors along with the measures offered by the government.

Table 3. Key impacts of COVID-19 on LOTRIČ Metrology

Key impacts	Response
Work process restrictions	Limited number of employees in company and reorganization of processes, several departments work remotely
Inability to fully provide services	In constant touch with clients to offer them latest updates through digital newsletters
Decrease of demand	New projects (laboratory for testing quality of masks, medical respirators)
Supply restrictions	Search for local suppliers

Source: Own research.

3.1. Immediate response

The main obstacle for the company was indeed the interconnectedness of negative supply and demand impacts. Moreover, several restrictions that were imposed by governments disabled the company to operate effectively. The workers had to adapt and work under different circumstances compared to their past procedures. Observing the supply side, the company experienced problems as there were restrictions concerning deliveries from abroad, and it postponed some of their work. On the demand side, there was no noticeable loss of consumer confidence, but fear was visible. Mostly fear from individuals, since at that time, there were still no regulations for companies to obey. All of the demand was handled according to the new procedures, whereas some of the work (calibration) had to be withheld as entry restrictions were in force at the time. Few of the orders were canceled and many were prolonged. The estimate for the decrease in general demand is approximately ten percent of the expected. The company kept its relationship with clients very active by providing newsletters regularly. They offered newsletters along with useful information about the new regulations related to COVID-19.

The breakeven point occurred on Monday, March 16th 2020, when work from home was introduced for employees working in procurement, accounting, finance, marketing, and development, bringing substantial changes to the company's operations. Prior to the lockdown, the processes were running according to the plan. In April 2020, the company experienced 20 percent decrease in turnover if compared with april 2019. Due to working from home and developing new services and products, they kept in touch with customers and thus ensured growth in the coming months. Every day middle and top management would meet in the morning and at 1 pm for an online meeting to coordinate market and client demands. Some employees were put on hold at the end of April, which was one of the benefits companies could use as part of governmental help. They were put on hold because they were not able to do their fieldwork. However, in May, no employees were on hold anymore, since the situation got better. All of the working processes, sales channels, and contacts with clients were adapted in two weeks taking into account new safety measures and procedures. The laboratory and fieldwork were done according to the demand at the time. All available employees were redirected to development projects, so only few employees had no work at all. Between March and June, when Slovenia was in the so-called partial lockdown, LOTRIČ Metrology made employees and business partners a priority. As they also provide their services to several health institutions, their work had to be undisturbed during the lockdown. For

those employees who stayed in offices and on the field, all the required health measures were taken. The company was recruiting new employees at the beginning of March, but this process also involves medical examination, which is obligatory before every employment. Since these examinations were almost impossible to do at that time, they experienced a hire freeze until June.

As mentioned before, one of the company's target industries is the automotive industry, which represents almost 20 percent of their business. It was the most exposed business area during the outbreak, and subsequently to the virus entering the country, the automotive unit worked only at about 30 percent of its usual capacity. In contrast to the reduced workload in the automotive unit, the development department was as busy as ever. LOTRIČ Metrology began developing a medical respirator, and employees spent day and night perfecting the product. The purpose of the project was to create a Slovenian medical respirator, with the help of interdisciplinary teams from different Slovenian companies. For a while, crossing the borders was not allowed, which slowed down the working process as the company could not transfer equipment to complete the jobs abroad. Nevertheless, LOTRIČ Metrology put the safety of their employees first, and only if a task was safe to conduct, they would do it. The company is not entirely dependent on their suppliers, yet delays in delivery of materials and unsatisfied customers can present a problem. A further example would be sending materials abroad and not being physically able to go there and install them. Those kinds of problems are most visible through money flows; nonetheless, the worst feeling for the company is to have an unsatisfied client. In such a business, networks are of crucial importance.

The virus called for extreme circumstances as the company decided to develop a laboratory to test if masks and other medical equipment meet all the required standards and they did not have countless options when choosing the suppliers. In those circumstances it is an advantage for protective equipment manufacturers to have testing facilities (laboratories) available in their own country.

One of the most significant changes the COVID-19 crisis brought out is digitalization and how it affects business processes all around the world. Many companies began the digitization processes a long time before this crisis, but this year's situation accelerated modern technologies such as Zoom, Microsoft Teams, and other platforms that enabled workers to do their work from home effectively (Nicastro, 2020). In LOTRIČ Metrology, digitalization started a few years ago. First, they started using Office 365 on a regular basis, and later they bought more robust servers, which enabled employees to use Microsoft Teams without

complication. They focused on the digitalization of the processes and products by upgrading the products and equipment by using technology such as the internet of things, advanced and integrated sensors, and new methods of connecting information, thus providing the customer with more flexibility, faster solutions, and greater accessibility. Aforesaid shift allows higher production efficiency and higher degree of personalization in products. Including digitalization in the latest corporate strategy definitely helped with preparations for the crisis. Furthermore, working in line with the EFQM model enabled them to put goals from theory to action very quickly. As believed by the CEO: "It is important that companies stay in a good financial position in order to keep the crucial employees on board to compete and be prepared for future challenges. Constant communication with employees is essential, and so is communication with buyers abroad. They need to be aware of our situation and our strategy. I think that strong and agile companies like ours have no reason to be concerned, but that does not mean we do not have to be conscious and observant of what is happening."

3.2 Importance of policy measures

The Slovenian government issued an economic relief package to fight the COVID-19 crisis, which included coverage of employees' sick leave, exemption from social contributions for companies, deferment of payment of liabilities for 12 months, and other measures (GOV.SI, 2020). The company used the following measures: prevent laying-off employees by putting them on hold, moratorium on bank payments, VAT deferral, and payment of crisis bonuses to employees. Since their direct competition is also foreign companies, they compared government help to the one received in Germany and Austria. According to the company representatives, several measures abroad were much more generous and helpful. As shown in Table 1, their revenues were even higher than they were in previous years, but since the company's investments were so high the previous year, a higher growth was expected. Of course, there were also some measures that relieved them, such as the country paying all the health insurance contributions for employees in case of sick leave.

Nevertheless, they saw a lot of room for improvement in the economic relief package, suggesting it should be more like the one in Germany and Austria. For example, shorter working time that enables flexible working hours from 0 to 40 hours per week, in contrast to the Slovenian model, which is only flexible from 20 to 40 hours per week, which means employees cannot work in week shifts. Since those two countries invested more money into companies and

their economy, the CEO is afraid that this will strengthen their competitors, while Slovenian companies might become financially weaker and, therefore, potential acquisition targets after the global situation stabilizes again. Overall, the company is very positive when talking about governmental measurements.

4 The company's long-term response

As COVID-19 came into our lives at the beginning of the year, a new future was invented. The global pandemic is changing communities all over the world, causing people and businesses to rethink their way of existence. Human adaptability, bravery and creativity made us all better and more resilient for all the future challenges we might need to battle (Machin, 2020). Table 4 outlines the essential key impact and company's distant future response to the overall situation. The last section of this chapter aims to capture the company's long-term strategies regarding their future work as well as their approach to sustainability in the following years.

Table 4. Long-term impacts of COVID-19 on LOTRIČ Metrology

Key impact	Response
Delays in supply	Finding more Slovene suppliers
Remote work	Digitalization included in the strategic plan
Possible improvements in work processes	Automatization as part of a five-year strategic plan
New business opportunities because of the demand for health-related products	Investments for new projects

Source: Own research.

4.1. Strategic response

The company showed how fast and easy they can respond to a given situation. With the new department of controlling the face masks' quality and adequacy, they exhibited how agile and ready they are to help. This situation was a real example of how important it is to connect with others. Becoming more open to collaborations with other companies during this time had great results. In their own words: "This crisis has shown us that cooperation is the right direction." They have a strong development team, which develops high-quality measuring equipment. Offering their clients good traceability and high-quality measurements, enables them to become the support pillar on which their clients can rely.

An important aspect of the long-term consequences of the crisis is investments which have changed drastically in most companies in the last months as companies did not know what would follow and how much money would be left to invest. Retrenchment is a usual strategic response to a crisis like COVID-19. It refers to reductions in costs, assets, products, product lines, and overheads. Such measures potentially narrow the scope of a firm's business activities. Although retrenchment is a necessary response to the crisis in the short run, the long-term viability of this response is far from uncontested (Wenzel et al., 2020). Contrary to that, LOTRIČ Metrology even initiated some new projects that needed investments, which is crucial for future development. One of those projects is a laboratory to test compliance of masks produced. Not only did they invest, but they were able to finance the project partly from their assets, which is uncommon in these uncertain times.

4.2. Sustainability for future resilience

The following subchapter aims to outline how the company managed not to overlook their rapport towards the environment and essential social elements, despite the COVID-19 crisis. Although it brought many challenges, their attitude towards the environment and society remains on a high level.

The five-year strategic plan has four dimensions: technological, ecological, social, and economic. With regard to the technological dimension, their goal is to introduce analytical processes in support of the sales program – developing new applications for the services they offer. This was shown to be necessary now more than ever. The ecological dimension includes the introduction of paperless business. In addition to a lower consumption of paper and therefore less waste, it also enables shorter waiting periods from making an order to execution. The company also wishes to come closer to their customers regarding the location, in order to lower their Carbon footprint, as well as shorten their response time, which would improve the customer experience. The social dimension of the company's strategy focuses primarily on their employees. Now more than ever, the company realizes how important it is to have healthy employees, not only in terms of preventing the COVID-19 infection but also in terms of the overall happiness and health of the employees, as this also leads to more profit in the end.

As mentioned in the introduction, we conducted a survey[1] to better understand LOTRIČ Metrology's attitude towards the ecological and social pillars of sustainability in times of the COVID-19 crisis. They reported their practices on several dimensions associated with the above mentioned pillars of sustainability on a 1-7 Likert-type scale (where 1 means that the company does not follow the procedure/standard at all, and 7 means the company fully follows the procedure/standard). Each dimension was observed with up to four questionnaire items, which enabled us to calculate the means on each dimension (see Table 5). The results present the company's stance in July 2020, when they had already been impacted by the virus. The main field of exploration is observing the company's reaction; did they prioritize things important for their survival or remain focused on their long-term goals?

Table 5. Environmental and social dimensions as part of the LOTRIČ Metrology's strategy

Environmental pillar		Social pillar	
Dimension	**Score**	**Dimension**	**Score**
Strategy, Structure	7.0	Culture, Equality, Investment in employee education, Health and safety at workplace, Adequate/fair compensation, Managing diversity, Ethical conduct, Privacy and data protection, Corporate governance (I)	7.0
Ecosystem services	6.3	Job creation, Public health and well-being, Local/regional development, Supporting sport and culture, Philanthropy, Fair business practices (E)	7.0
Waste management	6.0	Anticorruption (I)	6.0
Green processes	5.8	Honest product reporting (E)	5.8
Culture	5.7	Work environment (I)	5.5
Emissions	5.5	Strategy (I)	5.3
Non-renewable resources	5.0	Structure (I)	5.0
Renewable resources	4.3	Human rights protection (E)	4.5

I = internal dimension; E = external dimension.

Source: Own research.

Within the ecological pillar, the company reported a high score on green processes, waste management, and emissions. The lowest but still above average score was reported on using renewable resources, which means there is some room for improvement in areas such as decreasing the usage of energy

1 Survey was conducted by the authors of this paper and questionnaire was answered by the employees of several departments at Lotrič Metrology.

and hazardous materials, and advocating sustainable materials in as many business processes as possible. The social pillar of sustainability is primarily divided into internal and external social issues based on whether they primarily affect internal or external stakeholders. Overall, the company is well aware of sustainability and scores high in the majority of the environmental and social dimensions of sustainability even during the COVID-19 crisis.

Conclusion

Although the long-term survival is the goal of every company, family firms especially are more likely to sacrifice short-term performance and shareholder value for long-term survival and thus may also utilize specific measures in their response to a crisis. Furthermore, family firms usually behave more responsibly toward their employees, as well as the environment, and closely align decisions with the values and non-economic goals of the firm. Due to their particular ownership structures, family firms can make rapid decisions and can respond to changes quickly and non-bureaucratically (Kraus et al., 2020). Almost all of these characteristics can also be seen in the responses from LOTRIČ Metrology to the COVID-19 crisis. Their response was rapid and they began to incorporate new projects into their agenda fairly quickly. During the process of focusing on new projects and adapting to changes, they made sure their employees' health was in the first place. After all, the COVID-19 crisis did impact the company's business, but not necessarily in a bad way. Clearly, they did not generate as much revenue as expected, but they learned a much more valuable lesson. Flexibility, adaptation, investments in digitalization and knowledge are their best safety nets.

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Barbara Čater, Vesna Žabkar, Julija Barbič, Tea Bela Kočar, Jana Franziska Fireoved

THE COVID-19 IMPACT ON E-COMMERCE AND CONSUMER TRENDS

Introduction

The COVID-19 pandemic changed economies and consumption worldwide. Unemployment increased, leaving consumers distressed. As priorities shift, consumers focus on wellbeing and necessities (Boumphrey, 2020). Increased demand for medical supplies and the phenomenon of hoarding, i.e. stocking up on essentials, such as toilet paper, pasta, and canned food, reflected the unease among consumers at the beginning of the epidemic (Nielsen, 2020; Sheth, 2020). The consequences of COVID-19 in terms of long-term consumer behavior shifts are not yet certain. Possible ramifications include online shopping replacing buying in physical stores, virtual reality replacing ordinary travel, an increase in work from home, higher emphasis on outdoor activities, as well as spirituality and wellbeing in general (Zwanka and Buff, 2020).

Priorities are not the only shift in consumer behavior. Consumption changed in several ways, including quantities and frequencies, product categories, and the method of purchasing. Searches for "buy online" increased from 15,000 per month at the beginning of 2020 to 27,000 in March 2020 (Influencer Marketing Hub, 2020). Against this background, an analysis of developments in online consumption in Slovenia was conducted.

The purpose of this chapter is to provide an overview of COVID-19-influenced consumer trends and online shopping on a global scale, in addition to focusing on consumer sentiments and purchasing behavior changes that occurred in Slovenia. The chapter begins with data on general consumer trends, followed by an overview of online shopping trends. The research on Slovenian

consumers is composed of an analysis of the most important changes in consumer behavior and expectations for the future, which are based on consumer segmentation. The results are compared to a similar survey carried out in 2018 (Čater et al., 2018; Pahor et al., 2018). The conclusion contains the main findings, limitations, and recommendations.

1 Consumer trends during/after COVID-19 worldwide and in Slovenia

The effects of COVID-19 in terms of consumption are manifold. General trends worldwide and in Slovenia include consumer pessimism, purchases restricted to necessities, and consequences of consumers staying at home, while with regards to e-commerce, an increase in online shopping and media consumption can be observed (Mander et al., 2020; O'Connell, 2020).

Generally, *consumer optimism and intent on spending* correlate (Jones, 2020). In June 2020, consumers globally feared a change in routine for several months, which is reflected in consumer pessimism. Income in countries such as Brazil, South Africa, and India decreased for up to 70 percent of the population. In some countries, however, notably in Japan and Germany, merely 30 percent of the population was faced by COVID-19-related cutbacks. In Germany, the US, and France, consumers were more optimistic, expecting their financial situation to return to pre-crisis standards within four months. Chinese consumers were especially confident with regards to future developments (Bhargava et al., 2020; Mander et al., 2020). In March 2020, Slovenian consumers were more pessimistic (Table 1).

Table 1. Pessimism in Slovenia, March 2020

	Percentage of respondents
Discontent with the epidemic-related restrictions and their impact on everyday life	42%
Fear of negative consequences for the Slovenian economy	54%
Concern about job loss	17%

Sources: Mediana, 2020; Valicon, 2020.

More recently, in June 2020, in response to the loosening of restrictions, 45 percent planned on decreasing their spending due to their worsened financial situation, as opposed to 53 percent in March 2020 (Valicon, 2020). Since the nadir in April, consumer trust has been increasing continually, despite being 16 percentage points lower than in recent years (Jevnikar, 2020).

During the lockdown, purchases worldwide were mostly limited to essential goods, as consumers postponed the purchase of luxury goods and discretionary products (except for China) (Sheth, 2020). This holds true for Slovenia as well. Here, in May, a third of the population intended to postpone major purchases in 2020. In the real estate sector, 50 percent of customers decided to postpone buying their own home in 2020, while 40 percent opted against buying a car or taking out a loan (Aragon, 2020). Experts predict a worldwide household spending decline of 5.6 percent for 2020 (Angus et al., 2020). In May 2020, real revenue in Slovenian retail was 10.6 percent below the revenue in May 2019, despite May seeing the first increase after three months of constant decline (Lavrič and Škrinjar, 2020). In comparison to industrial production, retail saw a lesser decline indicating low elasticity. Globally, priorities during the pandemic are groceries, hygiene products, home equipment, and mental wellbeing in general. Slovenia follows this trend, 84 percent of the people stocking up on essential foods, including pasta, rice, flour, oil, and sugar in March 2020 (Mediana, 2020).

In May 2020, fear of infection led consumers globally to *stay at home* and pay attention to hygiene even after restrictions were lifted (Angus et al., 2020). In April 2020, only 19 percent of people in Slovenia took no extra precautions to protect their health (Ipsos, 2020). Few consumers considered visiting shopping malls in June (Bhargava et al., 2020). During the peak in April, consumers were especially cautious in Italy, Brazil, and Belgium, while consumers in Poland, Australia, and New Zealand wished to return to physical stores (Mander et al., 2020). Resulting from fear and government restrictions (especially in Italy, India, South Korea, and China), in May, consumers shunned physical stores or spent limited time at brick-and-mortar locations. Delivery and click-and-collect services increased (Angus et al., 2020). In Slovenia, in May 2020, 78 percent reported a change in shopping routines, 40 percent buying less often and stocking up on goods (Aragon, 2020). Even so, shopping routines are expected to return to usual after the epidemic (Ipsos, 2020). Trends pertaining to more frequent use of *digital solutions* are expected to persist. Contactless payment will see an increase globally and in Slovenia, where 74 percent of the population made use of online banking during the epidemic, as compared to 49 percent in October 2019 (Zupan, 2019). Half of them evaluated their experience as satisfactory (Aragon, 2020). Daily credit card payments at the end of May 2020 amounted to 474,000, reflecting a value of 17 million euros. The retailer Lidl noted an increase in contactless payments in Slovenia by 15 percent between March and May 2020 (Grgič, 2020).

Media consumption worldwide increased significantly. The usage rate of technical devices, such as smartphones, computers, and televisions, showed

to be dependent on the consumer generation as well as the location. In April 2020, time spent on smartphones across generations rose by 70 percent, the exception being Generation Z with 85 percent. While Generation Z and Millennials are considered equally tech-savvy, suggesting high business potential for these customers, higher purchasing power makes Millennials the better target for high-priced entertainment. Media consumption increased by 80 percent in urban areas measured in the amount of time spent, while rural areas saw an increase of 50 percent. Besides the traditional use of technical devices and a higher demand for films, especially among Generation Z and Millennials, the epidemic opened the door for new technologies, amongst which communication channels, such as Zoom, online education offers, telehealth, and other services, connected to information sharing on social media (Mander et al., 2020; Sheth, 2020). In June 2020, online alternatives to physical activities were more readily accepted than services dependent on quality communication, e.g. related to mental health. Significant differences in media consumption can be found across countries, as services are dependent on quality infrastructure. A stronger trend could be observed in the US, India, and Japan, while Latin America and Europe are lagging behind (Bhargava et al., 2020; Sheth, 2020; Jones, 2020; Wright and Blackburn, 2020). Nevertheless, in March 2020, social media activity in Slovenia increased by 72 percent, consumption of films and television series went up by 50 percent and 39 percent, respectively (Mediana, 2020).

This section showed that with regards to general consumer trends, optimism varied between countries, Slovenian consumers being less optimistic. Consumer priorities worldwide, as well as in Slovenia, were essential goods such as food, while luxury purchases were postponed. The fear of infection as well as government restrictions led consumers to stay at home and make use of digital solutions. Media consumption rose more in parts of the world with a high-quality infrastructure. In Slovenia this trend was clearly noticeable as well. Against this general background, the next section will focus on more specific trends in online shopping.

2 Online shopping worldwide and in Slovenia

According to a survey conducted in 17 countries[1] at the beginning of April 2020, 50 percent of the countries experienced an increase in online shopping. In other countries, one fifth of consumers reported the same rate of purchase,

1 Australia, Brazil, Canada, China, France, Germany, India, Ireland, Italy, Japan, New Zealand, Philippines, Singapore, South Africa, Spain, United Kingdom, United States of America.

one fifth a lower rate, and 15 percent reported no online purchases. The highest increase in online shopping was seen in China, with two thirds of consumers increasing their purchases (Mander et al., 2020). eMarketer predicts retail e-commerce sales to decelerate to a 16.5 percent growth rate in 2020, in comparison to 20.2 percent in 2019, due to substantial deceleration in India and China. Most other countries will observe high growth; forecasts for the Philippines, Malaysia, and Spain predict more than 20 percent growth in retail e-commerce sales in 2020 (Cramer-Flood, 2020).

On a global scale, in April, online shopping increased for Generation Z and Millennials, while 41 percent of Boomers reported no change in online consumption. Across all online categories, Millennials' consumption exceeded other generations. Consumers with high income purchased online more than pre-COVID-19; low-income consumers did not engage in online shopping. Consumer habits remained largely the same, with the exception of a higher demand for cosmetics for women and alcohol for men (Mander et al., 2020; O'Connell, 2020). In Slovenia, in 2019, 56 percent of consumers aged 16 to 74 bought at least one item online. In the age group of 16 to 34, over 75 percent are online shoppers. The share of online shoppers steadily decreases by age groups, reaching a minimum with the group aged 65 to 74, of which 18 percent are online shoppers (Bajželj and Zupan, 2020).

Most bought product categories include *foods, household appliances, and hygiene products.* Consumers who reported a decline in online shopping were most likely to reduce purchasing for fashion items, especially among Generation Z consumers, although generally, there was an increase in fashion sales to Generation Z and Millennials (25 percent) and Boomers (6 percent). According to a survey carried out during the March lockdown, most frequent online searches included travel, electronics, and home appliances (Evans, 2020). In Slovenia, in 2019, most frequently bought products were clothing, sports equipment, shoes, electronic devices, home appliances, touristic arrangements, and transport (Bajželj and Zupan, 2020). In March 2020, most frequently purchased categories were still clothes and shoes (29 percent), followed by food (19 percent) (Argon, 2020). In March 2020, seven percent of Slovenians additionally purchased dietary supplements and six percent bought protective equipment (masks, gloves, disinfectants) (Mediana, 2020).

Globally, consumer behavior during the epidemic in April was found to be dependent on *pre-epidemic habits.* Online shoppers are likely to purchase more over the internet, while offline shoppers are unlikely to engage in online shop-

ping (Mander et al., 2020; O'Connell, 2020). A possible explanation is that for consumers who have never purchased online before the psychological hurdle is higher. Offline consumers may feel overwhelmed by the wide product range and the technical process of buying. Consumers who have already engaged in online shopping, even if only to a low extent, may be less likely to experience such a fear of the unknown. As a result, increasing online shopping may be easier. In those cases where consumers did decide to start purchasing online, the most popular product categories were clothing, restaurant delivery, healthy products, books, and hygiene products (Statista, 2020). During the lockdown, 65 percent of consumers did shopping in physical stores, 31 percent preferred to use their mobile phones for purchases (Evans, 2020). In Slovenia, on average, there was an increase in online consumers from 2018 to 2019 by four percent. During the last quartile of 2019, 51.5 percent of e-commerce users purchased once or twice, 33.4 percent three to five times (Statistical Office of the Republic of Slovenia, 2020b). During the epidemic, in spite of limited supply, eight percent of the population made use of online grocery shopping in April 2020, 20 percent of them buying online for the first time. Almost half of the Slovenian consumers bought online more frequently. During the quarantine, 69 percent of Slovenians purchased online as compared to 36 percent before the lockdown (Aragon, 2020). Table 2 shows that more than half of Slovenian online shoppers found their experience to be highly satisfactory, while offline consumers were not as satisfied.

Table 2. Analysis of consumer sentiments in Slovenia during the quarantine in April 2020

	Percentage of respondents
Very satisfied with online shopping	53
Very satisfied with offline retailers	35
Will continue to purchase on the internet	20
Will increase purchase online	13

Source: Aragon, 2020.

3 Research on consumer trends and online shopping

In order to analyse online consumer behavior in times of COVID-19 (March through August 2020) in Slovenia, an online survey was carried out. The survey was aimed at 15 to 65-year-old residents in Slovenia who have internet access. Younger respondents could not be included as this would have required prior

approval by their parents. Older respondents are difficult to reach via the internet. From July 21st until August 9th, 2020, a total of 437 responses to the questionnaire were received. For the purpose of further analysis, we have decided to use only valid samples, meaning respondents answered at least one question in the survey. Our final voluntary response sample is based on 165 survey responses. Further insights are obtained by comparing results to a study on online shopping in Slovenia conducted in 2018 (Pahor et al., 2018; Čater et al., 2018).

Within the sample of the 2020 survey, the average age of respondents is 31.0 years, while the mean age of the Slovenian population is 43.5 years (Statistical Office of the Republic of Slovenia, 2020a). Of the respondents, 54 percent are currently employed, 4.4 percent are unemployed, and 38 percent are students. In Slovenia, based on the 15 to 65 years old part of the population, 72.5 percent are employed, 7.3 percent are unemployed, and 6.2 percent are students (Trading Economics, 2020; STA, 2019). Therefore, the sample over-represents students.

Most of the respondents indicated their average household net income to be between 1,001 and 3,000 euros. Specifically, 19.7 percent indicated an average household income between 1,501 and 2,000 euros. This is in line with the average household income reported for Slovenia between 2008 and 2019, ranging from 1,800 to 2,000 euros (CEIC, 2019). On average, households of the sample have 3.5 inhabitants, with 5.1 percent of respondents living alone. In Slovenia, the average household size is 2.5, while single households' amount to 32.7 percent (Statistical Office of the Republic of Slovenia, 2020a).

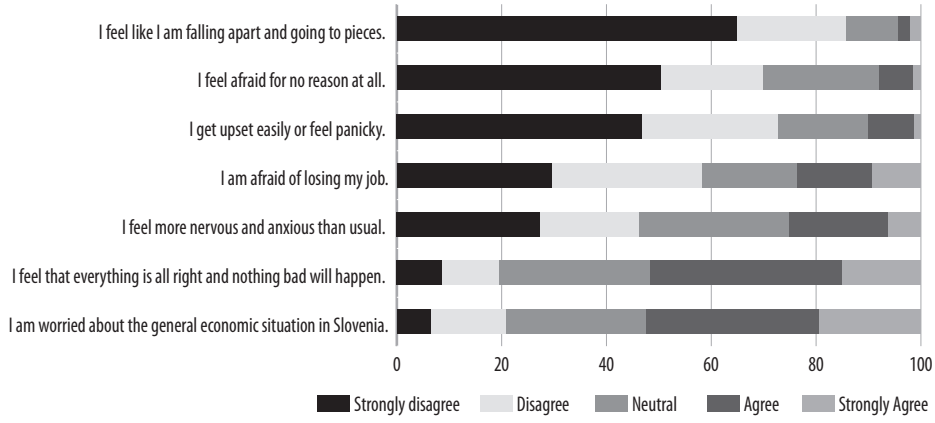
3.1 Most significant changes in (online) consumer behavior

According to the survey (Figure 1) during the time period in question, consumers were mostly *worried about the general economic situation* in Slovenia. The second most frequent response showed consumer optimism concerning the future. We determined zero correlation between pessimistic and optimistic responses, meaning respondents were divided on this issue. Respondents were *less likely to feel at risk personally,* e.g. fearing to become unemployed. There were no substantial differences in the confidence intervals of the responses of feeling panicky or afraid for no reason; respondents felt similarly even with regards to job loss.

Generally, most respondents acted in line with the National Institute of Public Health (NIJZ) recommendations. More time was devoted to family and

friends and consumers spent more time on the internet. During the COVID-19 period in question, an increased emphasis was laid on sports. On average, respondents did not claim to have increased their purchase of food; neither did they confirm they trusted the media coverage during this time.

Figure 1. Agreement with sentiment statements

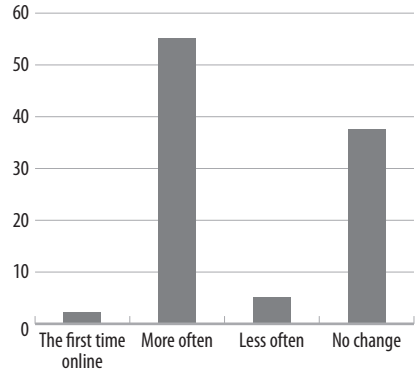


Source: Own survey, 2020; N = 139.

During the period of the lockdown, in which residents were prohibited from leaving their municipalities, 9.5 percent of the respondents were not able to purchase at their regular supermarket. Three out of four stated they did their grocery shopping at local stores even before the restrictions. Out of 165 respondents, 136 (82.4 percent) bought products over the internet during COVID-19, whereas 29 (17.6 percent) did not. Concerning the frequency and quantity change in shopping (Figure 2), very few respondents indicated to have purchased online for the first time during the epidemic, but most consumers who had prior experience with online shopping *increased their number of purchases*. Figure 3 shows most respondents made purchases online three to ten times during the epidemic.

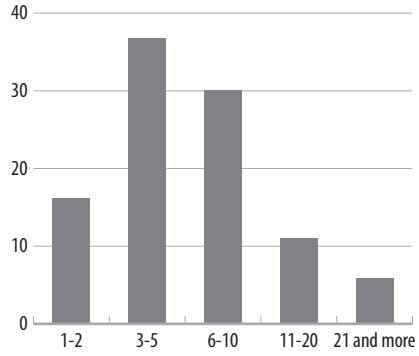
Most online purchases were made via the computer and with *regional providers* (e.g. Mimovrste). Products were also least likely to be bought directly from providers (e.g. Apple). From March until August 2020, 61 percent of respondents claimed to have used their smartphones at least once to make a purchase on the internet. This compares to 63 percent stating they used their smartphones at least once in the preceding 12 months in the survey from 2018 (Čater et al., 2018).

Figure 2. Frequency of online shopping in Slovenia, Mar-Aug 2020



Source: Own survey, 2020; N= 137.

Figure 3. Number of online purchases per online shopper in Slovenia, Mar-Aug 2020



Source: Own survey, 2020; N= 137.

With regards to product categories, the main increase was found in *clothes, footwear, and other accessories***,** as well as different products for free time activities (e.g. sports, craftsmen appliances). A decrease in consumption was reported for airplane tickets and other touristic offers. In 2018, consumers mostly purchased books via the internet, followed by home accessories and pet products. Food, products for children, and hobby equipment were not purchased frequently (Čater et al., 2018).

3.2 Reasons for using/not using online shopping

According to the survey, consumers decide to purchase online because they place value on the *wide selection and the safety of payment,* factors not directly connected to COVID-19. Fear of infection in physical stores is the least important consideration to online shoppers in times of COVID-19. Reasons for consumers to refrain from online shopping are *not being able to try, see, or test the product* physically, followed by *no possibilities of return* and *fear of sharing personal data***.** Lack of experience or knowledge of the online purchasing process did not prove to be an important obstacle. In 2018, the younger generation was found to attribute less importance to physical inspection, detailed product information, and ratings. Generally, price, product assortment and abundant information on the product showed to be most valuable to consumers. Respondents across all age groups stated they would be more inclined to purchase online in cases of free

shipping, discounts, and quick shipping options (Čater et al., 2018). An increase in payment options would also stimulate purchases (Pahor et al., 2018).

Concerning consumer satisfaction with online purchasing during COVID-19, 92.5 percent of respondents rated their *experience as "satisfying"* (six to ten) according to the CSAT (Customer Satisfaction Score). The NPS (Net Promoter Score) was +37, representing 55 percent of promoters and 18 percent of detractors (own calculation). The CSAT score is above the threshold of a good score, which lies between 75 percent to 85 percent. The average of above 80 percent CSAT for internet retail is a greatly appreciated score (Birkett, 2020). An NPS of +37 also represents a high score, considering every score above zero as a good result, 30 – 70 as a high result, and everything above 70 as very high loyalty levels (Tim, 2020).

3.3 Expectations for the future based on consumer segmentation

As a part of the analysis a segmentation of consumers according to characteristics and consumption behavior was performed (see Table 3). The sample was divided into five segments: novice (10.1 percent), critical (23.7 percent), e-experienced (19.4 percent), fearful (25.2 percent), and trendy (21.6 percent). In the context of epidemic-related developments two segments are of special interest, as their characteristics led to an increase in online consumption during this time. Their high satisfaction may have implications for post-epidemic trends.

Novice consumers are potentially valuable customers, as they are characterized by high fashion awareness and purchase impulsivity. The internet is less important to this segment as compared to others. Merely 50 percent purchased items online before the epidemic. The number increased by 13 percent due to COVID-19, which is the *highest percentage of newcomers* across all segments. These consumers focus on necessities; food and products for children were prioritized. During COVID-19, the limited access to brick–and-mortar stores was the main reason for this segment to engage in online shopping. Obstacles were a lack in capability to place online orders, fear of abuse of personal data, absence of assistance by a professional sales agent, and no possibility to try the product. As consumers are highly satisfied with their experience, there could be a potential to increase their e-consumption in the future by facilitating access, simplifying procedures and design, providing more information, and improving assortment of necessities, such as food. This way novice consumers may become loyal e-customers post COVID-19.

Table 3. Consumer segmentation

Segment	Novice (10.1%)	Critical (23.7%)	Experienced (19.4%)	Fearful (25.2%)	Trendy (21.6%)
Variables: high	Fashion awareness, purchase impulsivity	Purchase impulsivity, priority shift	Fashion awareness, priority shift	Personal fear	Fashion awareness, purchase impulsivity
Variables: low	Online importance	Fashion awareness, personal fear	Purchase impulsivity	Priority shift, purchase impulsivity	Priority shift, personal fear
Purchasing online*	57% yes	76% yes	81% yes	91% yes	87% yes
Consumption behavior online*	Only necessary products; increase in food and products for children	Only necessary products	Increase in food, clothes, shoes, and pet products	Increase in most categories	Only necessary products; increase in most categories
Factors for online shopping*	Limited access to stores, time saving, payment options and safety payments	Limited access to stores	Limited access to stores, time saving, lower price and larger product assortment, more information and product reviews	Fear of infection, more information and product reviews	Fear of infection, time saving, lower price, larger product assortment, more information, payment options, safety payment
Satisfaction*	Very satisfied (CSAT 100%), likely to recommend (NPS +38)	Very satisfied (CSAT 96%), least likely to recommend (NPS +24)	Least satisfied (CSAT 86%), second least likely to recommend (NPS +32)	Satisfied (CSAT 91%), least likely to recommend (NPS +31)	Very satisfied (CSAT 96%) and most likely to recommend (NPS +54)
Demographics	Middle age, finished secondary school, employed, 1,001 - 1,500 € average household income	25-30 years old, bachelor's degree, students, 2,001 - 2,500 € average household income	25-30 years old, bachelor's degree or master's degree, student or employed, 2,501 - 3,000 € average household income, majority lives in villages	25-30 years old, bachelor's degree, employed, many with pre-school children, 1,001 - 1,500 € average household income	25-30 years old, bachelor's degree, employed, many with pre-school children, 1,501 - 2,000 € average household income, majority lives in big cities

Note: * During COVID-19, March through August 2020.

Source: Own survey, 2020; N= 137.

Trendy consumers reflect the same traits, they are high in fashion awareness and purchase impulsively. This segment saw an *increase in more product categories than any other segment,* amongst which were necessities, home appliances, hobby equipment, and entertainment devices. Reasons for online purchases during COVID-19 were fear of infection, time saving, lower price

and larger product assortment, more information and product reviews. Most of these reasons will still be valid after the epidemic. Trendy consumers experienced lack of capability, not knowing the seller, and extensive delivery cost as an obstacle to e-shopping, partly due to the fact that they mostly purchase internationally and not from regional retailers (as opposed to novice consumers). In the future, e-consumption in this segment may be increased by finding more convenient ways of delivery, in terms of price as well as delivery period. As the trendy segment engaged heavily in online shopping already prior to the epidemic, and consumption increased during this period, high satisfaction signals that a further rise in purchases is to be expected not only in necessities but in a variety of other product categories as well.

Three out of the five segments (novice, e-experienced, trendy) in this study reported an increase in online shopping during COVID-19. In the other two segments (critical, fearful), the majority of consumers were already shopping online. While necessities flourished the most, due to government restrictions and consumers not being able to leave their municipalities, other categories, such as home entertainment and pet products, also saw an increase in demand. Out of the five segments, only two reported to be semi-satisfied with the service. The NPS was high for the trendy and novice segments. Based on the positive experience, online consumption may be expected to increase in the years to come, even after the period of COVID-19.

Discussion and conclusions

The analysis of the coronavirus impact on e-commerce and consumer trends demonstrated that the importance of the topic exceeds the time of the epidemic. Our study of Slovenian consumers enabled us to examine changes in consumer behavior, as well as the most relevant reasons for and against online consumption. The study revealed a general fear of a recession in Slovenia, as well as a lesser fear of personal consequences, such as job loss. On average, respondents stated their frequency of online shopping increased, which is in accordance with other studies outlined in this chapter. Online consumption in Slovenia during the epidemic was dependent on prior consumption behavior, which is supported by global statistics. Consumers who bought online before COVID-19 increased their consumption over the internet, while few offline shoppers switched to online.

Many findings from the 2018 study on online consumer behavior *still hold true* in 2020, despite the circumstances of the epidemic. Consumers who purchase online inform themselves about the product online as well. The most prominent reason for using the internet is the abundant assortment. While in 2018, the price showed to be an important factor, in 2020, respondents emphasized the importance of secure payment. Reasons against shopping online in both studies are connected to delivery. In 2020, no possibility of return was criticized, while in 2018, the price of shipping and the delivery time was found to be a hindrance. In 2020, respondents additionally reported the lack of physical inspection and fear of sharing personal data to be a source of discontent. The main difference is found in the product categories. During the epidemic, consumers focused on essentials such as food, and increased purchase in pet products, home accessories and hobby items. This is in line with the general international consumption trends and the statistics for Slovenia.

More than half of the respondents increased their online shopping during the epidemic and more than one third would recommend it based on their experience. Most of the consumers who did not perceive their experience as pleasant, did not lack the skills or opportunities to purchase but were not comfortable with the idea of sharing their personal information, or not being able to physically try the product or return it. The study showed consumers with negative experience, as well as indecisive consumers, to be reluctant to purchase online. Reasons for buying online were focused on assortment and safety of payment. The issue of health and wellbeing as a concern was not found to be crucial.

However, this may be a consequence of some limitations to this study. The sample was biased towards younger respondents, the average age being over ten years lower than the average age of the Slovenian population. There was only one respondent over the age of 65, which is a result of non-probability sampling. During the period from March until August 2020, persons over the age of 65 were determined to be at a high risk for a serious infection if they caught COVID-19.

Based on the findings some recommendations follow. The general concern about the economic situation in Slovenia may be responded to with low prices and discounts. On the internet, companies targeting novices, as well as other consumers, are advised to simplify their online appearance and services, and provide more product information. Customer-friendly policies that are important inter alia to trendy consumers could include high-speed delivery, low fees, and the possibility of return free of charge in case of misfits. A special emphasis

may be placed on the safety of payment methods, as well as confidentiality of personal data, which would reassure novices. COVID-19 triggered the interest of consumers to buy essentials online, especially by novices. In a post-crisis world, the time efficiency and convenience of these services may prove attractive. Grocery retailers can make use of this opportunity and improve their offers. As the epidemic showed a trend in internet usage to the detriment of television, future advertising should increasingly focus on social media marketing in combination with search engine optimization rather than TV commercials. Implementing these responses to consumer sentiments will help companies thrive in e-commerce beyond COVID-19.

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Appendix

Due to space limits, research details are available from the authors upon request.

Based on 165 valid responses we determine that the average age of our respondents is 31 years. Most have finished bachelor studies (40.1%), followed by master studies (24.1%) and secondary school (22.6%). 54.0% are currently employed, 38.7% are students, 4.4% are currently unemployed. Most of the respondents leave either in a small village (less than 3,000 residents – 38.7%) or in a big city (more than 10,000 residents – 34.3%). Majority (84.7%) commute with their own car, followed by public transportation and bike (both 6.6%).

Table A1. Socio-demographics of the survey on consumer behavior in times of COVID-19 (March through August 2020)

Socio-demographic variables	Frequency	Percentage
Age		
16-26 years	78	56.9
27-37 years	31	22.6
38-48 years	16	11.7
49-59 years	9	6.6
60-73 years	3	2.2
Education		
Primary education	5	3.6
Secondary education	31	22.6
Higher vocational education	13	9.5
Bachelor's degree	55	40.1
Master's degree	33	24.1
Employment status		
Employed	74	54.0
High-school student	3	2.2
University student	52	38.0
Unemployed	6	4.4
Retired	2	1.5

Socio-demographic variables	Frequency	Percentage
Size of a household		
1	7	5.1
2	22	16.1
3	40	29.2
4	43	31.4
5	17	12.4
6 or more	8	5.8
Household income		
Up to 500 €	1	0.9
From €501 to €1,000	7	6.0
From €1,001 to €1,500	17	14.5
From €1,501 to €2,000	27	23.1
From €2,001 to €2,500	16	13.7
From €2,501 to €3,000	16	13.7
From €3.001 to €3.500	10	8.5
From €3.501 to €4.000	11	9.4
More than €4.000	12	10.3
Place of residence		
Village (up to 3,000 residents)	53	38.7
Small town (up to 6,000 residents)	13	9.5
Medium-sized city (up to 10,000 residents)	24	17.5
Big city (more than 10,000 residents)	47	34.3

Source: Own survey, 2020; N= 137.

Based on hierarchical and non-hierarchical clustering, 5 clusters with 14, 33, 27, 35 and 30 members were identified.

Table A2. Segmentation based on the survey on consumer behavior in times of COVID-19 (March through August)

Segment	Novice (10.1%)	Critical (23.7%)	Experienced (19.4%)	Fearful (25.2%)	Trendy (21.6%)
Variables: high	Fashion awareness, purchase impulsivity	Purchase impulsivity, priority shift	Fashion awareness, priority shift	Personal fear	Fashion awareness, purchase impulsivity
Variables: low	Online importance	Fashion awareness, personal fear	Purchase impulsivity	Priority shift, purchase impulsivity	Priority shift, personal fear
Purchasing online*	57% yes (13% first online purchase), 43% no	76% yes, 24% no	81% yes, 19% no; increase in purchases	91% yes, 9% no	87% yes, 13% no; increase in purchases
Consumption behavior online*	Only necessary products; increase in food and products for children	Only necessary products	Increase in food, clothes, shoes, and pet products	Increase in food, prepared meals, clothes, shoes, cosmetics, hobby equipment, home products, and pet products	Only necessary products; increase in food, prepared meals, clothes, shoes, cosmetics, hobby equipment, electronic devices, home products, and products for children
No. of purchases online*	6-10	1-5	1-5	1-5	1-5
Means of purchase*	Computer and smartphone	Computer, rarely smartphone	Computer, rarely smartphone	Computer, rarely smartphone	Computer and smartphone
Company, international, or regional stores*	Regional	Regional	Company	International	International
Factors for online shopping*	Limited access to brick-and-mortar stores, time saving, payment options and safety payments	Limited access to brick-and-mortar stores	Limited access to brick–and-mortar stores, time saving, lower price and larger product assortment, more information and product reviews	Fear of infection, more information and product reviews	Fear of infection, time saving, lower price and larger product assortment, more information and product reviews, payment options and safety payment

Segment	Novice (10.1%)	Critical (23.7%)	Experienced (19.4%)	Fearful (25.2%)	Trendy (21.6%)
Reasons against*	Lack of capability, fear of abuse of personal data, lack of assistance by sales agent, no possibility to try the product, extensive delivery time and cost, impossibility of return	Bad experience, fear of abuse, lack of discounts, extensive delivery time and cost	Bad experience, fear of abuse, fear of abuse of personal data, not knowing the seller, lack of assistance by sales agent, no possibility to try the product	Bad experience, fear of abuse, fear of abuse of personal data, not knowing the seller, lack of assistance by sales agent, extensive delivery time	Lack of capability, not knowing the seller, extensive delivery cost
Satisfaction*	Very satisfied (CSAT 100%) and likely to recommend (NPS +38)	Very satisfied (CSAT 96%) and least likely to recommend (NPS +24)	Least satisfied (CSAT 86%), second least likely to recommend (NPS +32)	Satisfied (CSAT 91%), least likely to recommend (NPS +31)	Very satisfied (CSAT 96%) and most likely to recommend (NPS +54)
Demographics	Middle age respondents (average age of 40 years); education: secondary school; employed; household: 3-4 persons, school children, €1,001 - €1,500	Youngest respondents (21-25 years); education: bachelor's degree; students; household: 3-4 persons, school children and students, €2,001 - €2,500	Youngest respondents (21-25 years); education: bachelor's or master's degree; students or employed; village; household: 3-4 persons, €2,501 - €3,000	Young respondents (average age of 30 years); education: bachelor's degree; majority employed; household: 3-4 persons, pre-school children €1,001 - €1,500	Young respondents (25-30 years); education: bachelor's degree; majority employed; majority live in big cities; household: 3-4 persons, pre-school children, €1,501 - €2,000

Note: * During COVID-19, March through August 2020.

Source: Own survey, 2020; N= 137.

IV.

BUILDING A RESILIENT SOCIETY

Miha Škerlavaj

NEW NORMAL, NEW LEADERS? TIME FOR RESILIENCE AND POST-HEROIC LEADERSHIP

Introduction

As a part of his penance, Greek hero Heracles was sent to perform a series of twelve difficult labours (Hesiod, 1914). During his second feat (Britannica, 1911), he faced the multiheaded monster Lernaean Hydra, a guardian of the Underworld, with poisonous breath, deadly scent and a nasty capacity to regenerate. Upon reaching the swamp near Lake Lerna, Heracles covered his mouth and nose with a cloth to protect himself. When finally arriving to the Hydra, Heracles started shooting flaming arrows into her lair to tease her out and the fight began. Despite the fierce combat, the struggle seemed to be hopeless. Each time he chopped one head off, two new would grow instead. The turning point was the moment when Heracles was given a golden sword by Athena and helped by Iolaeus, who cauterized the neck stumps after each beheading. The myth of Heracles and the Hydra (Ruck, 2016) is an indicative allegory of our dealings with the COVID-19 situation.

COVID-19 is a crisis in a multidimensional space that has thus far largely been treated with unidimensional measures. Its medical aspects are immediate and so seem to be the economic costs. This is exactly where the emphasis has been so far. It is less evident and therefore largely underspecified what the pandemic brought in terms of psychological, technological, sociological, and environmental considerations. Many of us wonder what the interdependencies, loops, and complexities among those dimensions are, both in short and long terms, and what the organizational and leadership implications of COVID-19 are. Organizational literature (Crowley and Head, 2017; Rittel and Webber, 1973) refers to those multidimensional issues as "wicked problems", a class of

ill-formulated social-system problems characterized by ambiguous information, multiple clients and decision makers with conflicting preferences, and thoroughly confusing ramifications for and within the whole system.

COVID-19 took a VUCA (volatile-uncertain-complex-ambiguous) world (Bennett and Lemoine, 2014) from a buzzword to the next level. Oftentimes called "the new normality" (Harari, 2020; Žižek, 2020), it is characterized by a variety of complex problems that are by definition (Wood, 1986) those whose outcome of actions is unpredictable and interdependence in solving them is required. This chapter has three goals. First, to analyse the new normal and treat COVID-19 within a multidimensional problem space. Second, to analyse the new reality for organizations, largely from the resilience point of view, with the main research question being how to build up resilience of individuals, teams, and organizations to face the new normal. Third, I will particularly argue that mainstream leadership needs to change from ego-centred, heroic leader figures to post-heroic leadership process of co-creation and involvement.

1 New normal: A multidimensional problem space

Dealing with COVID-19 means dealing with volatility, uncertainty, complexity, ambiguity, paradoxes, and other demands on organizations and their decision makers. It is a daunting task. In a humble attempt to identify and highlight several relevant aspects of COVID-19, I turn to a sample of experts from the fields of epidemiology, economics, business studies, sociology of pandemics, psychology, technology and organization, and environmental studies to get a glimpse over the most relevant dimensions of the problem at hand.

Medical aspects. Despite its media prevalence, at the time of writing, the virus has been with us for slightly more than half a year. This means a great deal of uncertainty even for the experts in the year(s) to come. One thing is certain though. The virus and epidemiological discipline has already had a profound impact on our lives and work. Many of us have adopted a significant part of the epidemiological vocabulary, including the terms *"flattening the curve", "second wave", "cycles of suppression and relaxation", "asymptomatic patients"* and more. As modelling predictions by Imperial College London and Harvard College scholars (Enserink and Kupferschmidt, 2020; Kissler et al., 2020) show, the period of uncertainty will continue to have a profound effect on our work and lives until the time safe vaccines are discovered, tested, produced, distributed and taken up to a significant portion of the population.

Economic and business aspects. Another certainty in the times when all the pieces are moving is that it is and will be an expensive one. It would be even costlier not to intervene. Even most neoliberal governments and supranational institutions around the world are intervening to act counter-cyclic and are often introducing ad-hoc industrial policies. At the same time, businesses across industries are experiencing the situation in notably different ways. Some organizations and even industries like tourism, hospitality, and the aviation industry have been hit hard. Other industries and organizations are thriving by rapidly introducing new business models and innovations that have addressed opportunities provided by the crisis. Cards are being reshuffled.

Can we learn from the previous economic crisis? Boston Consulting Group (Fæste et al., 2020) studied the winners of the 2008 crisis in Europe. Being aware that parallels are only partial, there are some interesting patterns to consider. The year 2008 was brutal for most businesses; however, in the subsequent twelve years some companies managed to dramatically bounce off from their competitors. The top 25 companies in Europe would demonstrate five times higher EBITDA compared to the benchmark S&P Global 1200 (S&P Capital IQ; BCG analysis). In terms of responding to the macroeconomics conditions, they knew how to react by being somehow more conservative during the depth of crisis and much more active once the immediate storm was over. Faeste et al. (2020) suggest five lessons. First, leading companies show above-average proactivity and a "fix-before-it-is-broken" mindset. Second, they focus on improving vitality by heavily investing in their innovation capabilities, testing new ideas, and are prepared to reinvent their strategies to respond to the newly-emerged market opportunities. Third, a clear vision and a strategic focus are another trait that means persisting with a smaller number of longer-term projects to concentrate resources where they add value. Fourth, they are constantly optimizing organization by process redesign and digitalization. Fifth, the best European companies are being aware of the importance of building organizational resilience to be able to face current and future shocks. Some of the approaches they are using are stocking up on financial reserves, scenario planning in strategizing, and developing a wider set of talents and knowledge than laggards. Despite the different nature of the crisis this time around, the lessons still apply.

Sociological aspects. Emerging diseases are sources of societal instability, uncertainty, and even crises. About a decade ago, a group of sociologists (Dingwall et al., 2013) gathered their forces to study most of the pandemics over the last half a century (among them West Nile virus cases, the 1918-19 Spanish flu, H1N1 and H1N5 influenza, and SARS). In order to understand pandemics,

we also need to understand societal processes. When facing the pandemics in the period from the Black Death (14th century) to HIV (1980s), societies are demonstrating a predictable pattern. Immediate reaction is an emotional swirl (fear, panic, stigma, moralizing, and call to action) (Strong, 1990). By activating social agents and institutions, we can manage these emotional responses (Dingwall et al., 2013). Complex societal systems require cooperation among various professions and organizations (Jerolmack, 2013). Organizational networks that have important elements of decentralization, as well as coordination and trust, are better apt of timely response (Steyer and Gilbert, 2013). In times of pandemics, science is gaining respect (Mansnerus, 2013). Moreover, the media may shorten the period of panic (Staniland and Smith, 2013). With the resources available, business organizations are important actors in the modern world, and their leaders should act as responsible change agents.

Technological and organizational aspects. Some trends that started beforehand have gained considerable acceleration during the times of the COVID-19 crisis. Digital transformation (e.g. Galunic, 2018) has been put on steroids. More work is done from home (Bick et al., 2020) and we can justifiably expect many more hybrid ways of working in the future. While new business models emerge from necessity and opportunity, organizational cultures are changing faster than before. Users are impatiently expecting smooth and seamless experience when interacting with organizations. Communication should be ubiquitous, available always, everywhere and immediately. In response, organizations will have to become much more agile, collaborative, and innovative in terms of their cultures, processes, and structures.

Environmental and sustainability aspects. When trying to understand complexities of the COVID-19 situation, should we by no means forget any of the 17 goals of the United Nations' sustainable development (United Nations, 2015). The problems of universal health, clean energy and water, preventive actions against climate change, reducing inequality, and decent work are still with us. At the level of business organizations, these goals are also reflected in the goals of social and environmental responsibility. As an example, NASA (2020) satellite photos showed cleaner air and significantly lower CO2 emissions during lockdowns and an immediate bounce back when the lockdowns were over. Furthermore, it might be dangerous if the environmental agenda will lose its ground due to different prioritization. Therefore, the EU plans for a green bounce back in making, and framework for those investments are eagerly anticipated. The crucial component will be, as ever, how the policy and intervention will actually be implemented. The contradiction between short-term political

wins of infrastructural projects and long-term gains of green technologies and projects will determine the environmental consequences of the new normality.

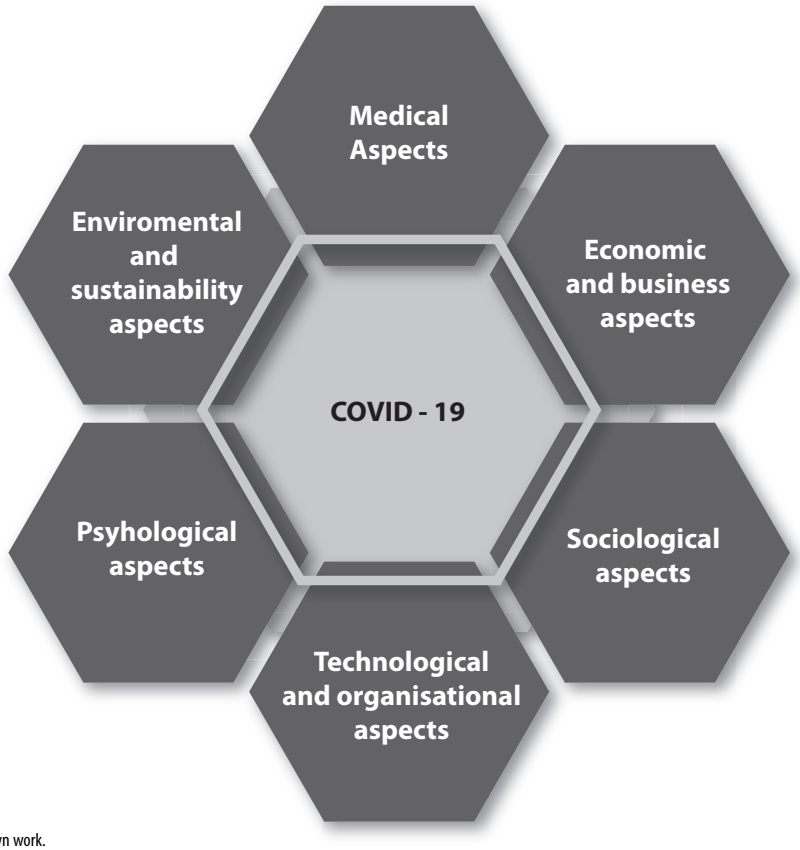
Psychological aspects. Changing of our living and working habits post COVID-19 will be equally important. The longer the crisis lasts, the more likely it is that the changed routines will remain rooted in our daily behaviours. Professor, doctor and psychiatrist Gianpiero Petriglieri from the INSEAD Business School coined the word zoombies (Kale, 2020). Petriglieri sees us as half-living, half-dead creatures, spending endless hours in front of our own screens, trying to communicate and do business with the world through our zoom profiles and other similar virtual communication tools. The first response to the new situation was - as expected - excessive activation, or in other words, panic work (Petriglieri, 2020), which is nothing but a manic-defensive response. In the initial stages of the epidemic, well-known Slovenian companies also reported opening the scissors between high levels of job satisfaction and low levels of life satisfaction in general. Which is by no means a sustainable situation, as such discrepancies are also associated with poorer mental health (especially anxiety, stress, and burnout), resulting from social distancing and significantly reduced socialization (e.g. Galea et al., 2020; Venkatesh and Edirappuli, 2020). Already Aristotle knew that we humans are social animals, and neuroscientist Mathew Lieberman (2013) showed that the density of our brain connections correlates with the density and quality of our social connections with fellow humans around us. We are wired to connect and researchers are calling for measure to replace social distancing with spatial distancing only when absolutely necessary (Abel and McQueen, 2020).

Somewhat in the shadow of daily media reports on the health status of the population and regular speculation about economic intervention measures, interest in the psychological or human dimension of the problem has also grown. Zacher and Rudolph (2020), for example, monitored nearly a thousand German individuals and their subjective perception of well-being through the early stages of the COVID-19 pandemic in the period between December 2019 and May 2020. While there were no changes between December 2019 and March 2020, the differences between March and May 2020 are obvious. On average, life satisfaction deteriorated, with positive emotion levels lower and negative emotion levels higher among the German survey participants. The pandemic continues, as does the research. It is already clear that the German study is mostly about the effects of reduced socialization and increased uncertainty. Therefore, it is interesting that a neuroscientific research showed that highly anxious people have more intense neurological reactions to uncertainty than to

negative feedback (Hirsh and Inzlicht, 2008). When we are anxious, we need more certainty, even if it is bad news.

Unfortunately, the COVID-19 situation is not a sprint but an increasingly obvious marathon, or at least a half marathon if any of the vaccines prove appropriate in an exceptionally short time. Domestic (Ihan, 2020) and foreign (e.g., World Health Organization) epidemiologists are warning us that the period of uncertainty will continue for quite some time and so will the multiple layers of uncertainty. Figure 1 is summarizing the main elements of this multidimensional complex system that organizations and their leaders should consider when making decisions about possible future scenarios and strategies for their organizations.

Figure 1. A multidimensional problem space of COVID-19 for organizational decision makers



Source: Own work.

2 New organizations: Resilient individuals, teams, and organizations

The new normal has a toll to pay. It has reduced subjective well-being due to diminished opportunities for socializing, increased uncertainty, as well as objective stressors, including jobs and contracts lost. How is it that individuals, teams and organizations can prepare for the period ahead? There are promising scientific findings in the field of resilience, which Southwick and colleagues (2014) define as *"... healthy functioning after a very unpleasant event; a conscious effort to move forward in a smart and positive way as a result of lessons learned through difficult times; the ability of the system to successfully adapt to disturbances that threaten its survival, functioning, and development"*.

First, resilient organizations and teams are formed by resilient individuals. Facebook Vice President Sheryl Sandberg and Wharton Professor Adam Grant (2017) wrote a touching personal story in the book *Option B*, which is about Sheryl being left alone with her two young children after her husband's tragic death. With Adam's help, she wrote a diary, a rather classic psychotherapeutic method that helped her find sources of resilience within herself, as well as in the support provided to her by her family and friends. The book not only describes the process of finding the resilience of the person concerned, but also presents the findings of research that help us understand and strengthen the resilience of individuals, teams, and organizations.

Sluss and Powley (2020) argue that leaders in organizations can strengthen team resilience in two main ways. The first one is to focus on people. You need to know the resilience factors of your own team. These are, above all, a high level of self-confidence, disciplined work routines, and social and family support. Resilience can be strengthened with a relatively simple measure such as time blocking. The director of AMZS, the largest provider of roadside assistance in Slovenia, and the winner of the Young Manager Award 2019, Lucija Sajevec, confided during the School of Economics and Business webinar series SEB LU Contributes that they have also used the time blocking technique (Aleksić et al., 2020). Shortly after the epidemic was declared, they established a morning hours routine as a time for meetings, blocking lunch time, and then an afternoon hours routine as a time to follow up on appointments and implement the agreed actions. All of this provides at least some degree of predictability in times when everything else is unknown.

In addition to a sincere concern for high-quality relationships and understanding, special care is needed for the profile of people who are by nature very helpful and conscientious. This is a combination of personality traits that is typically a characteristic of successful people and is beneficial to the organizations in which they operate. Paradoxically, in challenging times of over-activation, this same combination of helpfulness and diligence poses a significantly increased risk of burnout. To avoid panic work and to increase predictability, Sluss (2020) for people with such a profile suggests focusing on long-term, strategic initiatives..

The second way to strengthen team resilience is to change perspective. Meta-analytical research (Vanhove et al., 2016) shows that quality and personalized coaching is invaluable in strengthening resilience. U.S. marines who have been subjected to numerous psycho-physical trials have shown 20 percent greater resilience and endurance using the coaching method. Fear and anxiety dampen the ability to look to the future and find much needed creative solutions. On the other hand, asking the right kind of questions helps. Interestingly, these are not the ones that show us the world through rose-coloured glasses, as superficial believers in positive psychology might imagine. Interviews among World War II camp survivors, for example, showed that the greatest optimists died first. The reason was the broken heart syndrome. Survivors were those who knew how to face reality immediately (Coutu, 2002), and then realized that they were not alone and that they could rely on and cooperate with others in overcoming the accumulated problems. The last set of measures to strengthen team resilience is learning. Leaders of resistant teams find opportunities to learn because of the crisis, not in spite of it. Identifying the hidden champions and special talents that show up in changed circumstances, is the key. All of these measures help build resilient individuals, teams, and organizations, who do not only face but also shape the new normal.

Let us have a look at an example from the culinary world. While it is not unusual for top chefs to possess the uncertainty mindset (Tan, 2020), the world's best female chef Ana Roš and her two Michelin star restaurant Hiša Franko showed some remarkable resilience during the lockdown (Sajovic, 2020). In March 2020, her international team just gathered after the winter break to face COVID-19 with devastating consequences for the whole hospitality industry. Instead of sending people off, most of the team decided to stay in the "green jail", as Ana Roš liked to put it. Not being used to sitting idle, Ana engaged her team in ideation workshops that resulted in a series of products and even business model innovations. Wild grass combucha, fermented flowers of wild

magnolia, garum from local lamb, and forest-taste popcorn all led to developing an offering of high-end mountain "fast food" that is being packaged and sent across Europe to foodies unable to travel in person. To deal with the excess of wine (Hiša Franko works with natural wine producers from across Slovenia), the sommelier team also set up an online wine shop. Partnering with the local dairy farm Planika, which was left with a surplus of fresh milk, Hiša Franko developed an offering of mountain ice-creams with forest and mountain flavours, such as bee pollen or sour milk with candied pine cones. True enough, these are not activities to replace but rather complement the core business and predominantly serve as a tool to build a resilient organization.

3 New leadership: It is not about the leader

When societies and organizations tackle wicked problems, there is no room for the ego. Instead, we need leaders who know how to actively involve, engage, and connect all relevant stakeholders with knowledge and resources. We need responsible people who know how to put the task and the team of experts in the foreground and stay in the background themselves. The mistakes of "macho" leadership are unfortunately counted in human lives today. In fact, Sergent and Stajkovic (2020) empirically demonstrate that U.S. states led by female governors have significantly less fatalities due to COVID-19 compared to male-led states. The ideas of post-heroic, healthier, humble, inclusive, and less ego-centred leadership (e.g., Dutton, 1996; Kelan and Wratil, 2018; Rudolph et al., 2020; Schweiger et al. , 2020) are by no means just an academic debate anymore.

Images of heroic, macho characters of leaders who have answers to all the problems of this world, domestic and foreign, are still predominant and lists of 100 exceptional individuals are not rare (Allison and Goethals, 2013). Heroes with superpowers promise heaven and earth. Each time we are disappointed to find that their promises have not borne fruit. In fact, we should not even be surprised that is the case. The challenges of the modern world, including COVID-19 and SDGs, are anything but simple. Authoritarian and populistic leadership styles offer simple solutions, but in practice they turn out to be anything but that. The uncertainty we face in today's societies and organizations requires smarter approaches to leadership. It also requires a change in the expectations that co-workers have of their leaders or voters have of their elected representatives.

An interesting question is why do we still insist on such outdated and counter-productive leadership models. Especially given that we have enough practical experience as well as empirical insights that archaic, authoritarian types of leadership do not lead to viable nor healthy solutions (Bodla et al., 2019; Gu et al., 2018; Kiazad et al., 2010; Li and Sun, 2015); moreover, they usually add to mounting new problems. A large part of the answer to this paradoxical question can be found in a recent publication (Ronay et al. , 2019) by a group of Dutch and German researchers. In a series of five different and extensive studies, the authors are again and again finding that leaders' excessive self-confidence outweighs their competence. When we are choosing leaders, we tend to make the same mistake over and over again — we choose the most convincing over the most competent. To exacerbate the problem of overconfidence, it turns that it is socially transmitted and even contagious (Cheng et al., 2020).

The challenge is all the greater as leaders' persuasiveness is oftentimes in contrast with their actual competence. The so-called Dunning-Kruger effect (Kruger and Dunning, 1999), which received the Ig Nobel Prize for Alternative Scientific Achievements, teaches us that people with very low levels of ability show the highest level of excessive self-confidence. The most ignorant leaders are therefore also the most convinced of their abilities, so they are also the most convincing in the eyes of those who judge whether we can entrust them with such an honourable and responsible task as leadership. The vicious cycle of ignorance and poor leadership is thus completed.

Another question that logically arises from this paradox is how to choose better leaders, or in other words, how to overcome the pattern of omnipotent leaders who systematically overestimate their low abilities but convincingly offer their simple (and wrong) solutions. Behavioural science offers quite a few interesting insights in this area. In the theory and empirical research in the field of organizational behaviour, a new type of leadership, called post-heroic leadership, is making its way. It is in fact a family of leadership styles that range from shared (Pearce and Conger, 2002) to servant (Barbuto Jr and Wheeler, 2006) leadership. What these newer-genre leadership styles (Hannah et al., 2014) have in common is that they are aware that there are not enough heroes, and that even the most enlightened individuals do not have all the answers to the complex challenges of the modern world. They are also aware of the fact that the best type of leadership is actually the one that puts the community, organization, and team at the forefront. The post-heroic leaders sincerely wonder how they can contribute, what the point of what they are doing is, and how the world will be at least a little better because of their activity. So, modern,

post-heroic types of leadership are not about the egos of leaders, but about their co-workers. Post-heroic leaders actively care about realizing the full potential of their co-workers and all other stakeholders.

All of us who are meeting young and less young leaders, agents of change and aspiring entrepreneurs on a daily basis, know that, fortunately, the reality is more encouraging than the picture on television screens. Post-heroic leaders are also found in the practice of Slovenian organizations, and in fact there are not so few of them. They just don't like to be exposed. They are therefore so much better recognized and appreciated by the people around them. Still, I would like to demonstrate post-heroic leadership reflections with a couple of examples from podcast Leadership with an ear that I run on national radio Val202 together with journalist Anja Hlača Ferjančič. For instance, humility and reflection shown by Damjan Osredkar, MD and head of the clinical department of child, adolescent, and developmental neurology at paediatric clinic talking about his transition from top expert to new leader: *"In the beginning, the change was really big. I really loved doing my job and then all of a sudden I found myself in a situation where I was completely barefoot. The first thing I felt was that I became completely lonely."* (Hlača Ferjančič et al., 2019). He also talks about the importance of leaders setting up psychological safety and so does Domen Rozman, leader of the world-renowned acrobatic team the Dunking Devils, when he explains their team dynamics and the concept of teasing with love: *"To expose one's weakness means expecting that weakness, working on it, and knowing that the team will cover your back. This all builds a deep level of trust. Precisely trust and sincerity is something that ties the deep connections. ... It is important to tease each other and make jokes in the context of achieving a higher goal and sincere relationships. Without teasing with love, our relationships would remain superficial."* (Hlača Ferjančič et al., 2019). Post-heroic leaders are also driven by the higher purpose and they create cultures of cooperation. As Mic Melanšek, a co-founder of booming scale-up Hooray Studios behind the customized children books *Little heroes*, stipulates: *"We wanted to create something, wherever we would arrive, whomever we would have contact with, that we could always present as something good"* (Hlača Ferjančič et al., 2019).

Conclusion

The COVID-19 crisis has and will continue to have health, economic, psychological, sociological, technological, environmental, and other consequences. At the same time, fortunately, it also offers a sea of new opportunities for the most resilient, agile and innovative organizations. In order to face the wicked problems and seize the opportunities, decision makers should be aware of the possibilities of building up resilience and modern approaches toward leadership. The times are decisive, and the actions taken during these turbulences will remain rooted in organizational systems and cultures long when the storms are over. It is time for action and change agency towards a smarter, more humane, and more sustainable life and work. It is also time to build helpful and collaborative cultures. A careful reader of the introductory allegory might notice that even hero like Heracles had help in defeating the Hydra of Lerna.

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Valentina Franca

REMOTE WORK: LEGAL CHALLENGES AND POSSIBLE SOLUTIONS

Introduction

The COVID-19 pandemic (hereinafter: pandemic) has left business premises around the world virtually empty, the work previously carried out in them now being done in home environments, and this raises many legal questions that cannot always be answered unambiguously. This is confirmed by Eurofound 2020 data, which has recorded approximately 300 new and 200 amended legislative and other policy measures seeking to address the economic, labour market and social impact of the pandemic in EU member states since the start of the pandemic. However, remote work[1] is not new; it has been regulated by EU member state legislation for decades and the International Labour Organization (hereinafter: ILO) adopted Convention 177 on Home Work (1996) in 1996; the Framework Agreement on Telework concluded by European social partners in 2002 is another important legal document related to such work. These international legal acts highlight the voluntary aspect of remote work agreements and equality of those who work from home and those at employer premises, especially in terms of working time, workload and work performance criteria. Nevertheless, social and economic change has occurred in the years following the adoption of the aforementioned acts and affected how all work is carried out, including remote work; digitalisation should be highlighted here, as it has been key to better enabling remote work in this crisis situation. But what does this mean for the future of work?

1 In this chapter, the term remote work refers to homework and telework.

The fundamental labour law principle that crises should not be the reason for violating and reducing workers' rights should be highlighted here. This principle is, in the main, at the centre of labour law theory (Davidov and Langille, 2011), and rooted in international legislation and recommendations, such as Employment and Decent Work for Peace and Resilience Recommendation No. 205 of the ILO (2017). The recent increase in remote work is accordingly seen as a means to mitigate the negative effects of the pandemic in the context of worker protection.

This chapter presents the fundamental labour law challenges faced by employers and workers in light of the pandemic and highlights the need for researcher, policy maker and social partner attention at all levels; its main research question being: ***Which aspects of remote work are especially important in terms of labour law and need to be taken into account in future legislation?*** Accordingly, Section 2 of this chapter presents the general labour law perspective and the European Commission and ILO guidelines related to remote work, and Section 3 the pertinent Slovenian regulations. The article concludes with proposed solutions for effective, safe and successful remote work organisation from the labour law perspective.

1 The international perspective of remote work

The ILO (2020b) and other international organisations are actively aware of the huge remote work potential. The Economist's (2020) presentation of contemporary research on the changing nature of work reveals an almost global upsurge in remote work, particularly for white-collar and high-skilled workers. Such remote work has evidenced many advantages, such as shorter meetings, less commuting and increased productivity, with the exception of those also having to take care of children during lockdown. On the other hand, working hours have generally increased and workers are expected to be available throughout the entire day, especially with regard to emails and telephone calls; the European Commission (2020a) data makes this evident and highlights the *increasing risk of country, company and worker inequality*.

1.1 The lack of international legislation

Remote work has not received as much academic and professional attention in the European arena as platform work, which is also conducted outside

employer premises; platform workers are also not classified as homeworkers in Article 1 of the ILO's Home Work Convention, No. 177 (1996). Homeworking is not the occasional performance of worker duties at home, it is much more. The Framework Agreement on Telework (2002) similarly determines telework as work regularly carried out away from employer premises. Both the convention and the agreement stress the *voluntary aspect* of such agreements and the equal treatment of homeworkers and those working at employer premises; the principal duty of employers is to proactively inform homeworkers of remote work particularities. The ILO's Home Work Recommendation, No. 184 (1996), provides detailed instructions on how to regulate such work in national legislation; Article 23 is of particular importance in its stating that deadlines to complete work assignments should not deprive homeworkers of daily and weekly rest comparable to that enjoyed by other workers, and this implicitly means ensuring breaks, rest and work-life balance, which may quickly be negatively affected by remote work. Moreover, discussion on the *right to disconnect* is alive again because it is particularly pertinent to remote work.

The EU's response to remote work has been in the form of research activity, not the development of legally binding arrangements for member states to regulate remote work; other labour market measures have been adopted, such as emergency rescue packages and looser state aid rules, but these go beyond this chapter's purview. Only those member states that ratified it are bound by the provisions of the ILO's Home Work Convention, No. 177 (1996) and, according to the ILO (2020c), there are ten such states, including EU member states Belgium, Bulgaria, Finland, Ireland, and the Netherlands. Implementing the Framework Agreement on Telework (2002) is voluntary for EU member states; some have transferred its content into national legislation, others into collective agreements. Key to international legislation concerning remote work are the voluntary nature of such agreements, workload comparability with those working at employer premises, location, working time and methodology, health and safety provision, and worker privacy.

1.2 A comprehensive understanding of remote work

Remote work is not merely a matter of changing the location of where work is carried out, it is a matter of *comprehensively and appropriately* understanding the nature of such work and the consequent implementation of such work effectively and in line with labour law; remote work is a matter of worker-employer agreement and any unilateral employer imposition is inadmissible. Yet, unilateral

employer imposition is exactly what has been happening during the pandemic and this is attributed to the unexpected onset of the pandemic and the ensuing events; some countries have enshrined such imposition in their legislation, such as Greece, where employers can unilaterally impose teleworking, and France and Portugal, where such work is mandatory if feasible (Eurofound, 2020); other countries use looser wording, such as 'giving priority to teleworking where possible'. Remote work and work in general are sector specific, so some sectors at the European level have quickly responded and adopted collective agreements, emphasising various contents, such as the Joint Declaration of the European Social Partners of Agriculture - GEOPA-COPA and EFFAT - on the deployment of seasonal workers from European countries in the EU, and those relating to the importance of protective equipment in the postal service and provision of accurate information to citizens in the printing and publishing sector (Eurofound, 2020).

Differing remote work practices have emerged during the pandemic with two main approaches generally utilised: *(1) morning log-in to the employer's information system and log-out in the afternoon, usually after an eight-hour workday; and (2) working all day without predetermined workday duration.* The second approach particularly raises questions concerning availability, the right to free time and work-life balance, as the "computer and phone are always available". Because of the speedy further transition to remote work, there is either too much work for an ordinary workday or too little work for remote workers working "throughout the entire day". The volume of work carried out at home gradually increased concurrently, probably because employers learnt how to better adapt for this method of work and, to a lesser extent, improved efficiency expectations. The first approach raises the question of effectiveness, as duration measured by such systems does not directly correlate with quantity of work performed, let alone its quality. It is therefore vital that an agreement is made on the quantity and content of work carried out by workers in an ordinary workday and when workers should be available to work for their employers, as remote work does not mean that workers have no rights with regard to privacy and free time. Furthermore, employers must make the mental leap from quantity to quality of performed work and implement the necessary organisational change for optimal results.

1.3 Remote home regulation guidelines

The ILO and the European Commission have drafted *criteria* to compare countries in terms of their legal regulation of remote work to better establish suitable guidelines and recommendations for the regulation of such work in 2020 (ILO,

2020b; European Commission, 2020b); even though this sounds agreeable and practical at first glance, such comparison is legally questionable because legal institutions are judged in terms of the entirety of such regulations, not merely individual legal provisions. For example, the ILO (2020b) prepared a comparative table of national teleworking laws enacted by El Salvador, Italy and Chile based on fifteen remote work regulation criteria; all three countries' related legislation include employment conditions and rules, including equipment information and cost compensation, the requirement of written agreements between employers and workers, and guidelines on how such work is organized. In light of the pandemic, there are three key issues that national legislation should legally determine: (1) *data protection and privacy;* (2) teleworking *training*; and (3) dedicated teleworking management. Our comparison of the relevant international legislation allows us to state that *the possibility of worker monitoring in 2020 is substantially higher and more intensive* than it was in 1996 (ILO Convention adoption) and 2002 (Framework Agreement on Teleworking). Examples of tracking and monitoring workers, including counting keyboard strokes, mouse movement and even worker movement in the home workplace, are evident, and this is why it is imperative to define monitoring implementation methodology, especially at the organisational level, and inform remote workers accordingly in a timely fashion. In doing so, the fundamental proportionality principle must be abided with (Alon-Shenker and Davidov, 2013). Worker monitoring implementation is purpose-based, but it should be ensured that such monitoring is appropriate and not onerous, for example, recording remote worker activity could be best enabled by getting such workers to prepare and submit short reports detailing the tasks they have completed by the end of each workday.

The pandemic is far from over and even when it is, remote work will continue at a higher level than before the pandemic's onset, so homeworking must be designed for the *long run*, including *proper training* for those who impose, follow and monitor remote workers, and remote workers themselves; such practice is not common in Europe and should be thoroughly considered and implemented.

1.4 The importance of non-legislative aspects of remote work

The maintenance of remote worker connection with the working environment and co-workers should not be neglected because the social aspect of workplace inclusion is extremely important. Worker-employer information flow should also be well developed to ensure social environment integration, especially in a form of e-meetings, in addition to workload and methodology agreement, to mitigate

the negative aspects of remote work, such as loneliness and isolation. Research results from before the pandemic had already highlighted this, especially in terms of online platforms, where individuals generally work alone without sufficient interaction with co-workers (Eurofound, 2018; ETUI, 2019; Eurofound, 2020).

2 Remote work in Slovenia: From impossible to possible

Prior to the current pandemic, Slovenia's professionals often spoke of the advantages of remote work, especially when combined with work at employer premises, but employer reluctance was evidenced in opinions on remote work effectiveness control, equipment, access to company information systems, and the like. These doubts practically vanished overnight, but new challenges emerged in terms of existent legislation not being fully fit for the current situation. Slovenia has not ratified the ILO's Home Work Convention, No. 177 (1996), but the Ministry of Labour, Family, Social Affairs and Equal Opportunities has made a start in implementing ratification activities; however, remote work has been included in the Slovenian legislation for decades.

2.1 Remote work provision since 1961

Remote work in Slovenia was first legally regulated in 1961 by the Home Work Act (1961); remote work provisions are included also in the Employment Relations Acts of 1977, 1990, 2002, and 2013; and an analysis of these regulations shows that its fundamental purpose remains, in the main, unchanged. They all affirm that workers can work at locations other than employer premises and that such work shall not expose workers to further health and safety risk. The labour inspectorate's responsibilities, including prohibiting dangerous work, are generally the same in all the aforementioned legislation. Of particular note is the fact that the Employment Relations Act 1977 endowed workers with the right to determine, among other things, remote work type, conditions, *performance methodology, rights and obligations enforcement, and, especially, the criteria to assess and evaluate such work*. The 1990 Act did not endow workers with the aforementioned right to collectively regulate but did preserve provision for remote worktime to be based on predetermined amounts of work per time unit and for employers to keep a record of remote work (Article 28).

Remote work is now regulated by Article 68 of the Employment Relationship Act (2013) (hereinafter: ERA), which defines homeworking, including

teleworking, as work executed by workers at home or other premises of their choice other than employer premises; Article 69 endows homeworkers with the same rights as those working at employer premises.

The ERA importantly defines remote work employment contracts as atypical and that work location is a significant component of such employment contracts (Article 31); employers and workers are also contractually obliged to determine rights, obligations and conditions (Article 69). The ERA requires a new employment contract conclusion if work location changes and this applies to full or partial homeworking; even though concluding new contracts increases bureaucracy, this provision must remain enforced. Applicable international and domestic legislations state that unilateral employer remote work imposition is inadmissible. The pandemic's onset was sudden and unexpected, so it is understandable that many companies unilaterally imposed remote work: the legal basis for such conduct is found in Article 169 of the ERA, which states that in cases of unexpected natural and other disasters, or in other exceptional circumstances when human health and safety and employer's assets are at risk, work type and location as defined in employment contracts may be changed without a worker's consent for as long as such circumstances pertain. Article 169 will not be applicable when the pandemic ends and the dust settles; when this is so, workers and employers must formalise homeworking, including agreements that clearly state employer-worker consent in employment contract annexes.

2.2 The role of the labour inspectorate and cost reimbursement

Article 68 of the ERA requires employers to *inform the Labour Inspectorate* of their intention to implement homeworking prior to its commencement. The inspectorate may prohibit such work if it constitutes health and safety risk. Article 71 of the 2002 ERA anticipated the need for legislation defining the type of work which could not be executed at home, but such legislation has not been enacted; in light of the current situation, such legislation is a matter of urgency. Similarly, no legal act accurately defines how and to what extent workers are to be reimbursed for the use of their own resources whilst working at home; Article 70 of the ERA merely determines that reimbursement amounts be stipulated in employment contracts. Article 44 of the Personal Income Tax Act (2011) indirectly affects reimbursement determination when it states that such reimbursement should be based on real costs, that *amounts be justified and reasonable*, and that costs be evidence-based, such as internet connection invoices; it concurrently determines the maximum amount that is untaxed or

liable for social security contributions, as on 1 January 2020, when it states that such reimbursement shall not exceed five percent of a worker's gross monthly pay and be no higher than five percent of average gross monthly pay in Slovenia. The Statistical Office of the Republic of Slovenia states that gross average monthly pay in Slovenia in August 2020 was €1,811.28, meaning that homeworkers can be reimbursed no more than €90.60 per month for their endeavours offsite. Workers and employers may agree on higher amounts, but all taxes and contributions will need to be paid on the difference between these higher amounts and the aforementioned legislated limit for tax and contributions.

2.3 Open issues

There are many questions raised from the above that have not as yet been unambiguously addressed in legislation, for example, what is to be done when work cannot be carried out at employer premises for health reasons, such as an inability to ensure safety measures for infection prevention, and workers do not have suitable working environments at their own premises or elsewhere? Furthermore, how are health and safety requirements ensured when work is carried out at workers' private premises? Article 77 of the ERA states that employers are responsible for this, which is why working environments in remote workers' homes should be inspected by authorised safety engineers and follow-up inspections conducted. Even though work is being executed for employers at workers' homes, these residences are private spaces, which raises questions as to what is to be done when workers do not wish to permit labour inspectorate inspections. Currently, a court order is necessary. It would be better if workers *agreed to inspections* of where they work by means of special statements, which, however, would not be considered a general consent enabling access to workers' private premises over an unlimited period of time. Furthermore, what is to be done in the event of *workers being injured* while working at their private premises should be clarified. According to the ERA, this is the employer's responsibility, which was one of the main reasons why employers were not in favour of remote work before the pandemic. Workers have more social insurance system rights when injury occurs whilst working at employer premises, such as 100-percent sick pay and the possibility of demanding injury compensation. Employers are undisputedly responsible for ensuring that workers have the appropriate equipment and resources to work, but such responsibility cannot be all-encompassing. For example, employers cannot be responsible for injuries suffered from falling down a slippery staircase or tripping over some toys on the floor at worker premises during working hours. This is one of the fields that

will require agreement acceptable to both workers and employers; moreover, employer responsibility determined in the existing legislation is onerous, hence, a special commercial insurance for injury suffered whilst working remotely could be considered as an option.

3 Possible solutions

Remote work legislation development is mostly in *the hands of national legislators* and they are not expected to intervene in the aforementioned field in any way. It is forecasted that remote work will continue to be used more often than before the pandemic and this must be taken into consideration. Some determine remote work as a worker's right, which is risky given the unresolved issues in this field. Unilateral employer imposition of remote work will be legislatively inadmissible when the pandemic ends and employers should take heed of this. Including remote work as an optional element in employment contracts should also be considered, and current legislation enables this. Work organisation is the right and responsibility of employers, which is why they should be given higher decision-making power regarding remote work; in doing so, they must also respect the issues of *worker consent* and *workers' rights*.

3.1 The role of social partners

Remote work regulation could also be included in collective agreements and employers' general acts. From this perspective, it is worrying that social partners did not participate in 54 percent of the cases in EU countries, including the UK, when new or amended legislation was drafted (Eurofound, 2020); Slovenia's rate of stakeholder participation is slightly lower than the EU average, as evidenced by its trade unions' responses to the adoption of anti-COVID-19 measures.

The creation of acceptable long-term solutions requires a *more active role of social partners,* whereby they provide autonomous agreement, propose solutions, and provide data on remote work implementation options in the context of effective legislation. According to my unpublished research on this issue, 10 out of 24 Slovenian sectoral collective agreements include remote work provisions but only conceptualize it in terms of legal regulation and fail to address other pertinent issues appropriately, meaning there is room for improvement. The Collective Agreement for Workers and Companies in the Small-Business Sector (2010) is particularly noteworthy because it explicitly states that employers

and workers can include agreements on remote work in employment contracts, provided three conditions are met: (1) workers must have appropriate premises for executing remote work; (2) employers must be willing and able to occasionally supervise health and safety conditions of the premises where workers execute work; and (3) the way how this is implemented must be appropriately and accurately determined in employers' internal acts.

To sum up, worker representatives, including trade unions and works councils, could take a more active role in managing the change initiated by the pandemic by better enabling worker notification of remote work and more suitably organising remote work.

3.2 The importance of breaks and rest

Future solutions should better *facilitate remote work and its related division of responsibilities* with regard to health and safety. An injury suffered whilst working remotely is not in principle an employer's responsibility and generally not considered an occupational injury, as employers do not control offsite working conditions; consequently, employers should generally not carry any related burden. Nevertheless, such burden may be justified, for example, when excessive remote workload reduces focus, resulting in an injury. This is why the *right to breaks and rest and the right to disconnect must be included in legislation;* this has not been enacted in Slovenian legal regulation as yet, but is included in the applicable legal norms related to content and purpose (Senčur Peček, 2017). A key issue therefore is how to enable workers to disconnect outside working hours without violating their employment relationship obligations. Such legislation has been enacted by Belgium, France, Italy, and Spain, and is addressed in legislative proposals in Germany and the Netherlands.

Conclusion

Technology is a key factor in determining labour market development and it always raises new questions. Legal regulation, however, always lags behind social change and development, which is why the fundamental principles of labour law should be applied to remote work to better embrace new realities. Remote work is part of the new normal and this new normal must also be a *better normal* for company operations and the health and safety of all workers. Digitalisation, technology and advanced communication will better enable this,

and agreements at all levels, either European, national, sectoral or entrepreneurial, will determine how it is individually implemented.

New legislation must address how employers develop flexible work methods to appropriately address individual worker circumstances and preferences. These work methods must be based on trust and the result, not the number of hours worked, to better enable the setting of *manageable workloads* and *clear and realistic expectations,* and appropriate *remuneration*. This management paradigm has long been the subject of discussion, yet it is often seen as a dead letter. Workers should be provided with healthy, safe and ergonomically-sound working environments and appropriate workload that take into account that they may experience feelings of alienation, stress and burnout to a higher extent than those working onsite; even so, employers cannot be held responsible for all that goes on offsite at private premises. This is why the *voluntary aspect* of remote work and the fact that not all workers will have suitable work conditions and would want to work at employer premises must be addressed in contracts; here, a combination of onsite and remote work to better connect co-workers and maintain and strengthen company affiliation is favoured.

Worker *privacy* must be appropriately *protected* and this is particularly marked in the case of remote work where the absence of physical contact most often leads to onerous management control. Regulation must also reflect special measures that may have to be reimposed, such as lockdowns, in which workers must care for their children whilst facing employer pressure to carry out their employment duties. The active involvement of social partners is essential to address these issues and such involvement had been found lacking (Eurofound, 2020).

The importance of digital era education and training is constantly highlighted and this is amplified when we consider remote work, whereby it is not only a matter of the need for training but of *different types of training* carried out electronically; theoretically, this appears simple and flexible but is complex in reality because it requires workers to be better focused, motivated and self-disciplined. Employers are responsible for developing training that is not only suitable in terms of content but also appropriate for learning; training content should not be limited to work process content, it should also address issues such as stress management, alienation and healthy lifestyle promotion, such as e-workouts.

Remote work organisation will also present other issues to be addressed. Slovenian labour law, as well as that of other European countries, is mainly based

on the assumption that workers are physically present at employer premises, which has many implications. For example, employment contract termination is usually delivered personally at employer premises; this will not be possible when workers are working remotely and termination will have to be delivered by postal mail, which is time-consuming from the employer's perspective and leads to undesired complications that have already been resolved in Constitutional Courts. Similarly, issues arise regarding the notification of change in employment contracts and other documents that are usually delivered in person: personal delivery is timely and flexible, qualities always desired by employers.

In conclusion, deliberation on how to approach the drafting of suitable legal regulations and remote work implementation *to prevent further escalation in labour market inequality and segmentation* is in place. Remote work is mainly offered to better educated and qualified white-collar workers with a lower job loss risk, but a systemic increase in remote work would further deprive those in weaker positions of labour market opportunities, not only precarious workers, but also those with employment contracts for an indefinite period of time and women who are paid less than men for the same work output, and similar. Equal rights are a fundamental principle of labour law and particular attention is required to address this in the case of remote work.

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Polona Domadenik, Matjaž Koman, Tjaša Redek, Nada Zupan

REMOTE WORK DURING AND AFTER THE PANDEMIC: THE PERSPECTIVE OF SLOVENIAN EMPLOYEES

Introduction

The nature of work has been changing significantly in recent years, influenced by digitalization, technological advances (e.g. robotization, automatization, AI), gig economy, demographics and diversity. As a result, remote work has been steadily increasing in the past two decades and for example in the US it has spiked for the last two years bringing the share of 20 percent of total workforce (IWG, 2019). Remote work is usually divided into work from home (WFH), which is usually still within the commuting distance and can have various arrangements of full or partial hours working from home, and work from anywhere (WFA), literally meaning at any location and working remotely all the time (Choudhury et al., 2019). Although it is not a prerequisite, remote work usually entails using information communication technology (ICT).

The reasons for implementing remote work from the employer perspective were mostly offering attractive benefits packages to the employees in exchange of higher performance and retention, and savings with office, real estate and commuting costs (Noonan and Glass, 2012). On the employee side, the attractiveness of the remote work mostly stems from greater flexibility of when and where to do the work, which allows for a better work-life balance, and more control over work environment (e.g. clothing, layout, room temperature, music, etc.) (Gajendran and Harrison, 2007). The improved performance, which was confirmed by many studies comparing remote and on-site work, usually comes from increased autonomy and motivation, reduced time for commuting and less

sick days (e.g. Choudhury et al., 2019; Bloom et al., 2015, Allen et al., 2015). Research has also confirmed that having a choice to decide whether to work at home rather than being coerced into it has a positive impact on motivation and performance (McGregor and Doshi, 2015).

On the other hand, there are well known cases of some pioneers of large scale remote work like Yahoo (Swisher, 2013) and IBM (Simons, 2017) which have decided to bring people back to offices to improve collaboration, pace of work and sustain company culture. Researchers have also noticed fewer employee interactions, less effective team collaboration, problems with knowledge sharing, and reduced creativity (Allen et al., 2015; Kelliher and de Menezes, 2019). There are also possible disadvantages of WFH from the employee perspective, including lack of supervision and increased likelihood of miscommunication, no physical separation between work and personal time, less visibility of achievement and lower prospects for promotion, feelings of loneliness and isolation (Madell, 2019; Zhang, 2016). Therefore, it is important to analyze WFH and its effects on employees, their productivity and well-being in order to manage it effectively.

The COVID-19 pandemic seems to be a real accelerator of WFH and there are estimates that about 30 to 50 percent of people in the Western economies have worked remotely during the pandemic (Eurofound, 2020; Brynjolfsson, et al., 2020). From the early reports, it seems that experiences with WFH were mostly positive for both employees and employers. Moreover, many claim that WFH is there to stay as a new normal and there are predictions that the share of working days spent at home will increase fourfold from pre-COVID levels, from 5 percent to 20 percent (FRB Atlanta, 2020), especially because many activists and policymakers perceive it as a means to reduce commuting, energy consumption and traffic congestions (Noonan and Glass, 2012). In addition, technology is enabling more and more jobs to be done from home. For example, in the US it is estimated that 40 percent of all jobs could be done from home (Dingel and Neiman, 2020). Lastly, employee and job seeker preferences are also shifting, especially for professionals, and remote work is gaining in popularity (IWG, 2019).

The purpose of this chapter is to provide an overview of COVID-19 remote work experiences in Slovenia from the employee perspective, with the focus on WFH and relative to global developments. The chapter begins with literature review on remote work during the pandemic, followed by presentation of Slovenian data on work practices, incidence and experiences with WFH. It continues with a presentation of general work patterns during the

declared epidemic (mid-March to end of May) in comparison to pre- and post-epidemic times. The conclusion summarizes the main findings, limitations, and recommendations.

1 Remote work during/after COVID-19 worldwide

The use of remote work accelerated significantly during the pandemic. Eurofound (2020) reports that during the pandemic, about a half of employees in the EU were working from home at least some days per week and one third only from home. The highest percentage were those with tertiary education, as almost three quarters (74 percent) worked from home, compared to 34 percent of those with secondary and 14 percent with primary education. Among sectors, the highest share of WFH was in education (over 80 percent), financial services, and public administration. Among countries, the highest proportion of WFH was in Belgium, Ireland, and Italy, and the lowest in Hungary, Slovakia, Romania, and Bulgaria. It is important that about a half of those who were working from home indicated that their employer had provided the needed equipment. Those who worked from home, especially if they had children, were often working in their free time. In the US, it is reported that about one third of US employees shifted to WFH, bringing the total number of remote workers to about 50 percent of workforce (Brynjolfsson et al., 2020).

Despite the increasing incidence of remote work prior to the pandemic, we have to be aware of some specifics when implementing remote work due to COVID-19. Foremost, WFH was not a free or conscious choice to go remote for either employers or employees but rather forced upon them due to government-imposed measures to contain the virus. As a result, neither employers nor employees were sufficiently prepared for the move in terms of available technology (hardware and software) or necessary skills to work and manage remotely. On top of this, flexibility with regard to time and place was much reduced as people had to stay home and often had to do additional family related tasks, which was especially true for women and mothers (Anderson and Kelliher, 2020). The burden was especially high for those who rely on hired domestic help not living in the same household. These services were interrupted during lockdowns (Chowdhury, 2020). A study by Feng and Savani (2020) found that prior to the pandemic, there were no gender differences, but during the pandemic, women reported lower work productivity and job satisfaction than men. The pandemic posed challenges even to those who were otherwise well adjusted to remote working conditions and were used to work in alternative workspaces (e.g., cafés,

libraries, co-working spaces) outside of the home itself, and were suddenly limited to working from home during the lockdown (Carnevale and Hatak, 2020). Working conditions at home were very challenging for many, not just because of inadequate workspace and technology but also due to many distractions at home. Working from home was very difficult for parents who needed to assist their children with schooling and simultaneously do everyday household chores, such as preparing meals for everyone in the family and tidying up when possible. The boundaries between work and family life became blurred, and it was difficult for many to keep the two separate (Giurge and Bohns, 2020). Moreover, the increased workload was indeed linked to parental burnout (Grose, 2020). Then again, the WFH situation was difficult also for single and childless employees who had already been identified to feel loneliness and the negative effects of isolation the most (Achor et al., 2018).

Almost surprisingly, despite the aforementioned challenges of WFH during the pandemic, most people reported positive feelings about working from home. Dubey and Tripathi (2020) report that about three quarters of employees reported positive sentiments towards WFH during the pandemic. Similarly, Eurofound (2020) reports that about 70 percent of those who worked from home expressed their overall satisfaction with the experience. They were a bit more satisfied with the quality than the amount of work. In addition, 78 percent expressed the desire to continue working from home at least occasionally in case of further COVID-19 restrictions. Most would prefer working from home a few days a week and only 14 percent would want to work from home full time.

2 Working (from home) in Slovenia before, during and after the epidemic: the employee perspective

2.1 Sample description

In order to analyse remote work characteristics and implications for life/work balance in times of COVID-19 (March through August 2020) in Slovenia, an online survey was carried out.[1] The survey was aimed at 20- to 70-year-old residents in Slovenia who were employed or self-employed during the epidemic. A total of 2,444 responses to the questionnaire were received.

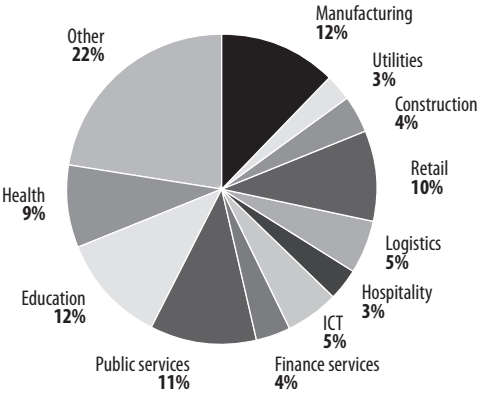
1 The survey was conducted in the period from September 1 to September 15, 2020.

The average age of the respondents is 44.4 years, while the mean age of the Slovenian population is 43.5 years. Fifty percent of the respondents are male. 88 percent are currently full-time employees, 6.5 percent are employed for less than 34 hours per week, and 5.3 percent are self-employed. 11.2 percent of the respondents have a fixed-term contract, while 1.35 percent are employed in employment agencies. Slightly less than 6 percent of the respondents (N=144) are self-employed and 81 percent of them do not employ others.

The majority, 77 percent of the respondents are married or living with a partner, 15 percent are single (half of them are living with their parents), while 6 percent are divorced. On average, the respondents have to take care of 1.1 dependent persons, while 40 percent of the respondents have no dependants. Among the respondents with dependents, 28.7 percent have one or more preschool children and 23.5 percent have children in the first three classes of primary school. Regarding the level of education, 42.4 percent of the respondents have higher education, 13.4 percent post-secondary education, while 42.7 individuals reported lower or general secondary education.

On average, the respondents reported 13.7 years of tenure with the current employer, while 9.7 percent worked less than one year in the company. Regarding the industry distribution (Figure 1), we can see that almost a third of the respondents work in the public sector (public administration, education, healthcare), 12 percent in manufacturing, and 10 percent in retail.

Figure 1. Distribution of respondents by industry

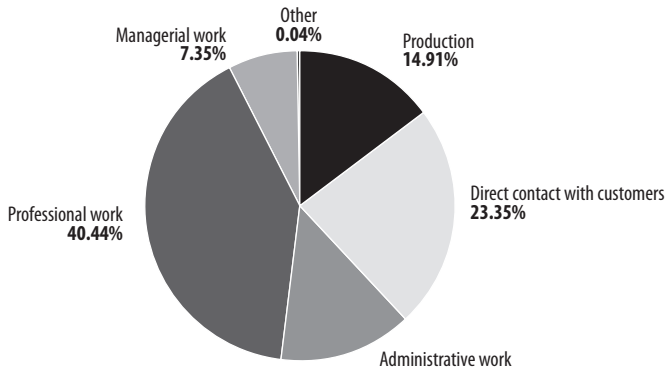


Source: Own survey, 2020; N = 2,444.

Almost 30 percent of the respondents work in medium-sized companies, while 28 percent work in companies with more than 500 employees. 16 per-

cent of the respondents work for a subsidiary of foreign MNE. Almost a half of workers do professional work, around 25 percent of all respondents are in direct contact with customers (Figure 2).

Figure 2. Distribution of respondents by type of work



Source: Own survey, 2020; N = 2,444.

2.2 Incidence and attitudes towards working from home

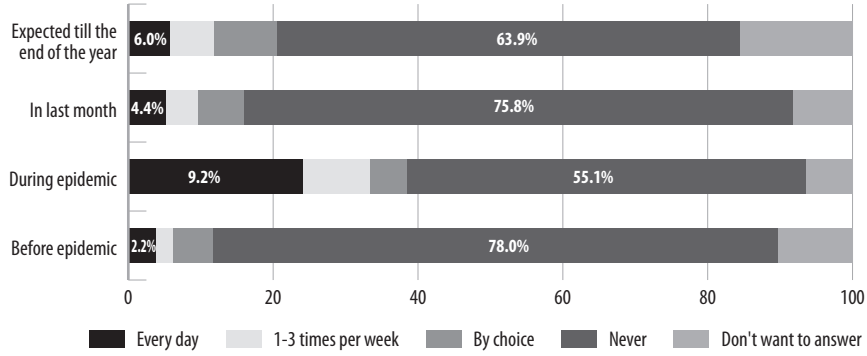
According to our survey, the share of employees working remotely every day in general increased six times during the epidemic (Figure 3). The prevalence of people working from home every day decreased significantly in September. Interestingly, only slightly less than 6 percent of them expect that they will work remotely every day until the end of the year.[2] The proportion of people not working remotely at all fell from 78 percent before the epidemic to 55 percent during it, but increased to almost the same pre-epidemic level in September. About two thirds of the respondents (64 percent) expect that they will not work remotely at all even in the last quarter of the year.[3]

Almost 30 percent of the respondents who have experienced remote work were more satisfied with remote work than expected, but, on the other hand, for 15 percent of them it was worse than expected. Younger employees (21-30 years) and employees with higher education were slightly more satisfied with remote work in comparison to other groups. The share of workers who were more satisfied with WFH than expected significantly decreases with age. Regarding the industry, satisfaction with remote work was above average in utilities, construction, financial and insurance services, as well as in public ad-

2 This estimate has been made before the recent lockdown in October 2020.
3 During the time of the interview, the second wave of the epidemic has not yet been foreseen.

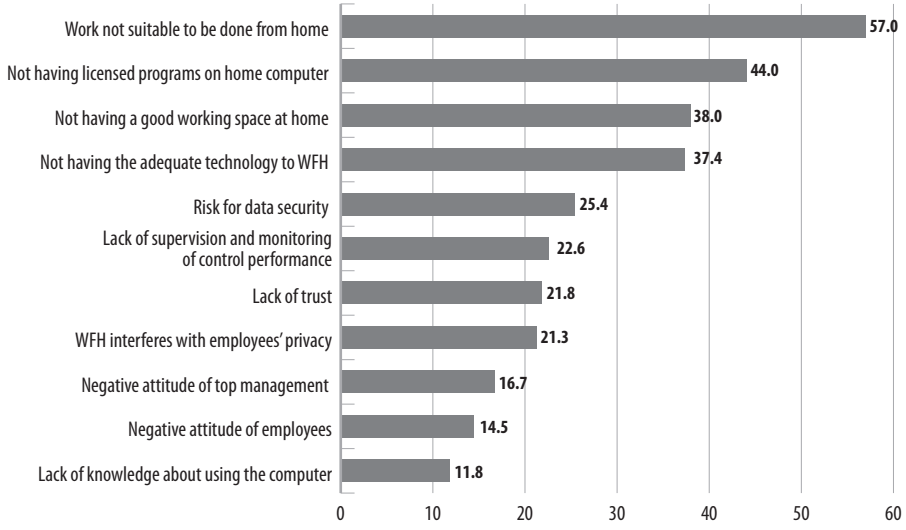
ministration. On the other hand, employees in retail, logistics, hospitality, ICT, real estate and other professional services reported that their WFH experience was worse than anticipated. WFH satisfaction did not significantly depend on the employee profile. Interestingly, the share of those who had a worse experience with remote work than expected was highest among professional workers.

Figure 3. The prevalence of working from home (percent of respondents)



Source: Own survey, 2020; N = 2,444.

Figure 4. Perceived barriers for WFH (percent of respondents who agree)



Source: Own survey, 2020; N = 2,444.

When the respondents were asked about their difficulties with WFH, most of them stressed the fact that either their work could not be done remotely or

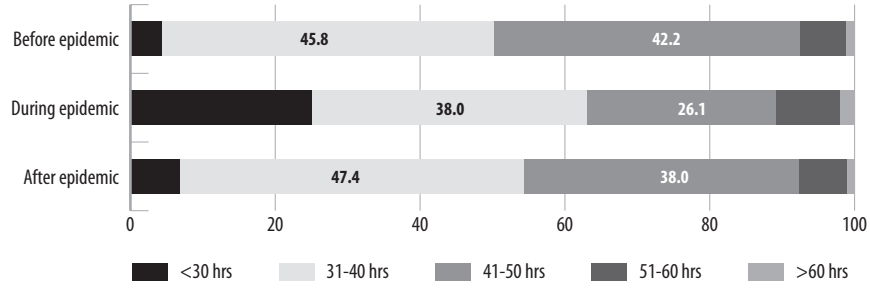
they did not have licensed software to do it from home (mostly on their own personal computers) (Figure 4). The lack of digital expertise was a lesser issue.

When evaluating potential advantages of WFH, the respondents outlined the possibility of not wasting any time or money on commuting, a more relaxed work environment, the ability to choose where to work from, and the improved balance of work and family time. Work-process optimization, more autonomy in decision making, and better productivity are less likely to be an advantage according to the respondents. Regarding potential drawbacks, the respondents noted huge dependence on internet connection, the problem of blurring the lines between work and personal life, disruptions in home environment, and worse knowledge transfer among co-workers. Lower productivity is, according to the respondents, among those factors that are less likely to represent a major drawback in working remotely.

2.3 Changes in work patterns and attitudes due to the COVID-19 epidemic

According to the survey (Figure 5), during the epidemic from mid-March to the end of May 2020, the share of employees who worked significantly more or significantly less hours compared to the pre-epidemic situation increased. A quarter of the employees reported that they worked less than 30 hours during the epidemic, compared to only 4.4 percent before the epidemic. On the other hand, almost 11 percent of the employees worked more than 50 hours during the epidemic, while the corresponding share before the epidemic was 7.6 percent.

Figure 5. Working hours before, during and after the COVID-19 epidemic (percent of respondents)

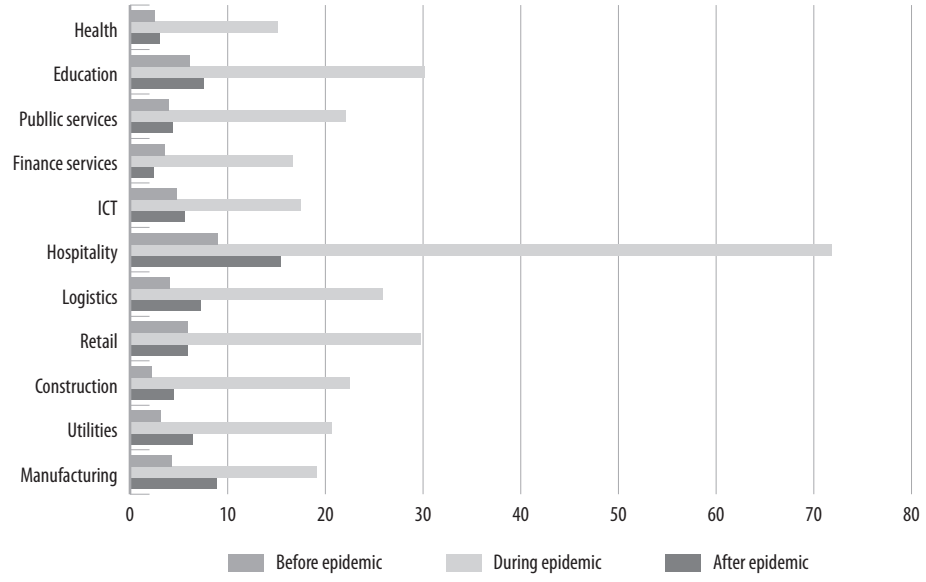


Source: Own survey, 2020; N = 2,444.

The employees who worked remotely every day during the observed period had a similar workload. Before the epidemic, slightly more employees who worked from home every day reported to work between 41 and 50 hours per week. On the other hand, only 13 percent of all employees working from home every day during the epidemic worked less than 30 hours per week and a similar share was reported also in the period after the epidemic. On general, we can observe that 57 percent of the respondents working from home every day after the epidemic have been working less than 40 hours per week.

When comparing working hours before, during and after the epidemic for different types of work, interesting patterns emerge (Figure 6). During the epidemic, the share of employees who worked less than 30 hours per week significantly increased for production and administrative workers, and employees who were in direct contact with customers. In hospitality, the increase of workers with shorter working time arrangements increased tremendously to 72 percent, while in manufacturing and construction around one fifth (22 percent) of employees worked less than 30 hours per weeks, which is still a significant increase when compared to the pre-pandemic level of four and two percent, respectively. In retail and logistics, the share of people working less than 30 hours amounted to almost 30 and 25 percent, respectively (Figure 6).

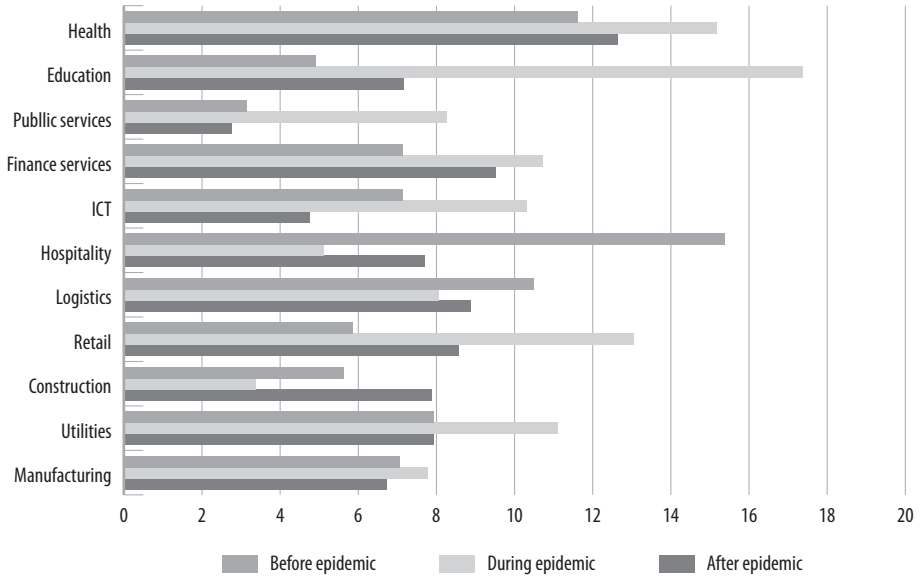
Figure 6. The share of employees with less than 30 hours of working before, during and after the COVID-19 epidemic (in percent of respondents)



Source: Own survey, 2020; N = 2,444.

On the other hand, almost one fifth of the respondents employed in education and healthcare reported that they worked more than 51 hours per week, whereas before the epidemic, only 3 percent of them worked more in education and 9 percent in healthcare (Figure 7). The share of workers with long working hours increased a lot also in the case of employees in retail, while in construction and hospitality the share of workers who worked overtime significantly decreased.

Figure 7. The share of employees with more than 51 hours of working before, during and after COVID-19 the epidemic (in percent of respondents)

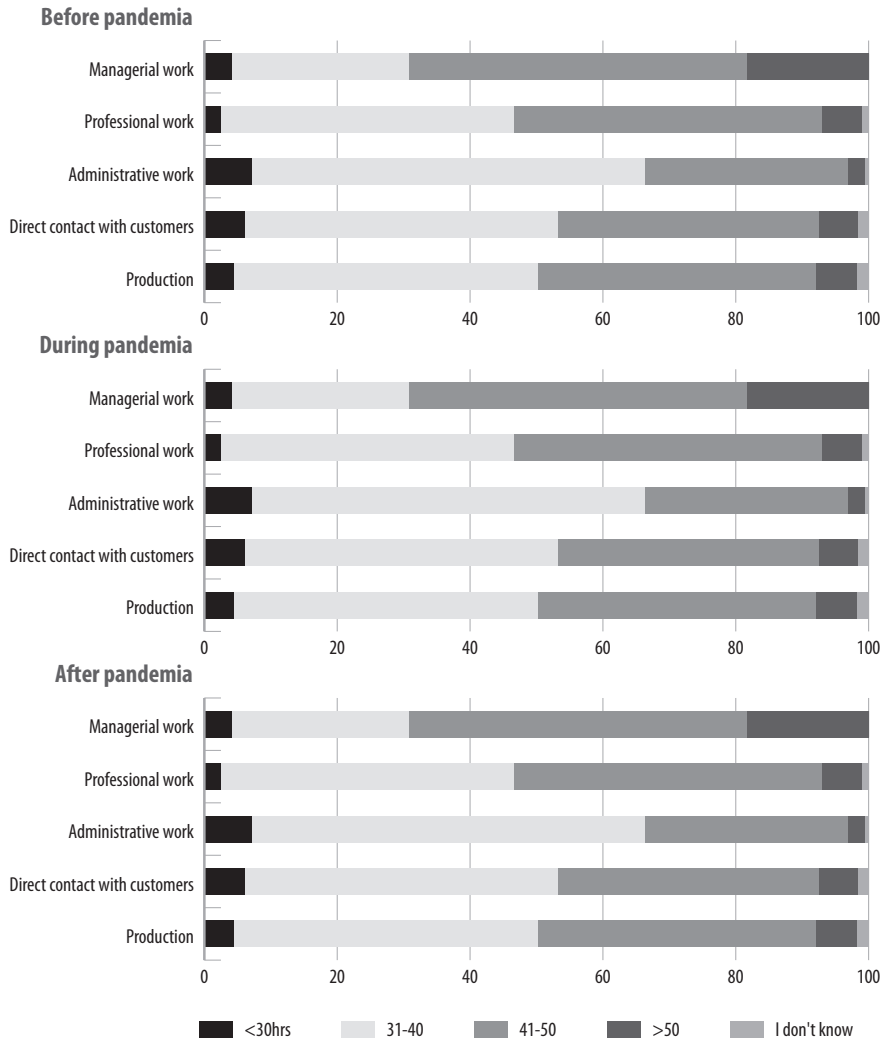


Source: Own survey, 2020; N = 2,444.

The proportion of managers who reported working more than 50 hours per week increased to over 20 percent during the epidemic, while the proportion of professionals to more than 10 percent. While the distribution of post-epidemic working hours has returned to the pre-epidemic ones for most profiles, we can still observe a relatively high share of production workers who have been working less than 30 hours per week (Figure 8).

The respondents also reflected upon the changes in different aspects of their lives and how those were related to their work during the epidemic (Figure 9). A significant increase was noticed in work and family related stress, work obligations and job insecurity. Ten percent of all employees report that both the number of paid and unpaid working hours increased slightly or significantly.

Figure 8. Working hours before, during and after COVID-19 epidemic for different types of work (percent of respondents)

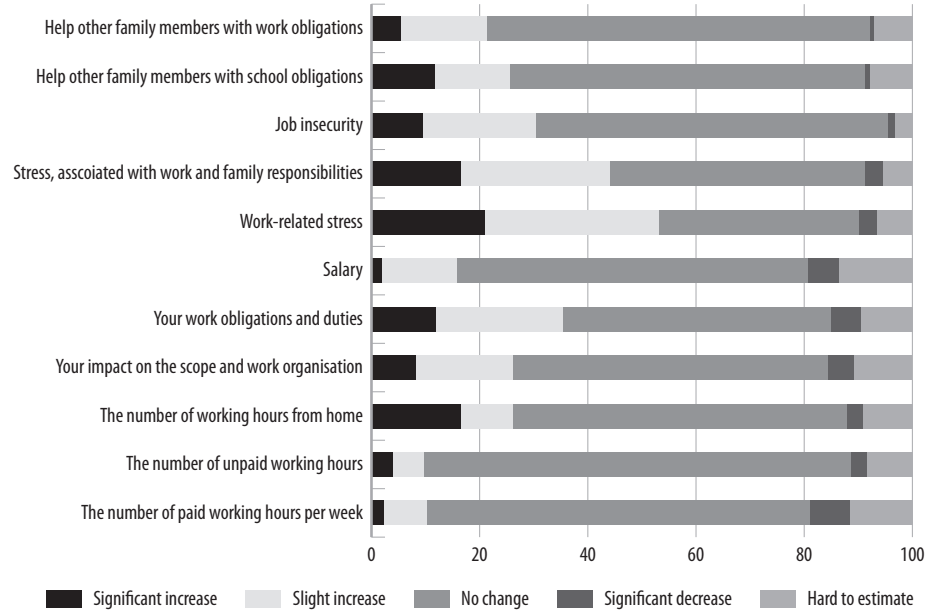


Source: Own survey, 2020; N = 2,444.

Every fifth employee experienced a significant or slight decrease in salary, a similar share reported increased work obligations and duties. Interestingly, around 25 percent of the respondents also report a slight or significant increase in time devoted to help other family members with school or work obligations, significantly more for those with dependent family members. However, the share increased to 40 percent if we take into account only parents with schoolchildren.

Similarly, the stress associated with work and family obligations significantly increased for those who have children older than 10 years. Interestingly, women were significantly less likely to report a slight increase in helping other family members with work or school obligations compared to men. There were no significant differences in stress levels (either work or family related) between those who worked from home or those who worked on- site.

Figure 9. The perceived change of work related issues during the COVID-19 epidemic (percent of respondents)



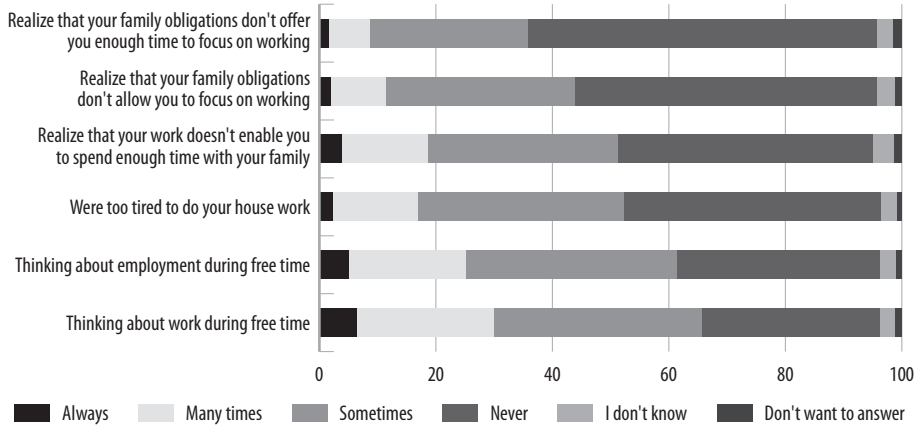
Source: Own survey, 2020; N = 2,444.

Almost a quarter of our respondents reported restructuring or reorganization (breaks, working methods, and other elements of business model) implemented by their employers that significantly affected their work. Most of them (78 percent) were notified about the changes before they were imposed, but only 42 percent were asked for opinion. Moreover, around a third of all respondents were actively involved in the process through suggesting solutions that have later been implemented. The influence on restructuring and reorganization was stronger for employees with tertiary education and understandably for those in managerial positions. Two thirds of employees in managerial positions, if compared with one third of the total sample, were able to present their opinions that were implemented later.

A bit less than one fifth of the respondents (17 percent) have been affected by their employers' reaction to the epidemic with the introduction of various schemes of shorter working time (4 percent of the respondents worked in this mode during the whole period of the epidemic), while 30 percent of the respondents were temporarily laid off (half of them for less than one month). More than half of the respondents (56 percent) continued to work in the same way as before the epidemic at the employers' premises using personal protective equipment (PPE). However, 20 percent of the respondents reported that they continued working without PPE at least for some time.

In terms of psychological concerns during the lockdown, one third of the respondents were always or often thinking about work and/or employment also during their free time. Almost 20 percent of employees were always or often too tired to do their housework or spend enough time with the family. On the other hand, only around 10 percent complained that family obligations didn't allow them to focus on working (Figure 10). The stress associated with work and family obligations was much lower in the case of employees who were able to choose work from home by themselves if compared to those who never worked from home or had to work remotely every day during the epidemic.

Figure 10. The frequency of thoughts and concerns related to work during the COVID-19 epidemic (percent of respondents)



Source: Own survey, 2020; N = 2,444.

Furthermore, 82 percent of the respondents think that it is very unlikely that they will lose their job in the coming months. Only 6 percent of the respondents expect that they will very likely lose the job. Almost 70 percent agree that it will be very hard (almost impossible) to find a job quickly if they are forced to look for a new job.

According to our survey, the set of required competences did not change significantly during and after the COVID-19 epidemic. Our respondents estimate that the most important competences after the epidemic are leading co-workers and teams from distance and expertise in how to use the company's ICT platform. On the other hand, good psychical health and work/life balance strategies are not perceived as important in the post-epidemic business environment.

While most of the respondents acquired soft skills related to teamwork, problem solving, communication, and competences related to good physical health before the epidemic, distance work skills, the use of ICT platforms, and leading hybrid teams were among the top competences acquired by the respondents during the epidemic. One fifth of the respondents claimed that they are planning to acquire competences on work/life balance and /or expertise related to psychical health by the end of the year.

Discussion and conclusions

The analysis of the coronavirus impact on work demonstrated that similarly to what has been reported from other studies, the COVID-19 epidemic in Slovenia has affected work and life in many ways, and for many employees the effects were negative. During the declared epidemic (mid-March to end of May 2020), many employers had to reorganize the work, including shortening the working hours and temporarily laying off employees. About six percent of the respondents reported fears that they might lose a job due to the COVID-19 epidemic, which is slightly less than reported by Eurofound (2020). Comparatively, it seems that fewer employees have experienced a reduction in working hours in Slovenia (25 percent) compared to the EU average (49 percent in April and 37 percent in July). The reduction of working hours depends mostly on the type of work (production, administration, and direct contact with customers) and industry (hospitality, manufacturing, and construction). Also, fewer of those respondents who worked from home reported reduced hours of work compared to those who worked on site. On the other hand, managers and those working in education and healthcare services reported an increase in working hours. Post epidemic numbers were for most employees similar to the pre-epidemic time, except for production employees, possibly indicating lagging behind in normalizing the demand for products. Moreover, there were also employees who reported increased work obligations (about 10 percent, similar to the EU average), which also reflected in the increased numbers of paid and unpaid hours.

With regard to WFH, although it significantly increased during the epidemic compared to the pre- and post-epidemic times, the prevalence was a bit lower than the EU average (40 percent). Similarly to other studies (e.g. Dubey and Tripathi, 2020; Eurofound, 2020), the experience of WFH was mostly positive in Slovenia and there are indications that more employees will continue to work from home than prior to the epidemic. It is interesting, however, that in the IT industry employees seem to be among the least satisfied with WFH. Our results also confirm previous findings that the choice of workplace is important to the employees, as those who were able to decide on WFH by themselves reported higher satisfaction and less stress.

Overall, about a half of employees reported increased levels of stress, stemming either from work or family life. Many employees with schoolchildren were busy helping their children with homeschooling. There is an interesting observation regarding gender in our study, as many report that COVID-19 affected women more because of additional home obligations (e.g. Anderson and Kelliher, 2020; Chowdhury, 2020), adding to the fact that initially even women in Slovenia were significantly more often engaged in unpaid housework (Sambt et al., 2016). In our sample, however, more men than women reported an increase in time devoted to helping family members. One might suspect that this happened due to their lower workload as more men reported reduced working hours. On the other hand, the increase in working hours occured mostly in education and healthcare services, which are both feminized professional fields. As Slovenian men are in general more engaged in housework, it seems that they took over some burden during the times of the pandemic. According to statistical data, men in Slovenia are at the top the world list of countries regarding the hours of unpaid housework (on average 114 minutes per day) (Statista, 2015).

Our results suggest that COVID-19 has had a strong impact on work and life. Employers would need to carefully design changes in work organization and offer appropriate solutions to reduce barriers to WFH. It is also very important to offer support to employees to reduce the negative effects of stress and increased work/family obligations on employee productivity and well-being. One obvious suggestion would be to more actively involve employees in preparing the changes and allowing them to choose what they prefer whenever possible, including the choice of WFH.

At the time of writing this chapter, Slovenia has just entered the second declared epidemic. It would be very interesting to compare employee reactions

to it this second time around. Based on lessons learned from the first wave, we can expect a smoother transition to WFH. However, demand effects might be more devastating forcing businesses to close down. Our study identifies the specific areas that need to be tackled by policymakers to improve targeting and more efficient use of public resources.

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Tej Gonza

EMPLOYEE-OWNED FIRMS: THE MULTIPLICITY OF CRISIS, RESILIENCE, AND SOCIAL RESPONSIBILITY

Introduction

Organizational resilience is a topic of research that has been reemerging through past decades, most commonly in the aftermath of more significant economic downturns. Today, we are in the anticipation of the effects of the global COVID-19 pandemic and the restrictive governmental responses on the global and regional economies, and resilience is back on the discussion table (Bartik et al., 2020; Cheema et al., 2020; Chinn et al. 2020; Dua et al., 2020). At the time of global inter-dependence brining the challenges to the pandemic context, there is another crisis lurking behind the corner; a large part of the economy – the part of business enterprises where ownership of companies is closely-held with a small group of owners – faces great and some novel challenges due to the ageing population of its founders and entrepreneurs. Slovenia is no exception here. In this chapter, we argue that the small and medium-sized enterprise (SME) sector is especially susceptible to the upcoming economic downturn and the mass retirement of the founding-entrepreneurial generation. We show that there is a relatively novel and effective way to organize ownership of SMEs, which generally improves the organizational resilience and also provides a responsible succession model. In the second section of this chapter, we propose that the SME sector faces the two-faced crisis; firstly, there is the pandemic situation and with it liquidity constraints for companies that mostly have low cash buffer days, and secondly, the ageing population brings problems of business succession. In the third section, we show that employee-owned firms are generally more resilient in times of economic crisis, but they are also socially

a responsible model of economic organization. In the final section we propose that the current crisis could be seen as the opportunity to develop employee ownership so that business succession is addressed, and, at the same time, responsible economic models are promoted.

1 Multiplicity of crisis

Europe's 25 million SMEs employ around 100 million people and account for half of Europe's GDP. The European Commission rightly designates the sector as the "backbone of the EU economy" (European Commission, 2020a). Slovenia's organizational demography is similar to that of the EU; most of our economy (excluding self-employed) is organized within more than 70,000 limited liability companies (LLCs), where there are a few individual partners or owners, and the minority of firms (around 500) are joint stock companies; Slovenian enterprises are generally relatively small and closely held, while the whole generation of founding entrepreneurs from the 1990s, when due to the transition to capitalism private enterprises were allowed for the first time , is near retirement. This brings the problem of business succession to the forefront. Next, the Slovenian economy is highly dependent; the OECD (2017) reports that around 44 percent of the economic activity depends on foreign markets. Considering both things, the Slovenian SME sector is facing a two-fold challenge: (1) liquidity constraints and solvency issues for SMEs; and (2) difficulties in transferring ownership of enterprises where there are no family successors or relevant investors.

1.1 COVID-19 and SMEs

The first economic forecasts after the pandemic painted an extremely pessimistic picture about future economic development, calling for a six percent drop in the global GDP or a 7.6 percent drop when hit by the second wave (OECD, 2020a). More optimism is granted with the latest OECD outlooks that predict a 4.5 percent global GDP decrease in 2020 and a five percent growth in 2021 (OECD, 2020d). The International Labor Organization proposed that "sustaining business operations will be particularly difficult for SMEs" and focused on the effects for the workers, with the conservative estimate saying that global unemployment will rise by 5.3 million and their high scenario predicting an increase of 24.7 million newly unemployed (ILO, 2020). SMEs will be affected on the supply side due to reduced access to workforce (health issues and restric-

tive measures by the governments), and on the demand side due to the drop in the aggregate levels of consumption and problems within the distribution chains. In addition, the virus could have potential spill-over effects on financial markets (Kohlscheen et al., 2020), which would further reduce access to the credit needed by the SME sector to maintain solvency. Regionally focused supply chains may shelter some SMEs from the shock; however, many SMEs today rely on global supply chains, which have been particularly problematic, due to the lockdowns and other restrictive responses to the pandemic, and will remain so for some time to come (Bonadio et al., 2020).[1]

Disturbed value chains, labor supply, and access to credit all hamper liquidity of the SME sector, and several studies have tried to calculate the expected liquidity shortages of SMEs due to the pandemic and governmental measures.[2] The OECD (2020b) used a cross-section sample of close to one million European non-financial firms in 16 countries. The report shows that without any government intervention, 20 percent of firms would run out of liquidity in one month, 30 percent in two months, and 38 percent in three months. After seven months, more than 50 percent of firms would experience solvency issues. Chinn et al. (2020) estimate an average SME bankrupt rate of 12.1 percent compared to a baseline of 4.5 percent without the ongoing crisis. The research study done by the JPMorgan Chase & Co (2020) indicates that 50 percent of SMEs are operating with fewer than fifteen cash buffer days, while the healthy SMEs have roughly two months of cash buffer (OECD, 2020c). The OECD (2020c) shows that more than half of SMEs face severe loss in revenues, with one third fearing to be out of business in a month, and almost half to be out of business in the next three months. Depending on severity of the pandemic and the governmental response to it, between 25 percent and 36 percent of all SMEs could permanently close their doors to business (Dua et al., 2020). Other empirical studies confirm the detrimental effects of the crisis on the SME sector (Gobbi et al., 2020; Humphries et al., 2020; Juergensen et al., 2020).

1.2 The ageing population and SME succession problems

SMEs are usually owned and governed by a founder-entrepreneur or a small group of founders. When the group of founding owners or investors leaves the

1 On the other hand, the pandemic is forcing European companies to localize/regionalize supply chains, tighten the value chains and relocate some of their businesses and/or production activities.

2 To calculate the liquidity gap, the studies evaluated the drop in revenues, operating costs, access to financial resources to service the gap, and the government support offered.

company, the business should be transferred to another person or legal entity that assures a continuous business operation of the enterprise. This is called business succession. The European Commission puts business succession on the very top of the list of challenges facing the SME sector in the near future (European Commission, 2020b). Every year roughly 450,000 firms and over two million employees are transferred to new owners, while on average one-third of these transfers are not successful. Due to lack of early preparation, difficulty in finding a successor, and unfavorable tax and regulatory measures, around 150,000 enterprises and 600,000 jobs are threatened each year (European Commission, 2020a).

Our region is especially susceptible to this problem. Koreen et al. (2019, p. 2) discuss business transfers as "engines for growth" and warn that in the former socialist economies of Central and Eastern Europe, "the first generation of entrepreneurs is nearing retirement, leading to a significant proportion of the business stock having to be transferred in the coming years". Močnik et al. (2019) shows that Slovenia is no exception; great number of business owners facing departure or retirement do not plan for succession in time and have difficulties in finding the right person or an institutional investor when the time comes. Like other European countries, we can expect the problem of ownership succession to increase in the upcoming years; around 23 percent of owners of SMEs are at least 55 years old, while 10 percent of current owners of SMEs are at least 61 years old (Močnik et al., 2019). If we consider that SMEs employ around 400,000 people in Slovenia, 40,000 people are at risk of losing their jobs just in the following five years and around 100,000 people in ten years[3] (not considering the withdrawals of owners due to different reasons than retirement). In the absence of suitable transition models, this does not only imply job losses, but also decreased government tax revenues, increased welfare expenses, possible disaster for rural communities upheld by the local SMEs, and rural depopulation.

In this section, we have exposed two immediate challenges facing the SME sector. The intention in this chapter is not to deal with particular problems faced by individual enterprises, but rather to discuss an ownership structure that could potentially address both of these issues on a more general or populational level – employee ownership.

3 Assuming away the withdrawals of owners due to different reasons than retirement (underestimating the prediction) and not taking into account family succession or buy-outs by competitors (overestimating the prediction).

2 Employee ownership – the responsible and efficient alternative

Employee ownership today comes in different sizes and shapes. It is first necessary to distinguish between the contemporary models from the historical models; employee ownership of the 21st century is fully compatible with market economy and private property. Different countries have different types[4] but the basic idea is that workers of a given company – all of the people employed there, from managers, accountants, engineers, to manual workers and secretaries – become co-owners of the company and receive some voice through a representative on the board (depending on the percentage, this can either be one seat or more seats on the board).

The most relevant and substantial example of employee-owned companies are American ESOPs, which are broad-based ownership models qualified as employee benefit programs. In the US ESOP, all employees must be included in the ownership by law, while the buy-out is financed through retained earnings of the underlying company and not through savings or assets of the workers. ESOPs establish employee ownership by, firstly, setting up an independent legal vehicle or a trust where a given percentage of shares is transferred by the initial owners (30 percent is the legal minimum to qualify for tax breaks but it can go up to 100 percent); secondly, the operating company contributes a given percent of retained revenues to the ESOP trust as a tax deductible expense every month, and the appropriated funds are then used to pay out the owners or external financiers until the full value of transferred shares is not repaid. Employees have individualized capital accounts in the trust that keep track of the value accumulated with their shares, however, they cannot sell the shares while staying employed with the company. Only when they leave, their shares are paid off and redistributed to the remaining workers. When a new employee joins the company, he or she is automatically included in the ownership scheme.

Because of the social need and the tax breaks, ESOPs have become a very common ownership structure in the US in the past 40 years; around 7,000 ESOP companies today employ 14.4 million employees, which means roughly 10

4 In the UK and US employee ownership mainly consists of employee ownership trusts that hold a certain percentage of ownership with the operating company (from 0 percent to 100 percent). In the US, those ownership trusts are called ESOPs (there are 7,000 ESOPs in the US employing 14.4 million workers) and in the UK EOTs (the biggest EOT is John Lewis Partnership). Next, there are co-operatives, democratic companies where each worker is an equal member. These are most common in Italy (Emilia-Romagna is a region where 40 percent of the economy is organized within the co-op sector), Spain (the biggest co-operative in the world, Mondragon, has 70,000 worker-members), and France. Also, there are different types of worker participation in Germany (co-determination or the right of workers to participate in management is a legal responsibility for all companies with more than 500 employees), and in Scandinavian countries (great plurality of business entities allows different types of employee-inclusion).

percent of private sector workforce in the States (NCEO, 2019). Both, the large numbers in the US and thousands of examples of employee-owned companies from Europe opened up space for a fruitful empirical research program on the effects of employee ownership on business performance, employees, and social responsibility. In this section we summarize some of the research findings.

2.1 Business performance and resilience of employee-owned companies

Employee ownership as a form for economic organization is often undermined by the numerous stereotypes, cliches, and false historic analogies. Fortunately, a rich research program over the last decades has been slowly pushing the concept out of the academic and political margins. Hundreds of empirical studies from the US, UK, Italy, Spain, France, Germany, Sweden, and other highly developed economies have been countering the ideological and often ignorant opposition to the ideas of employee ownership by showing that companies adopting such ownership models on average (i) outperform their conventionally structured competitors, (ii) achieve higher labor productivity, (iii) improve enterprise efficiency, (iv) decrease voluntary and involuntary employee fluctuation, (v) increase workers' organizational affiliation, and (vi) are generally more competitive (Ben-Ner and Jones, 1995; Bryson and Freeman, 2007; Oxera, 2007; Poutsma and Bramm, 2011, among others). A survey by Kaarsmaker (2006) shows that among 70 empirical studies, only 6 indicated negative effects, 48 indicated positive effects, and 16 found no statistically significant results.

The American employee ownership invention under the name ESOP also shows consistent advantages throughout the decades of its existence; ESOP companies enjoy four to ten percent higher productivity (Blasi et al., 2013; Brill, 2012; Freeman, 2007; Kruse, 2016), 2.3 percent greater annual sales-per-employee growth (NCEO, 2019), and 8.8 percent faster overall growth (Kramer, 2010). A report from Georgetown University states that ESOP companies in the US "paid their workers higher wages on average than other firms in the same industries, contributed more to their workers' retirement security, and—crucially in a year of recession—hired workers when the overall U.S. economy was pitched downward and non-S-ESOP[5] employers were cutting jobs" (Swagel and Carroll, 2010, p. 4). Other studies from the US show that ESOPs have – depending on the study – between 20 percent and 50 percent higher survival rates

5 S corporations are closely-held corporations in the US, most commonly limited liability companies. S-ESOPs are S corporations that set up an ESOP trust.

during the economic growth relative to non-ESOP competitors, with the times of economic crises pronouncing the difference (Blair et al., 2000; Blasi et al., 2013; Kruse, 2016). Results of similar significance are found when researchers looked at employment fluctuation; workers in ESOP companies are 50 percent less likely to voluntarily look for a different job in the next year (Kruse et al., 2012) and were between 20 percent and 50 percent less likely to be laid off during the 2009-2013 recession, which saved the US government around $13 billion in welfare contributions (NCEO, 2019). A report by Kurtulus and Kruse (2017, pp. 100-101) that studied the performance of US employee-owned companies during the Great Recession concludes that when "employee ownership combines with employee involvement, job training, and job security to create an "ownership culture", that may not only improve short-term performance but also contribute to employee commitment and innovative ideas that enhance long-term survival".

The resilience effects of employee ownership are also confirmed outside the US. The study on effects of employee ownership in the UK found that the employee-owned firms from different sectors and markets demonstrated increased economic resilience during the crisis; during 2008-2009, employee-owned companies showed sales growth of 11.08 percent, while the comparable conventional firms only had an average sale growth of 0.61 percent. In Europe, when 14.73 percent of conventional enterprises went out of business (mostly SMEs) until 2011, only 2.5 percent of cooperatives closed their doors (Roelants et al., 2012). In Italy in 2011, 68.3 percent of cooperatives kept the same level of employment and 18 percent reported an employment growth, while 12.9 percent of cooperatives faced job contraction. When unemployment in Italy reached 11.2 percent, the cooperative sector created around 36,000 new jobs between 2011 and 2012. A good example is Simone de Beauvoir Cooperative, founded in 1993 in Milan; it provides home care services for the elderly and adults with disabilities. During the crisis in 2010, it continued growing, creating 84 new jobs in that year alone (European Observatory of Social Economy, 2012).

The biggest network of cooperatives in the world, Mondragon Corporation, allows for crisis solidarity with the reallocation of workers and collective downward flexibility of wages. This helped bridging the crisis; while in Spain unemployment rose to 26 percent after 2009, Mondragon collectively decreased wages (between five percent and ten percent, with wages in higher positions decreasing more) and reallocated redundant members. In this way, the Mondragon group managed to overcome the crisis with almost no redundancies (Tremlett, 2013). One important reason why co-operatives are flexible during

the crisis is the ability to employ accumulated profit, collectively decrease business operation costs, and put in additional effort to increase resilience; La Veloz Cooperative, created in the early 1990s in Zaragoza, Spain, provides "bike eco-courier services". While all the other enterprises were subject to large hits during the crisis and especially in 2011, La Veloz was able to reallocate its profit to diversify its activities and increase the revenues (European Observatory of Social Economy, 2012).

Why are employee-owned companies generally more successful in withstanding an economic crisis? A general way to understand this is that ESOPs, co-operatives, and other forms of employee-owned enterprises are primarily focused towards the well-being of its workers. And when the "purposes of the businesses are aligned with those of members […], the results are loyalty, commitment, shared knowledge, member participation, underpinned by strong economic incentives" (Birchall and Ketilson, 2009, p. 12). There are quite a few more specific factors. For example, employee-owned companies and co-operatives generally do not rely on a debt capital to the same degree as conventional firms do. And when US ESOPs leverage buy-out or re-capitalization with debt capital, the default rates on these loans are well below the market average for comparable companies (NCEO, 2017). Next, researchers found that regarding conventionally structured enterprises, which tend to swing between two extremes when it comes to risk taking (during the periods of economic growth, they tend to take very risky decisions, while economic crisis makes them fiscally conservative, which has adverse effects), employee-owned companies take a more long-term view and are much more consistent in their approach towards risk. Conventional companies often focus on share value and profitability for which they may sacrifice jobs, wages, working and environmental standards, or other socially desired outcomes, while employee-oriented companies put much more focus on long-term employment stability. When workers become co-owners, they are more likely to look for options on how to cut costs, increase sales, and make their organizations more resilient in times of crisis. Solidarity is much more common in such companies, while the agency conflict is decreased, which additionally helps with worker-manager synergy and improves chances of surviving the crisis (Kurtulus and Kruse, 2017; Lowitzsch et al. 2017).

2.2 Social responsibility of employee-owned companies

Employee ownership (EO) has a few positive social effects. If we start within the company and people working there, the ownership provides both the ad-

ditional financial income and greater autonomy for workers. EO typically increases the wealth (Blasi and Kruse, 2019), wages of employees (Kardas et al., 1998), and improves workers' quality of life (Bryson, 2016; Erdal, 2011). The greater autonomy enjoyed by employees reduces worker-management conflict and leads to greater workers' organizational affiliation (Kruse, 2016; Summers and Chillas, 2019). Research shows that ownership on its own is not sufficient to develop the full potential in both business performance and workers' attitude change, ownership accompanied by the change in workplace culture, establishment of democratic leadership, positive encouragement, greater autonomy and transparency, improved information flows, and meaningful employee involvement (Fakhfakh et al., 2012; Kruse et al., 2010, 2008; Perotin, 2016; Rosen et al., 2005).

The COVID-19 crisis teaches us about the role of local ownership, short supply chains, and the importance of lower global dependence. SMEs, the locus of European economy, are generally considered as locally responsible companies with smaller distribution networks and lower global dependence (European Commission, 2020a). When a business owner is a member of the local community, there is a natural incentive "not to foul one's own nest". Similar logic applies (to an even larger degree) to employee-owned companies. Workers *are* "the local community", in which a business entity is embedded. Research shows a general tendency that worker-owned companies take a good care of the environmental standards and are more invested in voluntary social activities (Denton, 1999; Stranahan and Kelly, 2019; Gehman et al., 2019).

Despite the fact the Europe is probably the most social continent in terms of its social and welfare programs, economic inequality still presents a great challenge to our future. The European Commission reports that the issue of inequality has risen in importance in recent years, and that the current levels of economic inequality in Europe is not only morally unjust and socially unsustainable, but also economically inefficient (European Commission, 2010, 2017). One of the main sources of economic inequality is not income inequality but wealth inequality, where a large part of wealth inequality is found in the inequality in capital ownership (Piketty, 2017; Milanović, 2019). By democratizing the source of income and wealth (i.e. the capital) employee ownership lowers economic inequality without imposing any new governmental redistributive measures. Recent research from the US shows that employee ownership is a very effective tool in lowering economic inequality. One of the findings is that the average wealth or savings of low- and middle-income employees in

conventional companies is $17,000 and $165,000 in employee-owned companies (Blasi and Kruse, 2019).

3 Crisis as an opportunity

3.1 Scheme for workers' entrepreneurial activation

In the previous section, we showed that the SME sector faces great challenges in the light of the upcoming economic downturn. The implications are multifaceted, however, our focus here is how to save established businesses and jobs at risk. A recent article by McKinsey shows that "at least two of three jobs at risk are in SMEs, and more than 30 percent of all jobs at risk are found within microenterprises consisting of nine employees or fewer" (Chinn et al., 2020). This means hundreds of thousands if not millions of jobs potentially lost, and millions of people forced to search for new jobs in a sluggish economy. It also means lower tax revenue for the governments and an increase in expenditure for welfare.

If one of the greatest challenges to the sector are the liquidity constraints, we should try to promote models that provide the liquidity, while trying to avoid state aid in the form of direct subsidies, debt abatements, and other similar short-term measures that further increase government expenditures.[6] There are two examples in the EU that address these issues: "Sociedades Laborales" (SLs) in Spain and the Marcora Law in Italy. The general idea is to use the anticipated unemployment benefits in a lump-sum as a buy-out or start-up capital. The recipients are either workers of insolvent companies or people already receiving unemployment benefits. The caveat is that the business enterprise that is set up or restructured becomes an employee-owned enterprise. In this way the legislation in Italy and Spain not only uses the expected welfare benefits to activate or maintain the economic activity, but also builds socially responsible enterprises that, as we have seen in the second section, are more resilient to external shocks. While it is not the purpose of the paper to explain in detail these two schemes, we will briefly outline the main characteristics behind both, the Italian Marcora and the Spanish SLs.

6 Up to this point, governments have been providing aid to the business sector, while there were not enough measures in place to guarantee that the aid is shared proportionally with those at the forefronts and those that most urgently need it. For an alternative suggestion on how to use government aid for the business sector in times of crisis, see Ellerman and Gonza, 2020a.

In the mid-1980s, the Italian Minister of Trade and Industry passed the "Provisions for credit to cooperation and urgent measures to safeguard employment levels", which aimed to safeguard jobs and facilitate recovery of companies in crisis. The Marcora Law helped to finance 258 new employee-owned companies, creating or saving around 12,800 jobs, while in the last crisis, out of 73 recovered enterprises, close to 95 percent were worker buyouts negotiated through the Marcora framework (Antonazzo, 2018). The "idea behind the law was to consider the ever increasing and huge use of forms of unemployment benefits as a diversion of resources that could instead be used to expand the production base and involve unemployed workers into a productive function through forms of co-operative self-entrepreneurship and management" (International Cooperative Alliance, 2015). Marcora opened the possibility of collaboration between different stakeholders involved in the process, however, its main innovation is to provide state financial support schemes targeted at activating the unemployed and potentially unemployed. Founding members receive debt or share capital through dedicated funds financed by Italian cooperatives (each co-operative contributes three percent of the net annual income to the fond) and the state.[7] Workers match the external finance in ratio 1:1 by contributing their own capital which they receive as the lump-sum of anticipated unemployment benefits. The Marcora Law had a few positive effects. It saved jobs of workers who took entrepreneurial risk to start their own companies or buy out the existing ones. It incentivized employees to contribute their own capital by conditioning the external finances to workers' own shareholdings. This helped to adequately capitalize co-operatives, which otherwise often struggle with access to finance. Finally, the link between the external capitalization and unemployment benefit provided a strong incentive for workers to make sure that enterprises were successful; between 2007 and 2013, the survival rate of a conventional Italian firm was 48.30 percent (after three years from their creation), while the employee-bought enterprises founded after 2007 had a survival rate of 87.16 percent (International Cooperative Alliance, 2015).

Around the same time that Italy adopted the Marcora Law, Spain set up a similar scheme called the "Pago Unico" law that allows job seekers to choose to capitalize their unemployment benefits into a lump-sum in order to found employee-owned companies (Sociadades Laborares or SLs) or to restructure the existing conventional companies into SLs. By the end of 2013, there were over 11,300 SLs in Spain, mostly SMEs, providing around 63,000 jobs. The reason for a fast growth of SLs lies behind the legislation that institutionalized

7 FONCOOPER is a general fund for the promotion and development of all types of cooperatives, while Compagnia Finanziaria Industriale (CFI) is a special fund to help save companies in crisis.

a special financial treatment if certain conditions are met. SLs that are registered as limited liability companies must have a minimum of three founders with no partner having more than a 33 percent share of the company, while in the public SLs an individual may have up to a 49 percent share. Finally, SLs must set up a special reserve fund containing at least 10 percent of the annual profits, however, to be eligible for special tax benefits, the percentage should be at least 25 percent (Lowitzsch et al., 2017).

The Italian and Spanish experiences teach us about the potential of the employee ownership in saving businesses and jobs if the right financial schemes are set up. The anticipated COVID-19 related crisis is not outside our doors – it is on its way entering the economy. Governments should find a way to adapt the Marcora and Pago Unico laws, propose institutionally and culturally adjusted legislative proposals that would promote the entrepreneurial activity based on democratic values and social responsibility among the unemployed and potentially unemployed.

3.2 Employee ownership as an ownership succession tool

In Slovenia, the legal framework for ownership succession is deficient; the market for SMEs is underdeveloped, meaning that often owners of businesses are left without an appropriate successor, while the legislation does not promote plurality of ownership schemes that could expand the possibilities for the retiring or exiting owners of closely held companies. The American ESOP is a time-tested institutional model for buy-outs that allows a gradual transition to employee ownership without workers needing to invest their own personal assets or risk mortgaging (Frisch, 2002; Brill, 2017; Flesher, 1994). The majority out of 7,000 ESOP companies in the US transitioned as part of the succession process. The reason behind this is the legislation that institutionalized and incentivized ESOP-structured employee-buyouts.[8] Recently, a generic ESOP model "Co-op ESOP" has been conceptualized, supported by the national legislation (Gonza and Berkopec, 2019; Ellerman and Gonza, 2020b).

A co-operative is in most European countries, as well as in Slovenia, an employee-owned business that can become an ESOP-like company if certain changes in the legislation are made. In the US, the ownership inclusivity behind an ESOP has many positive effects on business operation and employee

8 In the US, ESOPs are established and incentivized within the ERISA framework (U.S. Department of Labor, 2020).

well-being and should be copied elsewhere. Tax benefits should be established by the legislation to encourage business owners to transfer their shares to a Co-op-ESOP, while the legislation should also introduce tax exemption for transfers of financial resources that the underlying company contributes to the co-operative for the buy-out purchases.

What would a Co-op-ESOP buy-out look like? Initially, a significant percentage of shares (either a gradual transfer of, for example, 30 percent or a full buy-out of 100 percent are possibly) would be transferred to a Co-op-ESOP from the retiring owner. The shares are put into a suspense account until they are repaid. There are two possible ways of financing the shares – either with an external loan by a private bank or with a sellers' credit option, where the exiting owner is gradually repaid over the upcoming years. In either case, the underlying company monthly contributes a (sustainable) part of its revenues to a Co-op-ESOP until the full amount is repaid. The shares are individuated from the suspense account to private member accounts in the Co-op-ESOP, proportionally to debt being paid off. But even before the debt is paid off, the Co-op-ESOP would exercise its ownership rights over the whole of its shares (individuated or not) by voting their shares as a block in the election of the company's board members or in other matters put to the shareholders. As usual, the members have one-person/one-vote to elect the board of the cooperative and to vote on any questions put to the members directly.

When the buy-out is completed, the Co-op-ESOP ensures that the shares in the trust remain with all the current employees by establishing an automated internal share market. There are two events to consider: (1) when an employee leaves the company, his or her shares are bought back by the Co-op-ESOP using the continuing ownership bonuses and redistributed to the accounts of the current employee-members; (2) when a new employee enters the company, he or she is automatically included in the ownership scheme with his or her individual capital account gradually accumulating in value. In that manner, the employee part of the ownership stays in the local community.

Conclusion

Despite the overwhelming evidence that employee-owned firms may business performance-wise be at least as good as their conventionally owned counterparts, the opposition to the EO program is still alive and kicking. Why is that?

Some opponents feel that it is "a return to a socialist past". Been there, done that. This could not be any further from the truth; if we think of the most watered-down socialist experiment with regard to economic enterprises – the Yugoslav self-managed enterprises, we know that they were only partially worker-governed and not worker-owned at all. Social ownership meant that workers did not have claims on the value of the company itself, hence, they would often decide to pay higher take-home wages rather than invest in the enterprise. In the literature, this is known as the horizon problem (Furubotn and Pejovich, 1970; Pejovich, 1995; Ellerman, 2004; Fulton and Giannakas, 2012). In addition to this, party politics often had a great influence over the governance of Yugoslav enterprises. Relevant contemporary models of employee ownership do not face these issues – workers have a claim on the net asset value of the company[9] and they have an indirect and self-directed influence on corporate governance through their representation on the company's board. Finally, the fact is that the most populated economy with EO firms in the US speaks for itself against the great (ideological) stretch of characterizing such enterprises as socialist.

If employee ownership is so successful, why do we not see more of it? Some scholars have implied that because markets select the efficient forms of economic organizations, such forms would ultimately prevail. And because conventional enterprises can be observed in much greater numbers, this must be the evidence for the relative inefficiency of employee-owned firms (Williamson, 1985, 1983; Jensen, 1983; Jensen and Meckling, 1976, 1979; Alchian, 1950; Alchian and Demsetz, 1972; Demsetz, 1988; Hansmann, 1996). Empirical research on business performance of EO firms summarized above directly contradicts such conclusions. In addition to this, the survival rates, which supposedly reflect relative efficiencies, have been higher for EO firms. Therefore, to explain their rarity we should rather explain differential formation rates (Ben-ner, 1988; Dow, 1993). So why are there not more employee-owned firms? Using some common sense and not pushing this question too far, the answer seems straightforward: the people who determine the legal form of a firm are, of course, its founders and they have the choice to use a legal form that will bring all later employees as co-owners or just as employees. Obviously, having no strong moral motivation, the founders will decide to bring in the rest of the workers as employees. This is the main reason for the scarcity of employee-owned firms.

To conclude, employee-owned firms tend to be more competitive, provide better working conditions, and are more responsible towards the environment,

9 The solution is in the so-called Internal Capital Accounts (Ellerman, 1986, 2004, 2020; Flakierski, 1989; Whyte and Whyte, 2014).

employees, and local communities. In the light of the anticipated liquidity crisis for SMEs, Italian and Spanish practices provide a model of how to re-capitalize and re-structure failing enterprises and make them employee-owned and on average more resilient to the challenges ahead. In the light of the business succession problems, the US ESOP provides a model that allows for an effective and responsible transition. There are many social and economic virtues to these models. For that reason, we encourage (i) owners of businesses to study the option of rewarding their employees with ownership, (ii) departing owners of SMEs to consider the ESOP succession model, and (iii) governments to provide institutional incentives that would promote employee-owned forms of economic enterprises. Both individual and structural actions must take place to establish a Slovenian economy with more productive, socially and environmentally responsible, resilient, and democratic firms.

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Authors
(Alphabetical order)

Žiga Agostini
Tjaša Anžič
Ramon Babič
Nik Badovinac
Julija Barbič
Tea Bela Kočar
Ida Brcar
Andreja Cirman
Barbara Čater
Tomaž Čater
Polona Černič
Polona Domadenik
Nika Drobnič
Eva Erjavec
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Peter Suhodolčan
Miha Škerlavaj
Žiga Verbič
Katja Zajc Kejžar
Nuša Zidarn
Nada Zupan
Vesna Žabkar

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