The Covid-19 crisis and small and medium-sized enterprises (SMEs) in Serbia: responsive strategies and significance of the government measures*

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Abstract

This paper investigates SMEs' responses to the COVID-19 crisis and the significance of specific government support measures for overcoming the crisis effects. The results show that SMEs have mostly implemented retrenchment and persevering strategies, whereas innovation and exit strategies were less used, as well as that the strategy selection depends on both the severity of the COVID-19 impact on individual business segments and SME specificities. Additionally, the analysis reveals that, from the SMEs' perspective, not all the future government measures are equally significant for recovery. Therefore, in creating an optimum measure package to support SMEs, governments must consider multiple criteria. The SMEs' responses, as well as the significance of specific government measures, vary depending on the characteristics of SMEs and the magnitude of COVID-19 effects on specific business aspects.

Keywords: COVID-19, SMEs, strategic responses, government measures.
JEL Codes: H12, L21, M21

Introduction

In parallel to the explosive spread of the COVID-19 pandemic and its impact on people's health, well-being, work, life, and the economy, 2020 saw the rapid growth of economic literature on the COVID-19 crisis in terms of the number of studies and topics. Among numerous matters that intrigued researchers all over the world are: short-term and long-term pandemic impacts on the economy or on individual industries. A great many studies are focused on analysis of the COVID-19 crisis impact on enterprises in general or SMEs. This includes analysis of its impact on certain aspects of business such as employment, finance, crisis management and the first strategic responses of companies to the COVID-19 crisis, as well as the necessary changes in their operations expected in the post-COVID-19 period. Further, considerable research considers the measures that certain governments introduced in order to mitigate the adverse pandemic effects on the economy and analyze the effects of those measures. Despite the already existing substantial literature, there is still a need to research and

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present new findings on COVID-19-related problems in the business operations of companies and the methods for overcoming those problems.

With regards to size, although SMEs are generally considered more flexible and adaptable to changes compared to large companies, their ability "to return to normal operations" (Juergensen/Guimón/Narula 2020:500) is significantly reduced in crises such as COVID-19. Higher vulnerability of SMEs in crisis conditions was evidenced in the wake of the 2008 crisis where SMEs faced severe financial difficulties and demand problems (Juergensen et al. 2020). In that respect, it is important to investigate what has happened to SMEs in the COVID-19 crisis, how SMEs reacted to the crisis and what government measures would help them overcome it. These issues become even more important and the COVID-19-related problems are even more evident in low and middle-income countries such as Serbia. Therefore, in this paper we pose two research questions:

RQ 1: How did SMEs react to the COVID-19 crisis?

RQ 2: What government measures do SMEs perceive as most significant in overcoming the COVID-19 catastrophe?

After the literature review on different firms' responses to the COVID-19 crisis and measures taken by governments in different countries, in the second section of the paper we consider empirical analyses of the SMEs' views and opinions obtained through the survey conducted in the wake of the crisis' first wave, in July and August 2020. The empirical analysis is consistent with the two theoretical discussions of this paper and comprises the analysis of the first strategic responses of SMEs to the COVID-19 crisis and the analysis of the SMEs' evaluation of the government measures for mitigating the COVID-19 crisis effects.

Related research

Firms' strategic responses to the COVID-19 crisis

Based on their review of selected research papers on crisis and firms' strategic responses to crisis published in the journals of the Strategic Management Society, Wenzel, Stanske and Lieberma (2020) identify four types of strategic responses to crisis: retrenchment, persevering, innovating and exit. Retrenchment refers to the cost-cutting measures which, at least in the short run, can compensate for the revenue decrease. In contrast to the retrenchment strategy, which may lead to a reduction in business scope, the persevering strategy is focused on the preservation of the status quo of a firm's business activities. The authors describe the innovating strategy as a strategically important and in some cases even unavoidable response, where firms have an opportunity

to realize strategic renewal in response to a crisis. They conclude that crisis situations relax the previously defined constraints on managers and often trigger the initiation of innovative activities in firms. Finally, the exit strategy may refer to the discontinuation of business caused by non-profitable outcomes, but from the strategic viewpoint, it may be a rational response to a crisis. By identifying the need to respond in this way, firms free up their committed resources for other ventures. Kraus, Clauss, Breier et. al. (2020) present the findings of their empirical research on the COVID-19 crisis impact on family firms in five Western European countries. The measures being applied by the surveyed family businesses may be assigned to three strategic responses formulated by Wenzel et al. (2020): retrenchment, persevering and innovating, while the exit strategy was not confirmed by this research. The authors show that the said strategies are rarely implemented in isolation but rather, and more commonly, as combined responses. Integrating their findings into the aforesaid strategic responses to the crisis as the analysis framework, the authors suggest a model of measures that firms may implement to adapt to the crisis in the short term and for stronger long-term positioning.

In their research Thorgren and Williams (2020) demonstrate that SMEs reacted to the crisis developing due to the worldwide pandemic caused by the coronavirus by immediately deferring investments, reducing expenses, and negotiating contract terms and commitments, yet were reluctant to commit to any action that would increase their debt-to-equity ratio. The research conducted on SMEs in Sweden in the midst of the unfolding crisis finds that 30 % of the respondent firms believed that the pandemic will have minimum or minor long-term effects on their business, while 47.8 % of the firms anticipated a major impact and 22.8 % of the respondents believed that the pandemic will have a critical impact on their business. More than a third of the surveyed SMEs (37 %) undertook no activities in response to the crisis, with 15 % of them seeing no need to react in the following three months, which may be explained by the fact that most of those "passive firms" (83.6 %) perceived no adverse effects of the pandemic on their cash flows. Accordingly, the anticipated liquidity issues are significant in deciding whether firms will or will not take immediate measures to counteract the crisis. Immediate actions are not in their nature innovative and are taken to conserve resources, decrease negative cash flows and reduce immobilization (tied up capital, deferred investments, layoffs/government-funded work allowance, reduced labor costs, reduced expenses, negotiated contracts and terms, and reduced stock). Long-term measures that SMEs planned to implement in the event of crisis extension include an even more drastic reduction of expenses and the exit option became more relevant. At the same time, revenue-increasing activities, innovation and borrowing are clearly activities that firms will refrain from. Therefore, their findings reveal that in the pandemic triggered crisis SMEs applied survival strategies focused on cost reduction (retrenchment) rather than

strategies focused on revenue and innovation increase. With respect to resources, firms' activities were focused on the conservation of the existing resources rather than investing in new ones (persevering).

Morgan, Anokhin, Ofstein and Friske (2020) assess the potential bright and dark sides of pivoting for new and existing firms in regards to the quality of opportunities in exogenous shock circumstances, such as the COVID-19 pandemic. The authors conclude that necessity-driven innovation rarely results in the purposeful testing of new fundamental hypotheses in order to find the most attractive opportunity to pursue, which is an essential part of pivoting, whereas opportunity-driven entrepreneurial initiatives are much more promising in this regard. However, testing fundamentally different opportunities requires significant resources, which may pose a great risk in a crisis. Historical experience shows that the difficulty of forecasting the duration of the crisis has motivated many existing firms to consider pivoting: changing their products, services, customers or markets (e.g. Alibaba's response to the SARS pandemic).

In accordance with the findings of the previous crisis management theories, Obrenovic, Du, Godinic et al. (2020) conceive a new model of sustainable business in the COVID-19 crisis. The model defines the essential characteristics and aspects of the business as well as strategies that firms should implement in the crisis and post-crisis periods. The conceptual characteristics of the sustainable business model in crisis are: a network structure and high virtuality, shorter and more diversified supply chains, a flexible and adaptable culture, distributed leadership and workforce, advanced digitalization and internet technologies and contingent financial planning.

Based on the review of manuscripts that studied SMEs in previous crises, Eggers (2020) proposes ways to overcome economic downturns in the areas of finance, strategy and the institutional environment. Guo, Yang, Huang and Guo (2020) examine the relationship between SMEs' digitalization and their COVID-19 crisis responses, while Papadopoulos, Baltasb and Baltac (2020) investigated the theoretical and practical implications of the digital technology used by SMEs in the COVID-19 crisis circumstances. On a sample of Chinese SMEs, Guo et al. (2020) demonstrate that digitalization promotes organizational changes and can thus help SMEs employ emergency responses by activating their dynamic capabilities, which represent comprehensive capabilities to build, integrate, and reconfigure internal and external resources when coping with a rapidly changing environment. In addition to its significance in the crisis response context, the research suggests that digitalization can improve SMEs' performance.

Yu (2020) anticipates that the supply chain vulnerabilities during COVID-19 will accelerate company efforts to diversify their supply chains outside China and that countries with lower operational costs will benefit the most. The author

also expects that the pandemic will cause some larger corporations to further vertically integrate throughout the value chain outside China, in order to secure more control over raw material prices, quality and supplies. Another expected trend is decentralization of manufacturing capacity, with companies looking to bring production to their domicile countries and rely on automation and other measures to reduce production costs. Gereffi (2020) also underlines that countries must maintain and strengthen their production capacities as one of the strategic options for resolutions of value chain issues, along with increasing the number of international locations to reduce overdependence on just one or two locations, searching for larger and more propulsive markets that may be served from the international production networks and stimulating production, research, and marketing partnerships with related industries.

Based on our review of the previous research, we may see how firms responded to the COVID-19 crisis, i.e., what their strategic responses to the crisis were most common, yet it still remains insufficiently clear what determines such responses. Although some of the research particularly focuses on SMEs (Thorgren/Williams 2020; Garcıa-Vidal/Guzmán-Vilar/Sánchez-Rodrıguez/ Martínez-Vivar/Pérez-Campdesuñer/Uset-Ruiz 2020; Guo et al. 2020), not one of those works examines in depth SME specificities as possible causes of the firms opting for a particular strategic response to the crisis. Therefore, relying on the previous findings regarding the significance of certain characteristics of firms in the COVID-19 crisis circumstances, as well as on the impact of the COVID-19 crisis on certain aspects of their business, in our paper we provide a comprehensive analysis of the roles of these factors in selecting an adequate strategic response to a crisis.

The factor that to the largest extent accounts for the selection of a particular strategy in response to the COVID-19 crisis is the very effect the crisis has had on a firm's business. Numerous studies have focused on examining the effects of the COVID-19 crisis on the overall business of companies or certain business segments. Foss (2020) observes that the COVID-19 crisis has led to manifold organizational changes in the business of firms, where the shift from field work to remote (online environment) work, changes in remuneration models and changes to the organizational boundaries are some of the most manifest ones. Similarly, research studies conducted by OECD (2020) and the World Bank Group (2020) also illustrate significant changes in the area of business activities organization. While the former, focusing on the food processing industry, shows that the very measures imposed to prevent the virus spread, such as increased distancing among employees, but absences of employees due to illness as well, had the most severe impact on the organization, reducing its efficiency, the latter argues that many mandatory organizational changes imposed due to the crisis, such as shorter working hours, had an adverse effect on the overall business (of both the lockdown sectors and those that were not subject to lockdown)

and made it especially difficult for firms to create adequate product mix offers. Further, some authors particularly highlight the impact of the COVID-19 crisis on logistics and supply chain disruptions (Yu 2020; Zhu/Chou/Tsai 2020). Yu (2020) explains that the main problems in logistics and in the entire supply chains as a result of the COVID-19 crisis are manifest as piling up of orders, the consequences of which are reduced efficiency and extended delivery terms. Moreover, according to this author, inefficient logistics is also reflected in difficulties that firms are facing in the procurement of raw and other materials due to closed state borders and other transportation problems. The area of demand for products and services is perceived as the business segment where the COVID-19 crisis had the most severe adverse effect, in terms of not only demand levels but its altered structure as well (OECD 2020; World Bank Group 2020). Other scholars analyzed the COVID-19 crisis impact on the financing of firms, with their focus on the sources of financing and the significance of previous savings made by firms in crises (Cowling/Brown/Rocha 2020). Finally, Zimon and Dankiewicz (2020) study significant changes that have occurred in the area of trade credits management, and illustrate, inter alia, changes in trade receivable management strategies with a major shift toward cash sales. Given that the COVID-19 crisis has had effects on different business segments, those differences must be considered in analyzing the response strategies selected by firms. In contrast to the previous research studies, with fragmentary approaches to the interconnections of these variables for the sake of more comprehensive analyses, we have attempted to encompass all of the aforesaid business aspects affected by the crisis. In the methodological section of the paper, we therefore include the crisis effects on all the aforesaid business segments of SMEs. In addition, the selection of a specific strategic response to the COVID-19 crisis may largely depend on the specificities of an SME. For instance, firms with a higher extent of business digitalization are more capable to respond effectively to a crisis (Guo et al. 2020; García-Vidal et al. 2020). Juergensen, et al. (2020) suggest that digital business creates new opportunities for SMEs, but the COVID-related crisis will simply accelerate the use of those opportunities in response to the crisis and for innovative internal operations. Besides digitalization, networking is another firm-specific factor that may largely determine how a firm will respond to a crisis. The existing studies reveal that collaboration with others may result in innovative responses of firms both during and in the wake of the COVID-19 crisis (Ebersberger/Kuckertz 2021). Chesbrough (2020) confirms that opening of firms through the exchange of knowledge and experience with others is a prerequisite for successful business, yet such form of connecting is particularly important in crises such as COVID-19. García-Vidal et al. (2020) underline how significant collaboration with others is for SMEs in their response to crises, with teamwork and communication across all channels as some of the priorities in crisis periods. Further, the significance of including the size and age of companies into the ana-

lysis is reflected in the findings that previous crises did not have the same effects on different groups of firms, classified by size and age. The Great Recession most severely hit the youngest and smallest firms (Fort/Haltiwanger/Jarmin/Miranda 2013), so we may assume that the responses of firms to the current crisis will vary depending on their size and age. Considering that matters such as supply chain diversification, production plant relocation to parent countries or increased international locations (Yu 2020; Gereffi 2020) are perceived by authors as important in the context of responding to the COVID-19 crisis, our analysis includes the scope of business activities of firms. While on one end the service sector was predominantly locked down during the COVID-19 crisis, incurring the highest losses (Fernandes 2020), some authors, on the other end, argue that, even though the service sector was severely affected, the manufacturing will take the biggest hit (Baldwin/Tomiura, 2020). Therefore, the differences between the service and manufacturing sectors must be taken into account in assessing their crisis responses. Differences between the local and international firms were also identified, both in terms of the impact severity and their responses to the COVID-19 crisis (Borino/Carlson/Rollo/Solleder 2021). Hence, we attempt to answer our first research question: *"How did SMEs react to the COVID-19 crisis?"* by considering all the previously explained specificities of SMEs.

Government measures to support SMEs in overcoming the COVID-19 crisis

According to the World Bank (2020), more than 130 countries have announced some form of support to SMEs, such as debt finance (594 instruments), employment support (358 instruments), tax (314 instruments), business costs (136 instruments), other finance (64 instruments), demand (54 instruments), business climate (45 instruments) and business advice (35 instruments). Apedo-Amah, Avdiu, Cirera, et. al. (2020) relate that in response to the COVID-19 crisis many countries have introduced a wide variety of support programs for firms and workers, ranging from covering wage payments for workers (e.g., Brazil's MP936 scheme or South Africa's Temporary Employer-Employee Relief Scheme), offering subsidized loans (e.g., Ghana's Adom and Anidaso loans scheme) to allowing deferrals of tax payments (e.g., deferral of corporate taxation in Brazil and Mexico).

Felipe and Fullwiler (2020) provide the classification of the measures taken and monetary amounts announced or estimated by the 68 members of the Asian Development Bank, two institutions (the European Central Bank and the European Union), and nine other economies. All measures to counteract the coronavirus effects are classified firstly according to the manner they affect the financial system, spending, production and the like, and secondly, according to their effects on the financial statements of households, businesses and

government, into nine categories: measures that support the normal functioning of the money markets and short-term finance, measures that encourage private credit creation, long-term direct lending to businesses, households, and state/local/regional governments, and forbearance, equity claims on the private sector, government support to income/revenue, redirecting or reallocating previously budgeted spending, central bank financing government operations, international assistance (borrower/recipient) and international assistance (lender/donor).

Emphasizing that workers and firms in the undeclared economy are unable to access the temporary financial support offered by governments, Williams and Kayaoglu (2020) evaluate the characteristics of the undeclared economy workers in Europe, who are now excluded from the temporary financial support for overcoming the COVID -19 pandemic consequences and advocate that governments shift from raising the costs of engaging in undeclared work (by increasing the sanctions) to voluntary disclosure schemes.

Martin (2020) records that Serbia has introduced a series of monetary and fiscal policies as part of the measures undertaken to alleviate the economic impact of the COVID-19 pandemic. The monetary policy measures refer to the lowering of the key policy interest rate and ensuring additional liquidity for the banking sector (through EUR/RSD swaps and repo transactions), enactment of a decision to prescribe suspension of borrower loan repayment liabilities (debt moratorium), as well as to the other measures supporting the citizens (e.g., easier pension payments), instructions and other measures (e.g., a shift from hard-copy to electronic-form reporting on credit operations). In the fiscal sphere the measures pertain to the tax policies (deferred payment of payroll taxes and contributions falling due during the state of emergency) and direct financial aid to the private sector (assistance to SMEs in the form of payment of three minimum wages for employees and assistance to large enterprises in the form of payment of 50 % of the net minimum wage for employees during the state of emergency). In addition, in order to preserve liquidity of the economy, the government provided funds for credit and guarantee schemes to support business companies through banks.

In contrast to the 2008 financial crisis, when in most European countries the policies were focused on supporting the banking sector and large construction companies to help them overcome the crisis, this time SMEs have become the center of policy attention (Juergensen et al. 2020). Recognizing that SMEs tend to be most vulnerable and that supporting SMEs is vital for overcoming the crisis, most governments placed the highest priority on providing SMEs with the necessary support.

In addition to the financial measures, which are predominant, the existing literature emphasizes the significance of non-financial measures as well for overcoming the COVID-19 crisis (OECD, 2020; Levashenko/Koval 2020; Juer-

gensen et al. 2020; Sannegadu 2021). For example, OECD (2020) enumerates financial and non-financial measures such as digitalization, networking and finding new markets, which were implemented by some governments as support to SMEs during the COVID-19 crisis. The question that remains insufficiently investigated both in theory and in practice is whether such government support measures ought to be the same for all SMEs, or whether the effectiveness of their implementation will increase if they are adjusted to the needs of specific groups of firms. In support of the latter proposal, certain authors remark that, in case of the COVID-19 crisis, governments should not adopt a "one-size-fits-all" approach (Juergensen et al. 2020; Sannegadu 2021) and that it is necessary to find a way to adapt both financial and non-financial interventions to the specific groups of SMEs. That is why our second research question *"What government measures do SMEs perceive as most significant in overcoming the COVID-19 catastrophe?"* tackles the significance of certain government support measures to SMEs given their specificities, i.e., differences among them.

Based on the differences among SMEs in respect of the COVID-19 crisis identified in the preceding theoretical section of the present paper, all the aforedescribed variables and differences in SMEs' responses to the crisis will be considered in identifying the most significant government measures for certain groups of firms in overcoming the crisis. Although some studies suggest that policy interventions will also need to be sensitive to the different types of SMEs (Juergensen et al. 2020), or analyze varying significance of the measures depending on the severity of the shock that the COVID-19 crisis caused to the business of firms – their demand and supply (Cirera/Cruz/Davies/Grover/Iacovone/Cordova/Medvedev/Maduko/Nayyar/Reyes/Ortega/Torres 2021), they are rather partial in character. To the best of our knowledge, there is not one study that relates all the aforesaid SME specificities and the severity of the COVID-19 impact on certain business aspects of SMEs to the significance of certain financial and non-financial measures for their recovery in such a comprehensive and detailed manner. Ultimately, since government measures in response to the COVID-19 crisis are different in developed and developing countries (Gerard/Imbert/Orkin 2020), and given that, due to the budget restrictions, it is all the more important for developing countries to allocate their resources appropriately, the results of this part of our analysis, in terms of identification of the most valuable crisis overcoming measures for SMEs in a developing country such as Serbia are even more significant.

Empirical context

Based on defined research questions, we observe the COVID-19 impact on SMEs in Serbia from two different yet complementary analytical aspects. The first aspect is focused on examining the SMEs' responses to the crisis. Consider-

ing their characteristics and the impact of the COVID-19 crisis on their different business segments, in this part of our analysis our objective is to determine which of the common crisis response strategies were used by the SMEs in this developing country. The second aspect of our analysis is focused on determining the significance of certain government measures for overcoming the crisis based on the SME characteristics, the COVID-19 impact on their business and the SMEs' selected strategy as their strategic response to the crisis. The sample for our analysis comprises 689 SMEs. The applied definition of SMEs is based on the definition of the European Commission and the OECD (2005:71). We obtained data for the analysis using a survey in July and August 2020. Our sample was made based on the received responses of the firms comprising the basic set of firms that were sent our survey questionnaire. In addition to answers about their characteristics such as size, the region of the country they operate in, networking extent and digitalization extent, the surveyed firms assessed the severity of the COVID-19 crisis impact (on a 5-point Likert scale) on their individual business segments (logistics, organization, demand, collection of trade receivables and financing), and evaluated significance of the following measures for overcoming the COVID-19 crisis: payroll tax relief measures; provision of more favorable loan terms with banks; provision of grants for liquidity maintenance; organization of educational trainings for transition to digital business; creation of the infrastructure for firm networking to enable the exchange of experience and knowledge; and creation of initiatives to stimulate demand. Finally, the surveyed firms answered whether during the observed period they implemented some of the initiatives that, according to Wenzel et al. (2020), are part of the retrenchment, persevering, innovating and exit strategies. Our sample is comprised of 23 % of micro-sized entities, 58 % small and 19 % of medium-sized entities. Slightly less than half the sampled firms (42 %) operate in the domestic market only, while the remaining 58 % operate internationally. In parallel to the country's entire SME sector structure, our sample includes a significantly larger portion of service industry firms than that of the manufacturing ones. The sample covers all the industries[1], and their distribution in the sample largely reflects the country's structure of the economy (with a predominant share of the wholesale and retail trade; followed by manufacturing, transportation and storage, and construction). The sample also reflects the country's regional distribution of SMEs with the largest share of SMEs from the most

1 The sample includes firms in the following industries: education; water supply, sewerage, waste management and remediation activities; mining and quarrying; arts, entertainment and recreation; human health and social work activities; real estate activities; electricity, gas, steam and air conditioning supply; administrative and support service activities; financial and insurance activities; information and communication; accommodation and food service activities; professional, scientific and technical activities; agriculture, forestry and fishing; transportation and storage; construction; manufacturing; other activities; wholesale and retail trade, repair of motor vehicles and motorcycles.

developed region (Belgrade) and the smallest share of SMEs from the poorest region (South and East Serbia). Firms from the Central and West Serbian region and from Vojvodina have equal shares both in the country's economy and in our sample (more detailed information on the sample is provided in the Appendix, in table relating to the descriptive statistics). Given that the sample structure corresponds to the structure of Serbia's economy per most criteria defined, the sample may be regarded as representative of the SME population in Serbia. Both empirical parts of the analysis were performed using probit regression models.

Strategic responses of SMEs in Serbia to the COVID crisis

According to Ginsberg (1988), changes in external and internal environments and performance outcomes may cause firms to make strategic changes but also may increase their resistance to changes. Therefore, in this section we consider our first research question, in what ways SMEs responded to the COVID-19 crisis.

Relying on Wenzel et al. (2020) as dependent variables we observe the four strategic responses to crisis: retrenchment, persevering, innovating, and exit. The first three strategies entail a series of initiatives firms use to respond to crisis while the last strategy is a complete withdrawal of firms from the market. As explanatory variables we use the COVID-19 crisis impacts on the different business segments: logistics, organization, demand, receivables and financing. In addition, the analysis includes different firm characteristics as control variables: size, industry, region, international business, digitalization, networking, belonging to a group, age and the use of the first set of government support measures. Descriptive statistics with descriptions of all variables are provided in the Appendix, while Table 1 presents the results of the conducted probit regressions.

As shown in the Appendix, most of the SMEs responded to the crisis using the persevering (86 %) and retrenchment (67 %) strategies. The same was found by Thorgren and Williams (2020), whose research reveals that immediate actions are taken by firms, irrespective of their expectations regarding long-term adverse crisis effects, to conserve resources, decrease negative cash flows and reduce immobilization rather than other innovative measures such as repurposing equipment, imagining new products or purposes of existing resources to expand investments in a revised future. Fewer than half of the SMEs used the pandemic crisis as an opportunity to introduce innovation, i.e., responded to the crisis using the innovating strategy (41 %), while an extremely low number of SMEs discontinued their business completely immediately after the onset of the crisis (below 1 %). Such a small number of firms in the latter group may be explained by the fact that this research was carried out at the very onset of the crisis, when most companies still did not discontinue their operations,

resorting to the exit strategy. This is consistent with the findings of Thorgren and Williams (2020), who demonstrate that, at the beginning of a crisis, most companies (over 80 %) were the so-called passive firms, which had not identified the adverse effect of the pandemic on their cash flows. Besides, government support measures intended for SMEs in Serbia were mandatory in nature, i.e., SMEs which received the support were under obligation to continue their business at least until January 2021.

We note that the SMEs often tended to combine more strategies, most commonly the strategy focused on cutting down on costs (retrenchment) and the strategy of continuous business adapting to the crisis (persevering). One explanation for the observed greater significance of the adaptive strategies (persevering and retrenchment) than the innovating strategy may be the perception of the surveyed firms' executives that they cannot control the environment induced by the COVID crisis, which is consistent with the conclusions of the research conducted by Smart and Vertinsky (1984), who demonstrated that a very uncertain environment encourages the use of the retrenchment strategy and adaptive strategic responses to the environment discontinuity because the executives perceive that they have little control over the events within the environment. Responsive strategies used by the firms we surveyed suggest that these firms first faced a strategic crisis, which manifests itself as threats to the potential of the firm, and then a performance crisis, which is reflected in the failure to achieve sales and financial targets (Müller 1985). A relatively large share of the innovating strategy in our sample is aligned with the view of Müller (1985) that crises offer better preconditions for product and technology innovations than the stable profitability because they increase the willingness to accept risks.

Table 1. Probit regressions results relating firm characteristics and the COVID-19 impact on different business aspects to SMEs strategic responses to the COVID-19 crisis

	Retrenchment			Persevering			Innovating			Exit		
	Coef.	Std. Err.	P>z	Coef.	Std. Err.	P>z	Coef.	Std. Err.	P>z	Coef.	Std. Err.	P>z
Group	0.130	0.119	0.276	0.144	0.146	0.323	0.191	0.113	0.091	0.215	0.219	0.325
Networking	0.205	0.136	0.131	-0.044	0.156	0.777	0.231	0.127	0.070	0.467	0.243	0.055
digital_business	0.214	0.108	0.048	-0.092	0.128	0.475	0.472	0.106	0.000	0.084	0.225	0.710
Governmenthelp	0.158	0.130	0.224	0.308	0.150	0.040	0.326	0.127	0.010	-0.697	0.250	0.005
Size_small	0.070	0.133	0.600	0.074	0.155	0.632	-0.135	0.128	0.294	-0.460	0.221	0.037
Size_medium	0.126	0.172	0.463	-0.401	0.195	0.040	0.184	0.163	0.259	-0.276	0.312	0.377
Region_Belgrade	0.126	0.135	0.352	0.200	0.147	0.174	-0.062	0.129	0.631	-0.293	0.223	0.189
Region_CentralandWest	-0.072	0.153	0.637	0.428	0.192	0.026	-0.138	0.147	0.346	-0.472	0.320	0.140
Region_SouthandEast	-0.016	0.195	0.933	0.243	0.233	0.298	-0.235	0.182	0.195	0.000	(omitted)	(omitted)
Scope_Int	0.066	0.242	0.785	-0.282	0.258	0.275	0.029	0.227	0.899	0.225	0.438	0.607
Scope_SerAndInt	0.104	0.110	0.340	-0.155	0.128	0.227	0.124	0.107	0.244	0.249	0.225	0.268
Age_10	-0.039	0.132	0.766	-0.304	0.150	0.043	0.144	0.126	0.250	0.508	0.238	0.033
Age_20	-0.078	0.129	0.548	0.151	0.160	0.346	0.116	0.126	0.359	-0.350	0.330	0.290
Ind_manufacture	-0.086	0.135	0.523	0.172	0.164	0.294	-0.007	0.130	0.955	0.336	0.224	0.133
Covidimpactlogistic_b	0.074	0.113	0.512	0.163	0.130	0.210	0.036	0.111	0.744	0.416	0.264	0.115
Covidimpactorganization_b	0.039	0.111	0.727	0.018	0.127	0.888	-0.022	0.108	0.838	0.152	0.227	0.503
Covidimpactdemand_b	0.558	0.119	0.000	0.107	0.141	0.448	-0.167	0.118	0.159	0.570	0.332	0.086
Covidimpactreceivables_b	0.122	0.111	0.274	0.079	0.132	0.550	-0.055	0.112	0.620	0.546	0.253	0.031
Covidimpactfinancing_b	0.447	0.122	0.000	0.144	0.139	0.299	0.046	0.115	0.691	0.345	0.227	0.128
_cons	-0.654	0.223	0.003	0.599	0.245	0.015	-0.805	0.209	0.000	-2.873	0.569	0.000
Wald χ2 model test (significance)	79.07 (0.000)			34.55 (0.0158)			52.85 (0.000)			43.16 (0.001)		
Pseudo R2	0.094			0.070			0.056			0.245		
Area under ROC curve	0.71			0.70			0.65			0.87		
Number of observations	689			689			689			689		

Note: The reference category in the case of: size is micro category (Size_micro), region is Vojvodina (Region_Vojvodina), business scope is Serbia (Scope_Serbia), age is group of firms established between 10 and 20 years ago (Age_10_20), industry is service and others (Ind_service and Ind_other). The robust standard errors are used in all probit analysis.

As shown in Table 1, the retrenchment strategy was implemented mostly by the firms that recorded severe negative COVID-19 impact on the demand for products and services (p=.000) and on financing (p=.000). Given that the falling demand had a negative effect on the income side of the business, this strategy measures, such as cutting down on the overall operating expenses, salaries reduction, and in some cases reduction of product lines or the firm's operating resources, constitute the first step in liquidity and profitability maintenance. The likelihood of opting to apply such measures increased when SMEs were unable to obtain additional financing from commercial banks or other external sources of financing. Although this strategy is naturally the fastest solution to maintain liquidity in a crisis, its positive effects may be expected in the short run only. This is supported by the research conducted by Kraus et al. (2020), who explain that in this way a firm may preserve liquidity in the short term, but in the long run it must streamline its business processes, reducing the unnecessary organization complexity and identifying the main sources of its inefficiency.

With regards to the persevering strategy, it is more probable for firms with up to 10 employees to apply the strategy of business and financial adaptation to the crisis than for the established medium-sized companies (p=.040). In addition, this strategy seems more likely to be used by not so young firms that have been operating for 10 to 20 years in the market (p=.043), which may be due to the fact that they have already faced an exogenous crisis, which may have occurred in the period of their foundation or early stage of business operation (war in 1999 and the 2008 financial crisis). It is interesting that this group of firms had less adverse effects on almost all business aspects than the youngest and the oldest firms sampled. This is consistent with the findings of Kraus et al. (2020) who underline that, once a firm has used the persevering strategy in a crisis, immediately after the low point of a crisis has been overcome, it is important for companies to start a reflection, training their employees to adapt processes based on what they learned during the crisis. Therefore, the previous experiences with crises of the older firms in our sample, and consequently, their choice of this strategy, may be the cause of the least adverse crisis effects on this age group of companies. Furthermore, results also show that the firms that used the first set of the government aid and support measures resorted to this strategy, i.e., they continuously adapted their business to the changing market conditions (p=.040), so we may conclude that the government support was used for maintaining the status quo in business. Ultimately, since the coefficient for the variable relating to the Central and West Serbia region is positive and statistically significant (p=.026), and that this is a less developed region than the reference region, we may conclude that the less developed the region is, the higher is the probability of resorting to this defensive strategy in response to the crisis. Based on the previous findings, as well as the fact that the sampled firms predominantly used retrenchment in addition to the persevering strategy, we

may deduce that the firms made adaptations, at least financial ones, using funds either from their internal sources (implementing the retrenchment strategy) or from the government budget.

An offensive strategy such as innovating is not associated with any of the firms that experienced severe negative effects of the crisis on any of the business segments. This is consistent with the conclusion of Klein, Sjaholm Knudsen, Lien and Timmermans (2020). Based on the experiences of the firms after the 2008–2009 recession, the authors propose that it is the firms that are moderately affected by the slowdown are more likely to invest much more in the research and development than the firms severely struck by the crisis. In Table 1 coefficients for variables of the COVID impact on business segments are negative (but not statistically significant). We can hence assume that in instances of less severe negative or even positive COVID impact on firms' business, such firms will be more likely to implement this strategy. In contrast, the group variable coefficient is positive and statistically significant (p=.091), which shows that belonging to a larger group of firms increases the likelihood for an SME to respond to the crisis by launching a new product, production and/or logistic process or through new business supporting activities. The positive and statistically significant coefficient for the networking variable (p=.070) also shows that the firms connected in some way with other companies are more likely to respond to the crisis using innovation. This finding underlines the significance of collaborating with others for SMEs, where they rely on and use the experiences, technologies, and resources for introducing their own innovative solutions. Chesbrough (2020) confirms that opening and exchange of knowledge and experience with others may accelerate a company's overcoming the COVID-19 crisis. The author explains that openness is important for innovation in normal circumstances as well, yet that in the times of the COVID-19 crisis it is becoming an imperative. According to Szymura-Tyc and Rollins (2020) networking is conducive both to the outward and inward innovativeness of firms. The COVID-19 disaster was perceived by a number of start-ups in Serbia as an opportunity for introducing completely new products, often relying on the resources or technology of larger companies and/or institutions such as science and technology parks. According to Ebersberger and Kuckert (2021) corporate-start-up collaboration is a good way to respond to the crisis with innovation. It is not surprising that our results also suggest an increase in the probability of such a response to the crisis in cases of the SMEs that apply some form of digital business (p=.000). This finding is confirmed by Juergensen et al. (2020), who emphasize that digitalization opens new opportunities for SMEs, but that the COVID crisis will simply accelerate the use of those opportunities in responding to the crisis and innovating of the internal operations. In the circumstances of partial or total lockdown of cities and entire countries, firms can leverage increased digitalization to create innovation and reach customers more easily. Analyzing the pandemic impact

on family firms, Kraus et al. (2020) conclude that, although innovation as a response to the crisis is beneficial in the short run, in the aftermath, the market competition requires family firms to engage in much more complex business model innovation in the long run. This may particularly refer to the innovators among SMEs because the benefits from an identified opportunity in the short run may quickly vanish with larger companies entering the market as followers of the attractive idea. Bearing in mind all their limitations, SMEs can hardly be competitive in the long term, so their innovative business models must be well planned and sustainable in the long run. Ultimately, in addition to the fact that the firms which used government support responded to the crisis using the persevering strategy, we may conclude that the firms in this group applied the innovating strategy as well (p=.010), the difference being that the former the government support funds were used for status quo maintenance, while the latter used the funds as an additional lever in using the firm innovative potential.

Although with the smallest share, the exit strategy was used by some SMEs following the pandemic impact on their business. Our results suggest that where the COVID crisis had an extremely severe negative impact on demand for products and services (p=.086) as well as on collection of receivables (p=.031), there was an increase in probability that such firms will not be able to cope with the newly occurred situation and will hence permanently discontinue their operations. With respect to the size, the results show that micro firms are more likely to apply the exit strategy than small firms (p=.037). Moreover, it is much more likely to happen among the youngest SMEs, (firms operating in the market up to 10 years) than among the SMEs present in the market between 10 and 20 years (p=.033). This is consistent with the findings of Fort et al. (2013) who demonstrate that smaller firms are more sensitive to fluctuations and that economic recession struck much more severely the smallest and the youngest firms.

Significance of the government measures for SMEs in overcoming the COVID-19 crisis

Ballesteros, Useem and Wry (2017) argue that firms have dynamic capabilities that enable them to more effectively sense areas of critical need following a disaster, make fast decisions, and reconfigure resources for efficient, effective responses. The authors predict that relief will arrive faster, and nations will recover more fully when locally active firms account for a larger share of disaster aid. Consequently, knowledge of the measures that, from the SMEs' perspective, are most significant for their overcoming the COVID crisis will ensure a more efficient allocation of resources for the creators of the government relief measures. Therefore, in this section we focus on the second research question, i.e., we investigate what government support measures are the most

significant for a developing country's SMEs in overcoming the COVID disaster. We analyze the significance of the measures considering the characteristics of SMEs, the COVID-19 impact on the individual business segments of SMEs and the responsive strategies implemented by SMEs.

As dependent variables we observe government measures, which may roughly be classified as financial and non-financial. Those are the following: payroll tax relief measures; provision of more favorable loan terms with banks; provision of grants for liquidity maintenance; organization of educational trainings for transition to digital business; creation of the infrastructure for firm networking to enable an exchange of experience and knowledge; and creation of initiatives to stimulate demand. In addition to the variables used in the first part of the analysis, as explanatory variables we added four strategic responses to the crisis: retrenchment, persevering, innovating and exit. Descriptive statistics with a detailed description of all variables is provided in the Appendix, while Table 2 presents the results of the conducted probit regressions.

The surveyed SMEs view as much more significant the financial measures, of which the predominant is the tax reduction measure, which is followed by loan conditions and the liquidity grants. Less significant are the non-financial measures, in the following order: demand initiatives, digital education and networking (Appendix). In addition, the importance of the measures varies depending on the firm characteristics, the severity of the pandemic impact on the specific business segments as well as on the strategic response to the crisis.

Table 2. Probit regressions results relating firm characteristics and COVID-19 impact on different business aspects to the importance of government measures in SMEs

	Tax Reduction			Loan Condition			Grants			Digital Education			Networking			Demand Initiatives		
	Coef.	Std. Err.	P>z	Coef.	Std. Err.	P>z	Coef.	Std. Err.	P>z	Coef.	Std. Err.	P>z	Coef.	Std. Err.	P>z	Coef.	Std. Err.	P>z
Group	0.098	0.123	0.425	-0.302	0.117	0.010	-0.020	0.116	0.861	0.138	0.128	0.280	0.086	0.131	0.514	0.010	0.114	0.932
Networking	0.186	0.138	0.177	0.155	0.128	0.226	0.191	0.128	0.136	0.412	0.138	0.003	0.683	0.136	0.000	0.316	0.126	0.012
Digital_business	-0.246	0.114	0.031	-0.223	0.108	0.039	-0.163	0.108	0.130	0.127	0.123	0.302	0.127	0.123	0.303	0.164	0.108	0.128
Governmenthelp	0.334	0.130	0.010	0.138	0.129	0.284	0.182	0.131	0.163	-0.210	0.147	0.154	0.171	0.156	0.274	0.112	0.130	0.392
Size_small	0.247	0.133	0.063	0.160	0.131	0.221	-0.031	0.130	0.812	0.219	0.150	0.144	0.007	0.148	0.964	-0.073	0.127	0.568
Size_medium	0.182	0.171	0.287	0.236	0.168	0.160	-0.176	0.169	0.297	0.045	0.197	0.818	-0.091	0.200	0.650	-0.199	0.167	0.232
Region_Belgrade	0.085	0.134	0.529	-0.305	0.133	0.022	0.059	0.130	0.649	-0.074	0.146	0.612	-0.274	0.148	0.064	0.078	0.129	0.548
Region_CentralandWest	0.218	0.157	0.163	-0.194	0.151	0.201	0.116	0.150	0.442	-0.059	0.165	0.722	-0.060	0.167	0.721	0.292	0.149	0.050
Region_SouthandEast	0.455	0.198	0.021	-0.058	0.188	0.756	0.220	0.187	0.239	-0.165	0.218	0.449	0.054	0.207	0.795	0.218	0.185	0.239
Scope_Int	0.178	0.243	0.465	-0.137	0.235	0.560	-0.367	0.245	0.134	-0.299	0.273	0.274	-0.923	0.348	0.008	-0.158	0.239	0.508
Scope_SerAndInt	0.021	0.112	0.854	0.112	0.108	0.303	0.010	0.107	0.925	-0.042	0.121	0.728	0.053	0.121	0.661	0.007	0.106	0.946
Age_10	-0.017	0.133	0.900	0.127	0.128	0.324	0.024	0.128	0.854	0.414	0.148	0.005	0.174	0.148	0.239	-0.148	0.125	0.238
Age_20	0.148	0.132	0.262	0.283	0.125	0.024	0.288	0.126	0.022	0.412	0.144	0.004	0.227	0.142	0.108	0.105	0.123	0.394
Ind_manufacture	-0.261	0.137	0.057	-0.092	0.131	0.482	-0.027	0.132	0.838	-0.072	0.152	0.636	-0.187	0.155	0.229	-0.046	0.129	0.720
Covidimpactlogistic_b	0.130	0.113	0.249	-0.019	0.110	0.860	-0.051	0.111	0.645	-0.048	0.126	0.703	-0.160	0.129	0.213	0.048	0.110	0.666
Covidimpactorganization_b	0.226	0.108	0.037	-0.030	0.108	0.784	-0.003	0.108	0.975	0.261	0.124	0.035	0.272	0.126	0.031	-0.029	0.107	0.782
Covidimpactdemand_b	0.262	0.121	0.031	0.095	0.122	0.437	0.216	0.125	0.083	-0.190	0.132	0.151	-0.114	0.135	0.398	0.251	0.124	0.043
Covidimpactreceivables_b	0.120	0.115	0.294	0.199	0.110	0.069	0.205	0.112	0.068	-0.002	0.126	0.988	-0.030	0.128	0.815	0.065	0.112	0.564
Covidimpactfinancing_b	0.085	0.123	0.489	0.597	0.117	0.000	0.558	0.114	0.000	0.277	0.130	0.034	0.154	0.129	0.233	0.004	0.115	0.974
Retrenchment	0.245	0.113	0.031	0.010	0.111	0.928	0.107	0.113	0.341	-0.067	0.128	0.602	0.183	0.130	0.158	0.019	0.111	0.865
Persevering	0.137	0.143	0.341	0.204	0.144	0.156	0.118	0.149	0.43	0.139	0.169	0.410	0.004	0.173	0.982	0.046	0.149	0.757
Innovating	-0.051	0.111	0.647	-0.093	0.107	0.380	0.016	0.105	0.88	0.208	0.117	0.074	-0.030	0.117	0.800	0.156	0.104	0.136
Exit	0.241	0.317	0.448	0.139	0.299	0.642	0.056	0.289	0.85	-0.420	0.352	0.233	-0.217	0.361	0.548	0.241	0.285	0.397
_cons	-0.746	0.240	0.002	-0.480	0.235	0.041	-0.969	0.241	0.00	-1.483	0.272	0.000	-1.370	0.291	0.000	-0.892	0.237	0.000
Wald $\chi 2$ model test (significance)	70.05 (0.000)			83.08 (0.000)			76.86 (0.000)			47.12 (0.002)			56.56 (0.000)			35.15 (0.050)		
Pseudo R2	0.088			0.091			0.080			0.064			0.077			0.038		
Area under ROC curve	0.693			0.698			0.686			0.679			0.687			0.622		
Number of observations	689			689			689			689			689			689		

Note: The reference category in the case of: size is micro category (Size_micro), region is Vojvodina (Region_Vojvodina), business scope is Serbia (Scope_Serbia), age is group of firms established between 10 and 20 years ago (Age_10_20), industry is service and others (Ind_service and Ind_other). The robust standard errors are used in all probit analysis.

In Table 2, with respect to the COVID impact on individual business segments, the results demonstrate that where the pandemic had an extremely severe negative impact on the business activities organization, there is an increased probability that measures such as tax reduction (p=.037), networking (p=.031) and/or digital education (p=.035) will be more significant for SMEs in overcoming the crisis. The first non-financial measure (networking) entails the creation of the infrastructure for SMEs' collaboration with other companies and other stakeholders in their environment. Through various forms of networking, firms may enable an inflow of new knowledge and experience, new technologies and ways of work, which will not only help their better and more efficient organization of operating activities during the COVID crisis (Chesbrough, 2020) but prepare the firms to respond better to similar situations in the future. The significance of networking with others during uncertain periods such as the COVID is emphasized by Andries, Debackere and Van Looy (2020). These authors explain that in crisis companies ought to experiment with several business models at the same time and not only obtain the resources for such experimenting from internal sources but leverage external resources through networking as well. Agarwal and Audretsch (2020) believe that a good way to overcome the adverse pandemic crisis effects is to implement the creative construction framework, which is reflected in networking and knowledge spillover between the entrants and incumbents, where the entrepreneurial spirit of the entrants leverages past knowledge, ideas, experience, and know-how of the incumbents to create new economic structures and pave the way forward. The second non-financial measure involves government-organized education of the SMEs to prepare them for the transition to the digital business model. Given the low level of digital literacy in the Serbian SMEs, organization of trainings in this area will open numerous opportunities for more effective organization of the daily activities of employees as well as provide better preparation for similar future situations. Our conclusion that increased organizational problems as a result of the crisis give rise to the need for knowledge in the area of digital business is supported by the research of Foss (2020). The author explains that the crisis effects will require the firms to introduce a number of short-run as well as long-run changes to the organization of work and reward systems, shifting of organizational boundaries and activity automation and planning. Therefore, digital education of SMEs may make these changes more effective. Similarly, Guo et al. (2020) demonstrate that digitalization (the use of digital technologies such as information, computing, communication, and connection technologies) promotes organizational changes. Discussing the advantages and disadvantages of digitalization used for more efficient organization of SMEs' activities during the pandemic, Papadopoulos et al. (2020) state that the use of digital technologies may help people to remain connected and perform their work tasks more easily, but stress that in that process special care must be taken to protect the privacy of the stakeholders, which

can be compromised. Finally, Juergensen et al. (2020) not only underline the necessity of networking and digitalization for overcoming the COVID crisis but highlights the government's role in the process of more efficient implementation of those measures in SMEs.

At the other end, SMEs that suffered the most severe negative COVID impacts on their receivables, demand, and financing favor financial measures. Hence, when a negative effect is recorded in the demand segment, in addition to the significance of the government measures for stimulating demand (p=.043), probability that financial measures such as tax reductions and liquidity grants are seen as significant also increases (p=.031 and p=.083, respectively). This is consistent with the findings of Apedo-Amah et al. (2020) that those firms that suffered significant negative effects of the pandemic on the demand face greater financial difficulties. According to the results of our research, SMEs, where the crisis made collection of receivables considerably more difficult or impossible are more likely to find highly significant recovery measures such as more favorable terms for borrowing from banks (p=.069) and provision of liquidity grants (p=.068). As expected, in instances of SMEs that suffered problems in financing due to COVID-19, the most significant is the measure of more favorable terms for bank loans (p=.000) and government grants (p=.000). In addition to the financial measures, this group of SMEs is more likely to evaluate as significant the measure of education in digital business (p=.034).

Observing the SMEs' characteristics, we see that the networking variable coefficient is positive and statistically significant for the digital education (p=.003), networking (p=.000) and the demand initiatives measures (p=.012). This means that if an SME engaged in networking with others during the COVID crisis in order to search for new knowledge and experiences, there increases the probability that for such a firm these non-financial measures for overcoming the crisis will be more significant. It is possible that the knowledge acquired through networking helped SMEs mitigate the pandemic impact so that based on such already realized experience they perceive as much more significant the government measures such as creating additional infrastructure for easier networking, education on the digital business and creation of initiatives to stimulate demand than the short-term financial forms of support. That the networking and collaboration contribute to the decreased significance of financial support measures in the times of crisis is proved by the decreased probability of significance of the loan conditions measure (p=.010) for a number of firms in the second group. Finally, the firms that had at least some form of digital business, assess financial measures such as tax reduction (p=.031) and loan conditions (p=.039) as not significant for them. Contrarily, the significance of the financial measures is particularly evident in SMEs that relied on the government financial aid from the very onset of the pandemic. Our results show that for the companies that used the first package of government financial measures there is a higher

probability that additional tax deferrals or reductions will be rather significant (p=.010).

Responsive strategies used by SMEs in response to the pandemic may also affect their preferences of the measures for overcoming the crisis. From the analysis we conducted it is evident that it is more probable that the financial measure of tax reduction will be significant for SMEs that resorted to the retrenchment strategy (p=.031) upon the crisis outbreak. In contrast to such firms, those SMEs that responded to the crisis through the innovating strategy will be more likely to find the measure of digital education significant (p=.074).

Our results suggest several other interesting findings regarding the general firm characteristics. In respect of their age, unlike the SMEs that have been present in the market between 10 and 20 years, those younger than 10 years cite digital education as a significant measure for overcoming the crisis (p=.005), while the SMEs operating for more than 20 years, in addition to digital education (p=.004), they designate financial measures such as loan conditions (p=.024) and liquidity grants (p=.022) as significant. Differences regarding the significance of certain measures are also manifest between the firms operating in the national market only and those operating in the international markets. The results have led us to conclude that SMEs operating in the domestic market only are more likely to perceive the measure entailing networking for the exchange of knowledge and experiences as much more important than the players in the international market. Regarding the industry differences, the analysis reveals that unlike manufacturing firms, the service sector firms assign much more significance to the measure of payroll tax reductions. This may be due to the fact that the negative crisis impact on the service sector was not only much more severe but directly linked with the duration of the pandemic, whereas the adverse impact on manufacturing firms may have delayed effects. Therefore, short-term problem solutions through deferral of tax liability payments may contribute to the survival of the service sector during the pandemic much more than to that of the manufacturing sector.

Results of this part of the analysis demonstrate that, from the SMEs' perspective, not all future government measures are equally significant for their recovery. Although the significance of the financial measures is particularly emphasized, measures such as digital education, creation of demand initiatives and a greater extent of knowledge exchange through networking are not inconsequential. Findings show that the significance of the government measures is dependent on the severity of the COVID impact on the business SMEs, their strategic response to the crisis and the characteristics of SMEs themselves. Therefore, the creators of government policies and support measure packages should consider all the foregoing in planning such policies and measures. A similar conclusion was reached by Juergensen et al. (2020). They underline that a "one-size-fits-all"

approach (Juergensen et al. 2020:507) should not be adopted, particularly in the long run, but that the significance and implementation of the government measures primarily depend on the SME type and challenges faced by SMEs during the crisis. The authors highlight that the policy mix will need to shift from its initial focus on the survival of SMEs during the first stage of the crisis (deferral of tax, social security payments, debt payments, and rent and utility payments; loan guarantees, direct lending to SMEs; grants and subsidies) towards a more structural and longer-term approach in order to promote their higher resilience and further growth in the aftermath (networking, internationalization, digitalization and innovation). Our results suggest that in creating an optimal package of support measures for SMEs, the government must take into account multiple criteria.

Although the presented results of our research may serve as solid guidelines to the governments of other countries in creating optimal measure packages to support firms in overcoming the COVID-19 crisis, the governments may at the same time encounter numerous challenges and limitations in the implementation of such measures. In addition to the financial limitations, significant barriers to the implementation of adequate economic policy measures for overcoming the crisis lie in the nature of those measures or in underdeveloped infrastructure for effective relief distribution, limited capacities (institutional, HR and organizational) for implementing the policy of stimulating innovation, digitalization, networking and other non-financial measures. Therefore, limitations in creating fragmented measure packages may be found in the same difficulties faced by some governments in response to the COVID-19 crisis so far, which are given below.

Jurgensen et. al (2020) highlight the prevention of liquidity crunches and minimization of employment losses as the greatest challenges faced in the survival phase. Thereafter, progressively, and as confinement measures are alleviated, policies need to refocus towards the renewal and growth phase for those SMEs that have survived the crisis. In the survival phase, the measures and policies are mainly financial in nature and they should be identical and independent of the SMEs' characteristics. In the renewal and growth phase, the measures and policies ought to be more structural, aimed at promoting innovation, internationalization, and networking, considering challenges faced by different sectors and different SME types. The survival phase is rather costly so that major limitations are budget limitations, which is particularly evident in developing countries. However, developed countries face such limitations as well, due to reduced budget revenues. On top of budget limitations, developing countries face other limitations due to underdeveloped infrastructure for relief distribution. Gerard et al. (2020) hold that government job support schemes in developing countries ought to have a much narrower focus and objectives than those in developed countries and that developing countries need to develop an extensive network

for economic and welfare assistance in emergencies, thus creating a patchwork of broader solutions than the higher-income countries, primarily because a great many workers are difficult to insure against unemployment for they work in the informal sector or have informal employment contracts, as well as for the fact that much more employees in developing countries are self-employed (which means that they are not insured for sick leaves or against (temporary) unemployment (OECD (2020)). Even when formally employed, employees in developing countries are perceived by these authors are less prepared to cope with the crisis effects that their counterparts in developed countries. Job retention schemes developed by numerous governments to overcome temporary shocks (demand decline, liquidity issues and the like) are much more significant to developing countries as without them there would be massive layoffs without insurance against unemployment. Moreover, setting up such schemes enables much simpler relief distribution in developing countries with underdeveloped social welfare programs and infrastructure, because in this way governments may use firms as intermediaries in relief distribution to employees. The said schemes are all the more significant to the countries whose labor markets have more frictions since it is much more difficult to find adequate employees for firms in developing countries, due to, inter alia, restrictions that laid-off workers face in signaling their capabilities. These are all reasons that workers in developing countries, who have lost their jobs, have much greater difficulties in finding new more permanent employment than their peers in developed countries. Due to budget limitations, developing countries should target support at low-wage workers, but this requires more adaptation on the part of higher-wage workers and exposes them to a risk that their jobs may not survive the crisis, which in turn may prove a limiting factor in the future, slowing down the economic recovery of developing countries. Job retention schemes in some countries require firms to contribute to employee wages by topping up the government compensated amounts up to the full wage amounts (e.g., large companies in Serbia), which may destimulate firms' retention of employees despite the government support. This means that job retention schemes need to be combined with other forms of support (low-interest loans, tax relief etc.). The OECD report (2020) reveals that some countries, in addition to the financial support measures, created measures to support SMEs in adapting to the new business running conditions, accelerating digitalization, findings new markets, stimulating innovation and (re)training workers. Such policies are focused on urgent short-term challenges for SMEs, but they contribute to greater adaptability of SMEs to the new conditions in a structured way, encourage the adoption of new technologies and new practices and increase their competitiveness in the post-crisis period. In the renewal and growth stage, developing countries will be facing limited capacities for implementation of the policy of stimulating innovation, internationalization and networking, and other sector-specific measures or measures tailored to the specific

SME characteristics. Such limitations are not only financial but institutional, HR and organizational, as well. Given the plummet of fiscal revenues in the survival phase, many middle-income and higher-income countries may be expected to face limited financial resources necessary for the resolute implementation of measures for support of renewal and growth.

Although all the aforesaid limitations faced by governments of both developed and developing countries may pose difficulties in the generalization of this research results, it is those limitations that additionally emphasize a need to appropriately design a mix of incentive measures adjusted to the characteristics of SMEs, for which purpose knowledge of the pandemic impact on the individual business segments of SMEs, characteristics of SMEs, and their responsive strategies is of exceptional significance.

Conclusion

In this paper we examined SMEs' strategic responses to the COVID-19 crisis and the significance of the government measures for SMEs in overcoming the crisis effects.

Our results reveal that the companies often combined several strategies and that the most used strategies at the time of crisis are persevering and retrenchment. The innovating strategy was much less implemented, while the exit strategy was the least used in response to the crisis. The retrenchment strategy was mostly used by the SMEs that suffered a severe impact on demand, and so did the SMEs that faced serious difficulties in obtaining financing. The fact that this strategy was more used by the firms that at the same time experienced huge limitations in earning revenues on one end and in obtaining financing from external sources at the other end, is due to such a response being a natural way of adapting to the crisis and maintaining liquidity in the short run. A similar defensive characteristic is the feature of the persevering strategy. Micro-enterprises manifest a higher probability of this strategy implementation than established medium-sized firms, and the same applies to companies that are 10 to 20 years old. Moreover, the probability of this defensive strategy of adapting to the crisis is higher among the SMEs that already used some form of the government's support measures to counteract the negative crisis impact, as well as among the firms in underdeveloped regions of the country. In contrast to the aforesaid two strategies, the use of the innovating strategy is not related to the firms that suffered severe negative effects in any of the business segments. Here, belonging to a group of related entities increases the probability of this strategy implementation, as does networking and application of some forms of digital business, all of which highlight the significance of the exchange of knowledge, experience, technology, resources, etc., achieved through collaboration, as well as the implementation of new methods in business. Ultimately, the

probability of the innovating strategy implementation is higher among the SMEs that already used some form of the government support measures, suggesting that the government support was used not only to maintain the status quo (the persevering strategy), but to leverage innovative responses to the crisis, too. The exit strategy was the least used strategy in our sample. The probability of its implementation is higher for firms that suffered a severe negative impact of the COVID crisis on sales and collection of receivables, which forced them to terminate their business. In addition, the probability of this strategy use is higher among the smallest and the youngest enterprises.

Results of the second part of our analysis demonstrate that, from the SMEs' perspective, not all future government measures are equally significant for their recovery. Therefore, in creating an optimum package of measures to support SMEs, governments must take into account multiple criteria. The general conclusion is that SMEs attribute greater significance to the financial measures in the following order: tax reductions as the most significant, then loan conditions and finally liquidity maintenance grants. These are followed by the non-financial government measures, as follows: demand initiatives as the most significant, while digital education and networking are least significant. The significance of these measures varies depending on the firm characteristics, the crisis impact on their business and their strategic responses. SMEs that suffered a severe negative impact on the business activities organization are more likely to perceive tax reduction, networking and digital education as more significant, while the firms that faced falling demand, in addition to the demand initiatives, are more likely to view the financial measures such as tax reduction and liquidity grants as significant in overcoming the crisis. Similarly, if an SME was severely affected in the areas of receivables and financing, it is increasingly likely to place greater significance onto the measures such as loan conditions and liquidity grants. When it comes to firm characteristics, the general conclusion is that the non-financial measures prevail in significance in the SMEs that engaged in networking during the pandemic, were part of business groups or applied some form of digital business, while the SMEs that in the previous period relied more on the government financial aid find the financial measures as much more significant. Responsive strategies used by SMEs to overcome the crisis may also affect their views of the government measures. Thus, it is more probable that the tax reduction measures will be more significant for the SMEs that resorted to the retrenchment strategy, while for those SMEs that opted for the innovating strategy there is a higher probability that the digital education measure will be more significant.

By underlining the dependence of the firms' response strategies on the severity of adverse exogenous crisis-driven factors on certain business segments of SMEs, as well as on the internal characteristics of firms, our research contributes to a better understanding of the determinants of firms' selection of strategic

responses to a crisis. Adding to the better understanding of the relevant elements of the strategy analysis in crises as a phase in strategic management in crises preceding the identification of strategic options and selection of the response strategy(ies), the results of our work represent a contribution to the crisis management theory, or the part of that theory studying crisis management strategies.

Although the aim of our research was not to study the process of identifying strategic options and selecting a strategic response to a crisis, or implementing the selected strategies, the results of our research may contribute to a better understanding and improvement of those processes, since the identification of the factors that determine response strategy selection and understanding of the nature of their influences on the strategy are prerequisites for an improved strategic management process.

Although each crisis is specific in its causes, manifestations, intensity, duration, territorial coverage, consequences and other characteristics, we believe that the results of our examination of the strategies firms implemented in response to the crisis caused by COVID-19 may be generalized to provide a basis for anticipating the most probable strategic responses of firms to future crises.

In addition to these theoretical contributions, our results may have implications of relevance to the economic policies, given that they demonstrate how the crisis impact, along with SME specificities, is important in the identification of the government support measures. In this respect, by designing a mix of incentives, governments may influence the behavior of firms during crises.

The research presented in our paper encompasses a relatively broad set of factors, from which a set of relevant factors was narrowed and selected through analysis for further, more detailed analysis of their significance and nature of the impact on the selection of response strategies as well as on the selection of the government support measures. Despite our effort to consider as comprehensively as possible both exogenous and endogenous determinants of the response strategy selection and the significance of the government support measures, we believe that various specific factors relevant for certain industries or types of firms remained beyond the scope of our analysis. We are therefore convinced that our analysis may be a good starting point for further studies of the factors determining response strategy selection as well of the government policy interventions in certain industries or firm types.

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Appendix

Descriptive statistics and description of variables used in the analysis

Variables	Description	Mean	Std. Dev.	Min	Max
Group	Variable takes value of 1 if an SME is part of a group, otherwise 0.	0.302	0.459	0	1
Networking	Variable takes value of 1 if an SME connected with other enterprises/groups of enterprises, since the COVID-19 outbreak, with the goal of exchanging the knowledge and experience for overcoming issues caused by COVID-19; otherwise 0.	0.189	0.392	0	1
Digital_business	Variable takes value of 1 if an SMEs introduced at least one of the following types of digital business (digital sale, digital marketing or digital procurement); otherwise 0.	0.610	0.488	0	1
Governmenthelp	Variable takes value of 1 if an SME used any type of government help within the government program for sustaining the impact of the COVID-19 to an economy; otherwise 0.	0.803	0.398	0	1
Size_small	Size_small =1 if an SME has between 10 and 50 employees; otherwise 0.	0.575	0.495	0	1
Size_micro	Size_micro =1 if an SME has less than 10 employeees; otherwise 0.	0.232	0.423	0	1
Size_medium	Size_medium =1 if an SME has between 50 and 250 employees; otherwise 0.	0.193	0.395	0	1
Region_Belgrade	Variable takes value of 1 if an SME is from Belgrade region; otherwise 0.	0.431	0.496	0	1
Region_CentralandWest	Variable takes value of 1 if an SME is from Central and West Serbia region; otherwise 0.	0.209	0.407	0	1
Region_SouthandEast	Variable takes value of 1 if an SME is from South and East region; otherwise 0.	0.104	0.306	0	1
Region_Vojvodina	Variable takes value of 1 if an SME is from Vojvodine region; otherwise 0.	0.255	0.436	0	1
Scope_Ser	Variable takes value of 1 if an SME is doing business only in domestic market (Serbia); otherwise 0.	0.418	0.494	0	1
Scope_Int	Variable takes value of 1 if an SME is doing business abroad, outside of Serbian market; otherwise 0.	0.057	0.231	0	1
Scope_SerAndInt	Variable takes value of 1 if an SME is doing business both in domestic market and abroad; otherwise 0.	0.525	0.500	0	1
Age_10	Variable takes value of 1 if an SME is operating 10 years or less; otherwise 0.	0.345	0.476	0	1
Age_10_20	Variable takes value of 1 if an SME is operating between 10 and 20 years; otherwise 0.	0.331	0.471	0	1
Age_20	Variable takes value of 1 if an SME is operating 20 or more years; otherwise 0.	0.324	0.468	0	1
Ind_manufacture	Variable takes value of 1 if an SME operates in manufacturing sector; otherwise 0.	0.213	0.410	0	1
Ind_service	Variable takes value of 1 if an SME operates in service sector; otherwise 0.	0.567	0.496	0	1
Ind_other	Variable takes value of 1 if an SME did not cite sector type; otherwise 0.	0.219	0.414	0	1
Covidimpactlogistic_b	The COVID-19 impact on logistics (supply chain, distribution etc.) is meassured on a 5-point Likert scale - from 1. extremely negative to 5. extremely positive. Variable takes value 1 if an SME indicated the COVID-19 impact on logistics as extremely negative or negative; otherwise 0.	0.604	0.489	0	1
Covidimpactorganization_b	The COVID-19 impact on organization of business activities (organizing workfoce, production etc.) is meassured on a 5-point Likert scale - from 1. extremely negative to 5. extremely positive. Variable takes value 1 if an SME indicated the COVID-19 impact on organization of business activities as extremely negative or negative; otherwise 0.	0.594	0.492	0	1
Covidimpactdemand_b	The COVID-19 impact on demand for SME's products is meassured on a 5-point Likert scale - from 1. extremely negative to 5. extremely positive. Variable takes value 1 if an SME indicated the COVID-19 impact on demand for SME's products as extremely negative or negative; otherwise 0.	0.707	0.456	0	1
Covidimpactreceivables_b	The COVID-19 impact on SME's receivables collection is meassured on a 5-point Likert scale - from 1. extremely negative to 5. extremely positive. Variable takes value 1 if an SME indicated the COVID-19 impact on SME's receivables collection as extremely negative or negative; otherwise 0.	0.604	0.489	0	1
Covidimpactfinancing_b	The COVID-19 impact on financing (bank loans, borrowing from friends etc.) is meassured on a 5-point Likert scale - from 1. extremely negative to 5. extremely positive. Variable takes value 1 if an SME indicated the COVID-19 impact on financing as extremely negative or negative; otherwise 0.	0.316	0.465	0	1
Retrenchment	Variable takes value 1 if an SME implemented one of the following activities during the crisis: total cost reduction, salary cost reduction, product/service reduction, product/service lines reduction or business assets reduction; otherwise 0.	0.662	0.473	0	1
Persevering	Variable takes value 1 if an SME implemented one of the following activities during the crisis: daily business adjustments, financial adjustments; otherwise 0.	0.859	0.348	0	1
Innovating	Variable takes value 1 if an SME implemented one of the following activities during the crisis: introduction of new products/services, new production methods, new logistic methods, new support activities; otherwise 0.	0.406	0.492	0	1
Exit	Variable takes value 1 if an SME completely stopped operating or is planning to shut down during the crisis; otherwise 0.	0.032	0.176	0	1
Importance_taxreduction_b	The importance of tax reduction meassure in overcoming COVID-19 crisis is meassured on a 5-point Likert scale - from 1. not important at all to 5. extremely important. Variable takes value 1 if an SME indicated tax reduction meassure as extremely important or important meassure in overcoming the COVID-19 crisis impact; otherwise 0.	0.682	0.466	0	1
Importance_loanconditions_b	The importance of meassure for getting more favorable loan conditions with banks in overcoming COVID-19 crisis is meassured on a 5-point Likert scale - from 1. not important at all to 5. extremely important. Variable takes value 1 if an SME indicated meassure for getting more favorable loan conditions with banks as extremely important or important meassure in overcoming the COVID-19 crisis impact; otherwise 0.	0.520	0.500	0	1
Importance_digitaleducation_b	The importance of meassure for organizing trainings in digital business in overcoming COVID-19 crisis is meassured on a 5-point Likert scale - from 1. not important at all to 5. extremely important. Variable takes value 1 if an SME indicated meassure for organizing trainings in digital businessas extremely important or important meassure in overcoming the COVID-19 crisis impact; otherwise 0.	0.192	0.394	0	1
Importance_networking_b	The importance of meassure for establishing infrastructure for collaboration and networkinging in overcoming COVID-19 crisis is meassured on a 5-point Likert scale - from 1. not important at all to 5. extremely important. Variable takes value 1 if an SME indicated meassure for establishing infrastructure for collaboration and networkingin as extremely important or important meassure in overcoming the COVID-19 crisis impact; otherwise 0.	0.192	0.394	0	1
Importance_demandinitiatives_b	The importance of meassures for encouraging demand for products/services in overcoming COVID-19 crisis is meassured on a 5-point Likert scale - from 1. not important at all to 5. extremely important. Variable takes value 1 if an SME indicated meassures for encouraging demand for products/services as extremely important or important meassure in overcoming the COVID-19 crisis impact; otherwise 0.	0.393	0.489	0	1
Importance_grants_b	The importance of liquidity grants meassure in overcoming COVID-19 crisis is meassured on a 5-point Likert scale - from 1. not important at all to 5. extremely important. Variable takes value 1 if an SME indicated liquidity grants meassure as extremely important or important meassure in overcoming the COVID-19 crisis impact; otherwise 0.	0.431	0.496	0	1