

COMPLEX INTERNATIONALISATION STRATEGIES DURING CRISES: THE CASE OF SLOVENIAN EXPORTERS DURING THE GREAT RECESSION AND COVID-19 PANDEMIC¹

Abstract. Studies of firm growth and new exporters in this millennium reveal greater complexity and diversification in internationalisation strategies, especially in small and open economies. We examine the export diversification of Slovenian firms during recent crises. First, we analyse the foreign market and product diversification of exporting firms during the Great Recession and, second, changes in export diversification behaviour since the Covid-19 pandemic. Market and product diversification provided a vital source of enterprises' growth, value creation and revenue scaling during the great recession. The analysis shows: (1) Exporters with the strongest growth after the global recession demonstrated high export diversification. (2) In the post Covid-19 period, the majority of firms did not introduce any change in their export behaviour, but invested in digitalisation and automation. (3) The localising of exports, reduction of export markets and shrinking of the exported product portfolio was far more frequent than diversification, which might limit future growth prospects. (4) Firms that used complex diversification reported faster recovery plan. Managing complexity and export diversification thus remain important tools for overcoming crises, but can also be achieved through increased digitalisation.

Keywords: *export, complex internationalisation strategies, export diversification, foreign market entry, market diversification, product diversification, digitalisation*

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Introduction

The growth of enterprises in small economies (regardless of firm size) vitally depends on their capacity to internationalise, integrate into global value chains or even establish control over their own value chains. Rapid changes in the global (and regional) environment, new risks and global crises along with competition from emerging markets have altered the patterns of internationalisation. Incremental, sequential internationalisation, entry to neighbouring markets first and later to more distant markets, product by product, known as the “Uppsala internationalization pattern” (Johanson and Vahlne, 1977, 1990) has for the last 30 years been accompanied by the “Born global” approach (McDougall et al., 1994; McDougall et al., 1996; McDougall and Oviatt, 2000; Chetty and Campbell-Hunt, 2004). This theory explains why some firms embark on a rapid initial international expansion, market dominance in global niches and flexible and innovative adaptation to foreign market opportunities. Such entrepreneurial, proactive risk-taking approach has more recently been transformed into a more opportunities-seeking approach and managing of risks. Hedging goes beyond the diversification of market and product portfolio towards new distribution channels and business models. The strategic logic of economies of scale and sequential knowledge accumulation (present in the Uppsala type of internationalisation) has been complemented by economies of scope and business-model innovations (Onetti et al., 2010). In these circumstances, the probabilities of achieving long-term international growth relate to complex internationalisation strategies. These include a variety of market channels, the parallel use of several entry modes (in the same market) and entry to several (carefully selected) foreign markets at the same time (or in a short period of time).

Simultaneous entry to several markets, the use of different entry modes and complex product/service portfolio enable the diversification of risks and growth synergies by markets, channels, product and service groups. The complexity of the internationalisation and diversification of exports is associated with growth and the likelihood of survival (Burger and Kunčič, 2010; Jaklič et al., 2017; Dikova, et al., 2016; McIntyre et al., 2018). Complex strategies sometimes manifest as “*internationalization in waves*”, such that an occasional high intensity or scope of international activities is followed by a reduction or even a complete withdrawal from foreign markets (Surdu et al., 2018). These patterns are often identified among firms in small open economies or former transition and emerging markets faced with strong dependence on foreign trade.² The study of the economic performance of

² The strongest dependence on foreign trade can be found in small European countries such as Luxembourg, Ireland, and Belgium as well as in the Central Eastern European countries of Hungary, Slovakia, the Czech Republic, Lithuania, Estonia, and Slovenia (Sacks et al., 2020).

small states in the period 1990–2015 found that more diversified economies experienced lower output volatility and higher average growth than most other small states (McIntyre et al., 2018). Despite their contemporary relevance, we still have limited knowledge about these new patterns and the complex internationalisation processes. There is also limited empirical evidence on the underlying forces, how companies seek to enter new growing markets, how they scale revenues in (existing) markets and how they synchronise or prioritise a range of alternative options on product and market diversification. We also have very limited evidence on changes in the internationalisation process during global recessions. How do global economic crises influence complexity in internationalisation? Do global economic downturns stimulate the acceleration of internationalisation, de-internationalisation, re-internationalisation, or all of them?

The aim of this article is to add empirical evidence about changes in the firm-level export diversification of firms during global recessions. We examine the episode of the Great Recession of 2008 and the Covid-19 recession in a small open economy (Slovenia) and study changes in the export behaviour and complexity of export strategies through market and product diversification. We first analyse changes in the market and product diversification of exporters during the period of the great recession. Next, we analyse the most recent changes in export diversification during the Covid-19 pandemic, especially with regard to export markets, product scope and number of suppliers. We discuss differences in diversification behaviour between these two global crises and conclude by summing up the implications for firms' growth. Product and market diversification remain key strategic tools for managing the risks and growth of enterprises, while the complexity of internationalisation is increasingly enhanced by e-sales, digitalisation and new technologies.

Complexity in internationalisation strategies: theoretical overview

A country's economic growth and development has historically been based on either the degree of specialisation or diversification of a country's production and trade structure. According to (neo)classical trade theories, countries should specialise in producing and specialise in goods for which they have a comparative advantage. After the Second World War, however, with the idea that economic growth and development may be achieved by export diversification (not specialisation)³, active efforts were made by gov-

³ *A narrow export portfolio may face export instability/fluctuations, which arise from inelastic and unstable global demand, and can thus have an adverse impact on counties' investment and employment. Export diversification is thus a means to alleviate these risks, but it is also a means for scaling export revenues and enabling growth. On the macro level, export diversification refers to the move from "traditional (old industries)" to "non-traditional (new industries)" exports.*

ernments to promote industrialisation and internationalisation. Theoretical reasons for the proposition that export diversification is conducive of higher and more stable per capita income growth arise from structural models of economic development.⁴ Efforts for diversification in production and in exports began to intensify⁵, along with the understanding that economic growth is not driven by comparative advantage, but by countries' diversification of their investments into new activities where an essential role is played by the entrepreneurial discovery process (Hausmann et al., 2003).⁶ In this perspective, governments can play an important role in structural transformation and industrial expansion by promoting entrepreneurship and creating the right incentives for entrepreneurs to invest in a new range of activities.

On a country level, industrial policies from the 1970s until the 1990s promoted selected (fast growing) industries. However, within industries, they stimulated firm-level specialisation, focused on the product portfolio and also export promotion (which often resulted in the development of firms as national champions). Despite rising country-level diversification, the firm-level internationalisation process was seen as a focused, linear and sequential. Since the 1970s, several theoretical streams have sought to explain the internationalisation process of firms: the Uppsala Internationalisation model (Cavusgil, 1980; Johanson and Vahlne, 1977, 1990), the Transaction Cost Theory (Williamson, 1985), and the Resource-based view (RBV) (Barney, 1991). The Uppsala model is widely used to explain the internationalisation process of a small business and argues that an "enterprise gradually increases its international involvement" (Johanson and Vahlne, 1990: 11) through incremental development of its market knowledge and a gradual increase of commitment to international operations. A firm's decision to enter new markets is usually linked to psychic distance: companies

⁴ Countries should diversify from primary exports into manufactured exports to achieve sustainable growth (Chenery, H. 1979; Syrquin, 1989). Commodity products typically suffer from volatile market prices; therefore, commodity-export-dependent countries face export earnings' instability.

⁵ Export diversification can help stabilise export earnings in the long run (Ghosh and Ostry, 1994, McMillan, Rodrik and Verduzco-Gallo, 2014), which is particularly relevant for countries vulnerable to terms-of-trade (ToT) shocks (small countries as price takers are particularly vulnerable, while large ones can manipulate the terms of trade).

⁶ Hildago and Hausmann (2009) later developed a view of economic growth and development that gives a central role to the complexity of a country's economy by interpreting trade data as a bipartite network in which countries are connected to the products they export, and show that it is possible to quantify the complexity of a country's economy by characterising the structure of this network. Further, they showed that their measures of complexity are correlated with a country's level of income, and that deviations from this relationship are predictive of future growth. Countries tend to converge to the income level dictated by the complexity of their productive structures, indicating that development efforts should focus on generating the conditions that would allow complexity to emerge to generate sustained growth and prosperity. Slovenia ranks very highly (10th) in the index of economic complexity.

start their internationalisation from those markets perceived as psychically close. A gradual approach was also identified in other dimensions: in the type of product and services being exported (from mature and established product and/or services to adapted and new product and services), for the entry modes (from simple export to a contractual mode or foreign direct investment) as well as for the functional orientation (from sales to manufacturing and supporting business functions and tasks).

However, ever since the 1990s diversification has also been gaining ground as a strategy within firms (not just in within national industrial policies). The changes in firms' behaviour (like the wide-scale rapid international growth of small and medium-sized enterprises (SMEs) and the wave of born-global exporters) since the 1990s have questioned the validity of the Uppsala gradual model. Many companies have entered foreign markets very early in their life with the world market in mind at the outset. Several changing patterns of behaviour of these companies may be identified. They enter a new market when opportunities arise, do not always internationalise gradually (as suggested by the psychic distance concept), may use multiple modes of entry simultaneously, may rely on the network relationship and the manager's knowledge and international experience (Johanson and Mattsson, 1988; McDougall et al., 1994; McDougall and Oviatt, 2000; Chetty and Campbell-Hunt, 2004). Scholars nowadays often argue that the Uppsala model is too deterministic as in reality firms frequently skip stages, it oversimplifies a complex process, ignores acquisitions and the impact of exogenous variables and may not be fully able to explain the internationalisation of firms in today's global market (Andersson and Wictor, 2003; Chetty and Campbell-Hunt, 2004). Such changes are preferably explained by newly emerged theories such as the Network Approach (Johanson and Mattsson, 1988; Coviello and Munro, 1997; Johanson and Vahlne, 2009) and the International New Ventures or Born-global approach (McDougall et al., 1994; McDougall and Oviatt, 2000; Chetty and Campbell-Hunt, 2004). The phenomenon of early internationalisation has been extensively studied from both a conceptual and an empirical perspective, giving rise and substantial improvement to the field of studies on 'International New Ventures' (INVs) and 'Born globals' (Rialp et al., 2005). The context of transition and emerging economies was especially fruitful for exploring changes in internationalisation patterns or export diversification and further stimulated the development of new internationalisation frameworks and perspectives. An early study on the outward internationalisation of transition economy firms for example described differences from the traditional (Uppsala) pattern and jumping over the stages with a "leapfrogging" pattern (Jaklič and Svetličič, 2003: 185; 2005: 107, 114). The studies of companies in emerging markets developed into the springboard theory (Luo and Tung, 2007).

According to this perspective, emerging and transition market firms systematically and recursively use international expansion as a springboard or accelerator to acquire critical resources they need to compete more effectively against their global rivals at home and abroad and to reduce their vulnerability to institutional and market constraints at home.⁷ The internationalisation process in all of the newly described patterns is thus related to very complex strategies that transcend earnings' stabilisation. While studies in emerging markets demonstrate complex internationalisation strategies mainly by using examples of large and established MNEs with home-government support for going global (Luo and Tung, 2007), studies in small and open economies revealed the increased complexity and diversification in internationalisation strategies in recent decades also among SMEs and newly born exporters (Burger and Kunčič, 2010; Jaklič et al., 2017; Dikova, et al., 2016).⁸ Although diversification has been recognised as the riskiest strategy for growth⁹ in internationalisation and only used to be traditionally applied by large and established firms (exporters and MNEs), it is nowadays often seen as a key growth strategy of new exporters, young firms and even start-ups.

Just as there are several motives for diversification, growing complexity can stem from a number of reasons. First, it may be a result of volume (a large number) of different decisions that must be taken in a short time period. Second, it may also arise due to the pace of change and uncertainty related to the external environment. The current situation with Covid-19 includes both sources of complexity and requires efforts to ensure proper understanding and managing. System theorists distinguish between combinatorial and organic complexity (Buckley and Casson, 2004: 92–93). Combinatorial complexity is created when a number of different cases have to be analysed before a decision can be made, and in each case a large number of different factors must be taken into account. Organic complexity arises because of the numerous interdependences and feedback loops within a system (cause and effect may be difficult to disentangle). In this article, we only partially discuss organisational complexity in export diversification and neglect the questions of organic complexity. Ansoff (1957)

⁷ *These efforts are systematic in the sense that "springboard" steps are deliberately designed as a grand plan to facilitate firm growth and as a long-range strategy to more solidly establish their competitive positions in the global marketplace. They are also recursive because such "springboard" activities are recurrent and revolving.*

⁸ *Feestra and Lee (2004) found that a 10% boost in export diversification in all industries would result in a 1.3 percentage point increase in a country's productivity growth, using a sample of 34 countries for the period 1984–1997.*

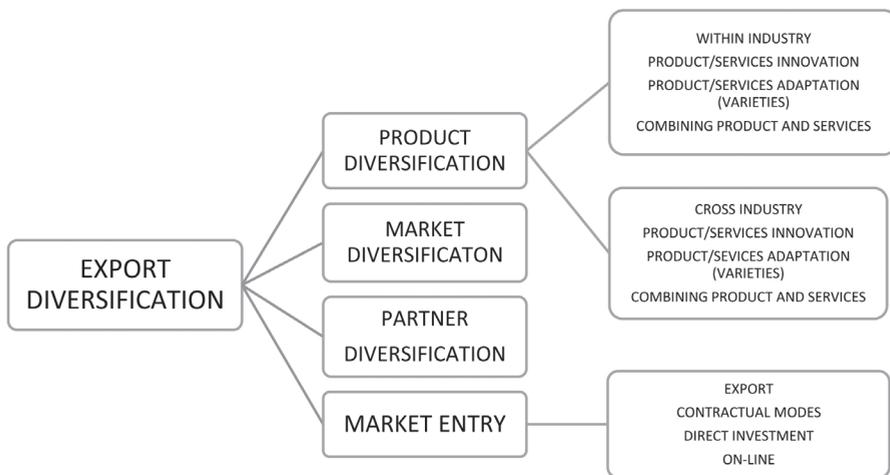
⁹ *This is clearly demonstrated in the Ansoff Matrix, also called the Product/Market Expansion Grid, a tool used by firms to analyse and plan their strategies for growth (Ansoff, 1957). The matrix shows four strategies that can be used to help a firm grow and also analyses the risk associated with each strategy.*

mapped the dilemmas related to internationalisation strategy in a matrix and described four strategies that may be used to help a firm grow. An enterprise may select from among:

- Market Penetration, which focuses on increasing sales of existing products in an existing market.
- Product Development, which focuses on introducing new products to an existing market.
- Market Development, which focuses on entering a new market using existing products.
- Diversification, which focuses on entering a new market by introducing new products.

Figure 1 illustrates in a simplified way the potential complexity in export diversification that may emerge due to the large number of decisions related to exported products and services, their development through adaptation and innovation (that might take place within the same industry or another industry), the selection of different foreign markets, which may be approached through different foreign entry modes and distribution channels.

Figure 1: COMPLEX INTERNATIONALISATION AND THE POTENTIAL FOR EXPORT DIVERSIFICATION



Source: Own presentation.

Although diversification strategy is recognised as being the riskiest, given that both market and product development are required, the risk can be mitigated somewhat through related diversification where potential synergies can be realised between the existing business and the new product/market.

Product development and market development can be further accompanied by a cross-industry strategy and the spread of partners. Ansoff defined it as unrelated diversification that brings no potential synergies between the existing business and the new product/market. Yet, synergies can still be realised due to shared distribution channels, cross-industry product and services innovation and knowledge transfer. The diversification strategy may offer the greatest potential for increased revenues as it opens up an entirely new revenue stream for the firm.

The many possible combinations (Figure 1) that can occur simultaneously illustrate the sources of the rising complexity in internationalisation and also show the potential for changing dynamics in internationalisation, i.e. firm-level waves and cycles of firms' internationalisation, de-internationalisation and re-internationalisation. The existing models of internationalisation (i.e. the sequential approach to internationalisation, the international new venture theory (Johanson and Vahlne, 2009; Oviatt and McDougall, 1994) or the springboard theory (Luo and Tung, 2007)) highlight the growing complexity in internationalisation and increasingly in the model-decision-making process, but reveal a limited focus on the cycles and waves of firms' internationalisation (Vissak and Francioni, 2013). Implicitly, the models assume that internationalisation is a non-reversible process (Bernini et al., 2016). However, recent studies have identified internationalisation stages characterised by increasing, decreasing and re-increasing commitment to foreign markets (e.g. Dominguez and Mayrhofer, 2017). The former group comprises firms that suddenly decide to rapidly develop their foreign activities (Bell et al., 2001, 2003) or accelerate their internationalisation to more distant markets (Kalinic and Forza, 2012). Some firms decide to de-internationalise (pull back their level of internationalisation; e.g. Benito and Welch, 1997; Santangelo and Meyer, 2011, Svetličič and Jaklič, 2013). A third group of firms identified exhibits a re-internationalisation push, whereby they re-enter previously abandoned foreign markets (Welch and Welch, 2009; Vissak and Francioni, 2013). The growing complexity in internationalisation and the recent global crises thus question both the linearity and non-reversibility of internationalisation. New empirical evidence on cycles and waves of firms' internationalisation from different perspectives and more detailed firm-level insight into import and export diversification strategies over the crisis period may thus provide useful insights into how important diversification strategies are for managing crises. Based on the studied literature, we assume heterogeneity in firm behaviour with regard to export diversification strategies.

The following two sections present empirical evidence on export diversification patterns during the latest two economic crises. After explaining the data and methodology, we illustrate the dynamics in the export

diversification of Slovenian firms alongside the product and market dimensions in the period of the great recession and the most recent changes in the export diversification behaviour of firms during the Covid-19 pandemic.

Methodology

The analysis of export diversification is based on firm-level data in Slovenia, namely, in the context of a small open economy. The analysis combines two different data sources for monitoring changes in export diversification in two different crises in two different periods.

Monitoring changes during the Great Recession

The dynamics of export market and exported product diversification during the global financial crisis of 2008 are studied by considering population data of Slovenian firms. Panel data of Slovenian manufacturing firms during the period 2000–2016 are compiled from financial statements and trade data from customs statistics and provided by the Statistical Office of the Republic of Slovenia.

The dataset includes the population of Slovenian firms in the period between 2000 and 2016. We focus on the period from 2006 to 2016. Based on Ansoff's model that relates the dynamics of firm growth to export diversification and on previous empirical evidence of Slovenian exporters (Dikova et al., 2016; Jaklič et al., 2017), we categorise firms into four groups based on the volume of export and growth rate of exports in the previous 5 years. We identified the following four mutually-exclusive categories of firms:

- **Unicorns:** average annual growth rate of exports in the last 5 years in the top 25% (top quartile) and export volume in the current year in the top quartile;
- **Mammoths:** average annual growth rate of exports in the last 5 years in the bottom 75% (bottom three quartiles) and export volume in the current year in the top quartile;
- **Gazelles:** average annual growth rate of exports in the last 5 years in the top 25% (top quartile) and export volume in the current year in the bottom 75% (bottom three quartiles);
- **Ordinary firms:** firms with a low export volume in the current year and low export growth in the past 5 years.

These four groups of firms are used in the analysis of export diversification during the Great Recession. We first trace changes in product diversification by groups of firms. We calculate the average number of export products and median number of export products per exporter per year

and observe changes in the 2000–2016 period (product diversification).¹⁰ Second, we monitor the number of foreign markets where enterprises sell their products. The average number of foreign markets and median number of foreign markets per firm per year are used as a variable of market diversification. The number of exported product per foreign markets (simultaneously observing the importance of the top 5 foreign markets and top five exported products) is also analysed.

Monitoring changes during the Covid-19 pandemic

Firms' responses after the Covid-19 outbreak, including changes in their export diversification in 2020 and firms' other reactions to the crisis were studied using survey data. An e-survey designed to study in detail the responses of enterprises, the use of Covid-19-related support measures and the consequences of Covid-19 on business performance was performed on a sample of Slovenian firms by the Slovenian Chamber of Commerce (SCC) and the Centre of International Relations (SCC and CIR Survey) between 15 June and 10 July 2020, with 278 firms responding out of the 815 contacted in the initial sample framework (a 34% response rate). We present only one part of the survey results, i.e. summary statistics for the questions concerning export diversification.

Changes in export diversification during the crisis

This section presents the findings on firms' export diversification strategies during the 2008 and 2020 economic crises. We summarise the empirical evidence for changes in export diversification during the Great Recession of 2008 and proceed with the findings on the latest reactions seen in export diversification due to the Covid-19 downturn. Despite differences in the methodological approach, both firm-level analyses address the same research question and enable a comparative perspective between the two recessions.

Export diversification during the great recession

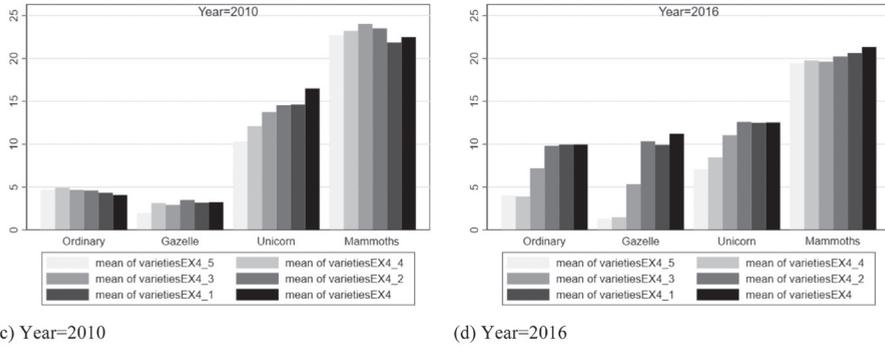
We traced changes in export diversification through the number of exporting markets and the number of 4-digit product varieties and monitored the average and median number of product varieties and foreign markets over 17 years.

¹⁰ 4-digit and 6-digit product varieties were used in the analysis, but we only present the 4-digit breakdown in this article.

Evolution of the number of 4-digit export product varieties is presented from 5 years before ($t-5$) to the current year t for the four distinct types of firms defined above: ordinary exporters, gazelles, unicorns and mammoths. Exporter types in year t were determined for each calendar year separately and their average number of exported product varieties and other characteristics were tracked from $t-5$ to t . Figures 2, 3 and 4 display different export diversification behaviour within these four groups of firms for the 2010 and 2016 vintages. The 2010 vintage reports diversification statistics from 2005 to 2010, while the 2016 vintage tracks firms from 2011 to 2016. First, there are significant differences in the level of export diversification in the product space: mammoths and unicorns exhibit a much larger number of exported products than gazelles and ordinary exporters. Second, export types differ significantly in the direction and dynamics of product scope diversification. Gazelles, unicorns and mammoths mainly show a positive trend of diversification, while ordinary exporters (that grew the least) exhibit reduced export diversification. The trend of diversification is the most intensive for unicorns, fast-growing exporters that achieved superior export revenue. Experimentation (in terms of product varieties) in the pre-crisis period continued during the recession and kept diversification stable in the post-crisis period. The recovery period showed a lower average and median number of exported product varieties (growth of new firms, restructuring and bankruptcy of existing). These trends can be identified by the average number (Figure 2) and median number of 4-digit product varieties (Figure 3). Gazelles demonstrated high diversification in the average number of 4-digit varieties only after the Great Recession, especially since 2013. The median number for this group of firms, however, reveals considerable heterogeneity (half of the gazelles still exported less than 4 product varieties in 2016, and less than 3 in 2012).

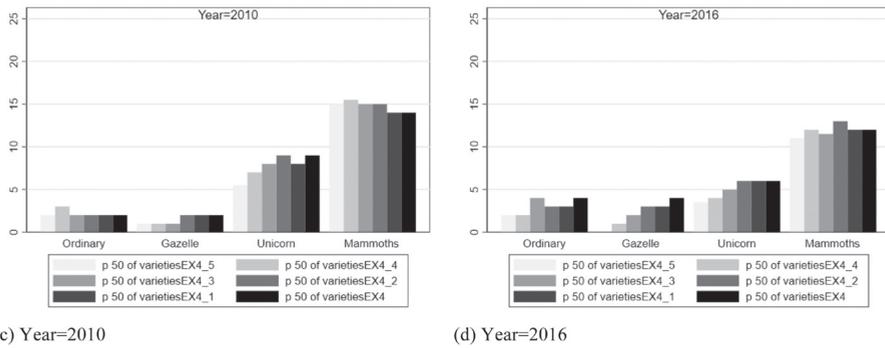
Figure 4 shows for each export group separately the average and median number of distinct 4-digit export varieties for all 2000–2016 vintages combined. It shows a permanent increase in the number of product varieties, i.e. growing diversification over a longer period. All groups of firms show a rising number of average product varieties, but the groups with high export growth (gazelles and unicorns) demonstrate the highest growth. The growth of exports is thus related to the size and expansion of the product portfolio. Unicorns reached a much higher size of their product portfolio than gazelles and ordinary firms, almost close to the mammoths. Comparing Figures 2 and 3 with Figure 4 reveals that the average and median number of exported products decreased in the aftermath of the Great Recession, especially for mammoths and unicorns. Figure 4 also reveals significant firm heterogeneity as the average number of product varieties largely exceeds the median number of distinct product varieties exported.

Figure 2: AVERAGE NUMBER OF DISTINCT 4-DIGIT PRODUCT VARIETIES EXPORTED FROM YEAR T-5 TO T, 2010 AND 2016



Source: Own calculations based on SORS data.

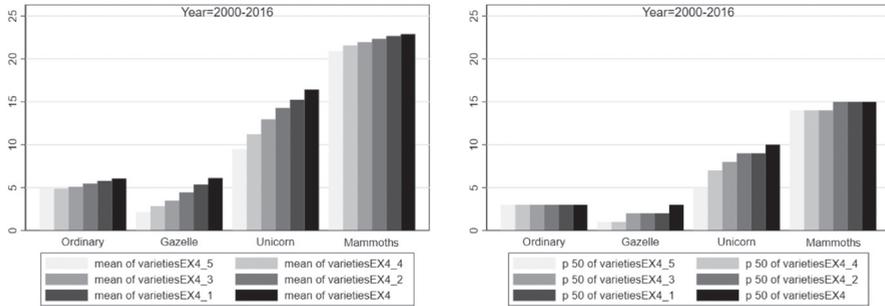
Figure 3: MEDIAN NUMBER OF DISTINCT 4-DIGIT PRODUCT VARIETIES EXPORTED FROM T-5 TO T, 2000 AND 2016



Source: Own calculations based on SORS data.

Figures 5–7 show the evolution of the number of export markets per firm from t-5 to current year t for all four distinct types of exporters. The data reveal a stagnating market development trend for ordinary firms, while all other groups of firms demonstrate growing market diversification. Unicorns and mammoths are again the most active in market development strategy. Geographical expansion of these two groups of firms is seen in the pre-crisis period, during the Great Recession and afterwards. Gazelles again show a growing average number of markets only after the recession. The average number of foreign market crises again exceeded the median number of foreign markets (Figure 7), suggesting heterogeneity in diversification strategies also within the groups.

Figure 4: AVERAGE AND MEDIAN NUMBER OF DISTINCT 4-DIGIT PRODUCT VARIETIES EXPORTED FROM T-5 TO T, 2000–2016 AVERAGE

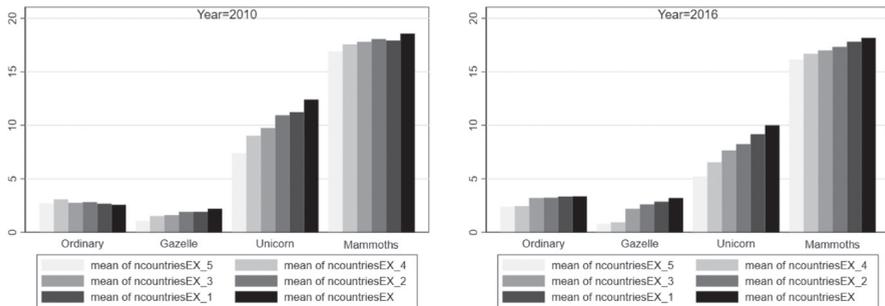


(a) Average Number of 4-digit EX varieties

(b) Median Number of 4-digit EX varieties

Source: Own calculations based on SORS data.

Figure 5: AVERAGE NUMBER OF EXPORT MARKETS FROM T-5 TO T, 2000 AND 2016



(c) Year=2010

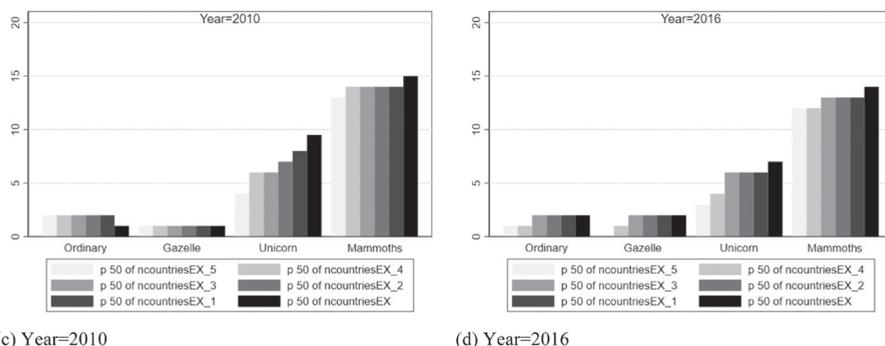
(d) Year=2016

Source: Own calculations based on SORS data.

In terms of export diversification, unicorns were more similar to mammoths (large exporters). Insights into the revenue shares of the most important exported products and export markets¹¹ provide additional useful information. The average share of the top export product in the top export market was 44% of the total export revenue for unicorns, while gazelles and ordinary firms earned about 60% from their top export product in their top export market. Top product provided about 72% of export revenues for unicorns, and was very similar to the share found in gazelles, although unicorns attained the same share over a larger number of markets, i.e. with greater market diversification. In comparison to mammoths, unicorns

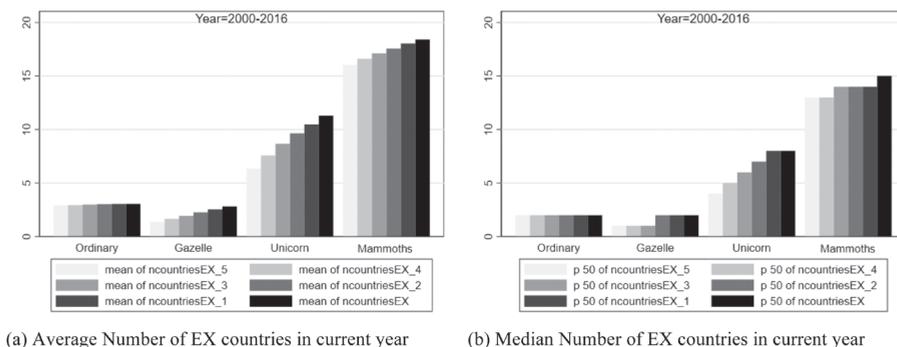
¹¹ Extensive analysis available upon request from the SORS.

Figure 6: MEDIAN NUMBER OF EXPORT MARKETS FROM T-5 TO T, 2010 AND 2016



Source: Own calculations based on SORS data.

Figure 7: AVERAGE AND MEDIAN NUMBER OF EXPORT MARKETS FROM T-5 TO T, 2000–2016 AVERAGE



Source: Own calculations based on SORS data.

realised approximately the same share of exports with their top five export products, but less geographically concentrated, i.e. over a larger number of export markets. The top export market represented on average 57% of i.e., total exports in unicorns, which is more similar to the mammoths (51%) than to the gazelles or ordinary firms (78% and 76%, respectively). Top export product is important for all firm groups. However, unicorns diversify more intensively in time with regard to both the product and market portfolio: unicorns for example reduced the share of the top export market from 70% to 57% in a 5-year period. Gazelles likewise diversify in the geographical dimension, but keep diversification of their product portfolio stable. Ordinary firms and mammoths, on the other hand, reveal stability in the top five markets and top five products. Unicorns covered their top markets with

a greater number of export products than ordinary firms and a similar number as gazelles and slightly less than mammoths, but this difference could mainly be noticed for the first- and second-most important export markets, while the number of product varieties is more similar to other export markets. The average number of product varieties per market is positively correlated with the importance of the export market (a more important export market – where a bigger share of export revenues was realised – had more product varieties). A similar pattern holds for the product dimension: the more important the product for the exporter, the larger the number of foreign markets the product is exported to.

The average unicorn firm grew primarily due to intensive margins as they increased their revenues from the existing product-market combinations much faster than the average gazelles or mammoths. They were, however, also more successful than gazelles and ordinary exporters in launching new product-market combinations in previously known markets and with previously exported products.

While diversification in the past has primarily been understood as a risk-mitigation strategy, the new millennium has shown diversification chiefly as a tool for scaling export revenues and an important catalyst of firm growth. Market or product diversification (or sometimes even simultaneous diversification) not only enabled economies of scale, but also learning by exporting as testing the product in several markets stimulated product adaptation and presence in several markets (cross-country knowledge transfer) also stimulated the innovation process and expansion of the product/services portfolio. It also enabled the grasping of the opportunities in new markets less hit by the crises or markets with higher growth rates.¹²

Companies with permanent and rapid growth demonstrated continuously growing diversification during the great recession. The level of diversification seems related to firm growth.

Changes in export diversification during the Covid-19 pandemic

Covid-19 has impacted business performance in many respects. The survey among Slovenian firms revealed the consequences and reactions of firms 3 months after the lockdown had begun (14 March 2020). Companies reported a significant contraction of operations and anticipated a change in business performance in 2020 with regard to 2019. Revenues are expected to drop on average by 17.5% and export revenues are expected to fall by

¹² Economic conditions in trading partners do in fact matter significantly for the growth of domestic exporters. Arora and Vamvakidis (2015) noted that countries which promote trade with markets with higher growth rates grow faster.

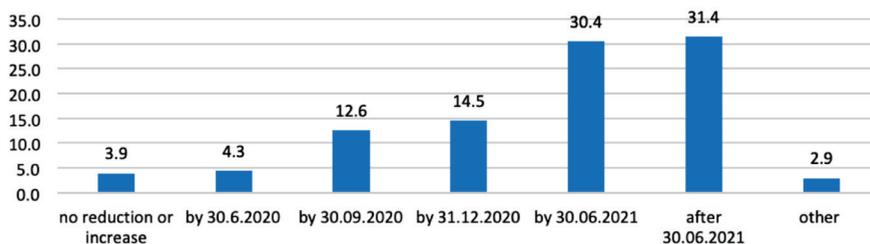
13.7% on average. Companies also reported a 14% decrease in investment and a 9% decrease in employment (Table 1). Expectations for recovery (Figure 8) were quite optimistic: almost 4% of the surveyed firms anticipate no loss in revenues, over 30% of firms foresee a recovery (return to the initial level of revenues) by the end of 2020 and more than 61% by the end of 2021. Only a few firms anticipate no recovery.

Table 1: ESTIMATED CHANGE IN TOTAL REVENUES, EXPORT REVENUES AND INVESTMENT, AVERAGE ANNUAL CHANGE (IN %)

	Average change in 2020 compared to 2021 in %	St. dev.
Revenues	-17.5%	22.4%
Export revenues	-13.7%	24.6%
Investment	-14.1%	36.5%

Source: SCC and CIR Survey, June-July, 2020; N=278.

Figure 8: EXPECTATIONS ABOUT THE TIMING OF RECOVERY- PLANS TO RETURN TO THE PRE-COVID-19 LEVEL OF REVENUES (SHARE OF RESPONDENTS)

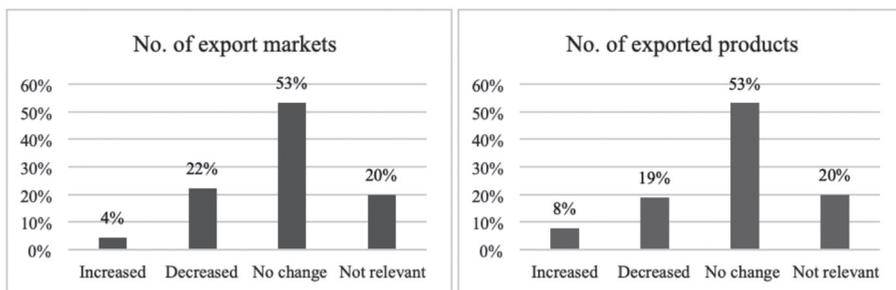


Source: SCC and CIR Survey, June-July, 2020.

Next, we surveyed firms about their reactions and changes in their business operations in the first quarter after the lockdown. The majority of firms reported no change in their export behaviour in the post-Covid-19 period. Most firms had kept the same number of foreign (exporting) markets (Figure 9). For those that had changed the geographical presence of their foreign business, concentration was strongly preferred over diversification. De-internationalisation in the geographical dimension as well as in the product portfolio was a more frequent reaction than diversification. Managing risks (in existing markets and within existing product portfolios) seemed to be preferred over expansion and only a small share of enterprises reacted with greater export diversification. Firms that diversified their foreign operations preferred to introduce (adapt and innovate) products in the existing foreign markets since product diversification (i.e. increasing the number of

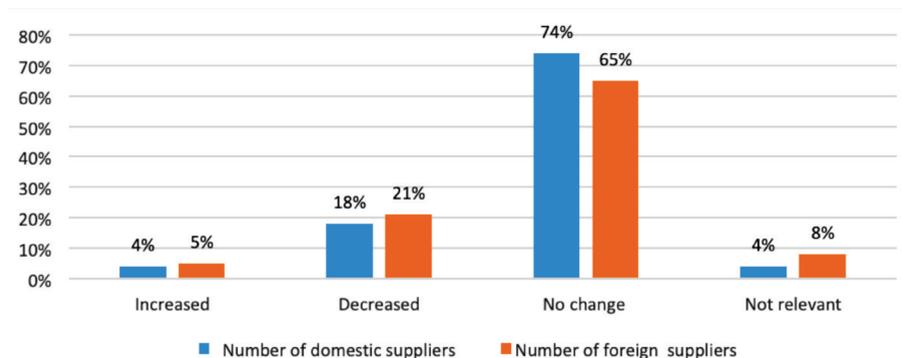
exported products) was implemented twice as often as market diversification (8% vs. 4%). All those that had developed new export markets diversified simultaneously in more than one dimension. They also introduced product development and increased the number of exported product varieties. Above all, these firms show a relatively early recovery: 84% of those expect to recover by the first half of 2021. Managing complexity and export diversification thus remains an important strategy for overcoming crises, yet only few companies were capable of implementing it in the (early stages of the) crisis.

Figure 9: REPORTED CHANGES IN THE NUMBER OF EXPORT MARKETS AND EXPORTED PRODUCTS DUE TO THE COVID-19 PANDEMIC



Source: SCC and CIR Survey, June-July, 2020; N=278.

Figure 10: CHANGES IN THE NUMBER OF DOMESTIC AND FOREIGN SUPPLIERS DUE TO THE COVID-19 PANDEMIC



Source: SCC and CIR Survey, June-July, 2020; N= 278.

Changes in the post-Covid-19 period have also materialised in the network of suppliers (Figure 10). The majority of firms did not change their existing suppliers. The network of domestic suppliers remained more stable than the network of foreign suppliers. Here as well, contraction was

preferred over an increase in the suppliers' network. The share of firms that reduced the number of their suppliers was higher than those which increased it by a factor of more than 4.

Operational choices can however heighten or lessen vulnerability to shocks. Practices like just-in-time production, sourcing from a single supplier, and relying on customised inputs with few substitutes amplify the disruption of external shocks and lengthen companies' recovery times. Geographic concentration in supply networks can thus also be a vulnerability if a single country or a single product accounts for the vast majority of exports or imports.

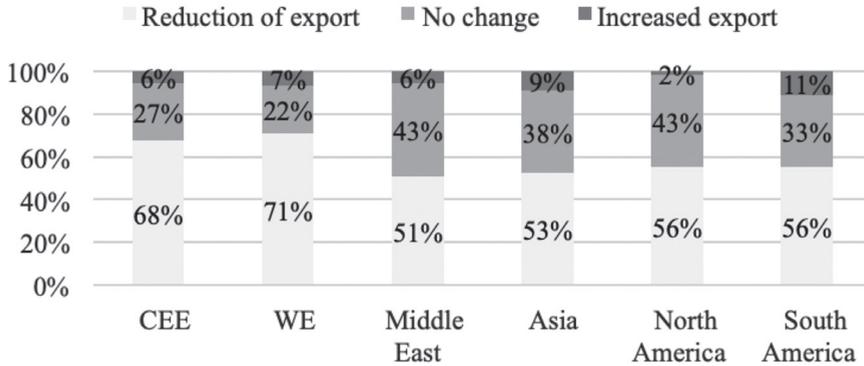
Apart from the identified changes in export behaviour, we examined changes in firms' online sales and use of digital channels that may be used to complement classic exports. Product and market diversification remain the main strategic tools for managing the risks and growth of enterprises, while the complexity of internationalisation is increasingly enhanced by e-sales, digitalisation and new technologies. The majority of firms have not introduced any changes, while the share of those that increased their online sales (17%) largely exceeded those who decreased their online sales (2%). Among other strategic responses, firms most frequently implemented new technologies (up to 42% of surveyed firms increased their investment in digitalisation, automation or other investment in new technologies), exchanged good practices among themselves, and strengthened human resource management (Table 2). As many as 36% of the surveyed firms have increased the formation of virtual teams while 25% have increased trainings for employees.

Table 2: FIRMS' RESPONSES AND CHANGES IN FOREIGN TRADE DUE TO COVID-19 PANDEMIC (PERCENTAGE OF SURVEYED FIRMS)

	Increased	Decreased	No change	Not relevant/ used
On-line sales	17%	2%	27%	54%
Implementing new technologies (digitalisation, automation)	42%	7%	40%	11%
Formation of virtual teams	36%	1%	33%	30%
Training employees	23%	16%	57%	4%
Exchange of good practices and mutual help with other enterprises	39%	10%	47%	4%

Source: SCC and CIR Survey, June-July, 2020; N= 278.

Figure 11: REPORTED CHANGES IN EXPORT ACTIVITY IN DIFFERENT FOREIGN MARKETS DUE TO THE COVID-19 PANDEMIC



Source: SCC and CIR Survey, June-July, 2020.

Before the 2008 global financial crisis, Slovenian firms (like most other CEE firms) relied heavily on trade with EU countries. Observing the reported change in the value of exports in different geographical regions following the Covid-19 restrictions reveals that the majority of firms encountered lower export revenue on all continents. The share of firms facing a drop in exports was largest in Western Europe (as this is the dominant export market): up to 71% of firms which operated there faced a contraction of exports, followed by Central and Eastern European (CEE) markets. Markets outside Europe (where only a minority of sample firms operate) seem to be more stable; the biggest share of firms without changes in export revenues was found in North America and the Middle East (28% and 27% of sample firms are only present there), followed by Asia and South America (28% and 18% of sample firms are only present there). Few firms which managed to develop business there also managed to maintain a commercial presence during the pandemic. Most Slovenian firms, however, lack experience in these markets. Further, a period of high risks in the business environment does not generally motivate them to experiment with distant markets.

Overall, the survey results during the Covid-19 recession reveal the largely cautious response of Slovenian firms and their only limited capability to manage the crisis via export diversification. Investment in new technologies (digitalisation, automation and other new technologies) and human resources was preferred over changes in internationalisation strategy. Firms that have entered new markets and introduced new products, however, have demonstrated a more holistic approach to diversification and report a more optimistic forecast for their post-crisis recovery.

Conclusion

The importance of export diversification has varied in recent decades with that time frame revealing the relationship between the growth and export strategies on the firm and macro level (e.g. Atkin et al., 2017; Harrison and Rodriguez-Clare, 2010). Small states face greater volatility in their annual growth rates of output and exports, partly due to their stronger volatility to terms of trade shocks (Easterly and Kraay, 2000). Facing increasing vulnerability to the ever-changing external environment, many small states are diversifying their economies and exports. Complex and non-linear internationalisation is an increasingly recognised pattern in both developed and developing countries over the last decades and might be a remedy to the global recession. This is not only true for large and established exporters, as was the case in the past. Export diversification has increasingly been a response of many SMEs and newly born exporters that wish to revitalise their growth.

Findings from the analysis of Slovenian firms' export strategies show that companies which pursued export diversification grew faster. Market and product diversification provided a vital source of firm growth: exporters enjoying the highest growth after the Great Recession demonstrated continuous and high export diversification. Product and market diversification provided leverage for scaling up export revenues, but also served as an experimentation and innovation strategy that led to the faster adaptation and agility of firms.

In contrast, firms reported lower diversification efforts during the Covid-19 crisis and having more concentrated and localised their exports. Only a small share of firms sought an answer via greater export diversification in the pandemic's early stages. While the majority of firms opted for a 'wait and see' reaction and have not changed anything, a de-internationalisation strategy was preferred over diversification for those that implemented changes in their export behaviour. Yet, the majority of firms which implemented diversification introduced complex internationalisation perturbations and forecast their recovery by mid-2021 (i.e. earlier than the majority).

Managing complexity and export diversification therefore remains an important instrument for overcoming crises, not just on the level of business strategies but on the country level. In this regard, governments should provide complementary services of commercial diplomacy and economic policies that open access to (a wide range of) foreign markets. Limited diversification may on the other hand also limit the future growth of exporters.

However, complex internationalisation strategies require considerable managerial skills and sophisticated business systems/models to coordinate all (foreign and domestic) activities. Access to data, business intelligence

and business networks developed by international managers are all essential resources that take time to develop. Incentives and enhancing resilience support in this area are thus welcome policy tools for a faster recovery.

Export diversification provides the benefit of reducing output (revenues) volatility, but also of improving the long-run growth rate of small states. Hildago and Hausmann's (2009) recently developed measures of complexity are correlated with a country's income level and might help predict future growth. Yet, in practice, the quest for diversification has proven difficult and only successful in a modest number of small states. The general trend of diversifying observed in the late 1990s and early 2000s was short-lived and quickly reversed during and after the 2007–2008 global financial crisis. According to IMF estimates, the efforts to diversify were deprioritised on governments' policy agenda as more attention was given to policies designed to revive key industries facing significant economic challenges (McIntyre et al., 2018). The question of what has been learned from the past crises and how often they will rely on diversification thus remains open.

Besides the incentives for export diversification, there is a need for future research in adjacent areas. Exploring the sources of the rising complexity of internationalisation highlights the changing dynamics in internationalisation, which could also stimulate research on firm-level waves and cycles of firms' internationalisation, de-internationalisation and re-internationalisation. Questions such as how export diversification (and questions of how the initial market, product portfolio or initial entry mode) influence growth, waves and cycles of internationalisation (e.g. a complete and partial exit from markets, reduction of sales intensity, change in entry mode) and how relevant export diversification and complexity is for the sustainability of firm internationalisation deserve further theorisation and empirical evidence from different economic environments.

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