



ANNUAL REPORT ON EUROPEAN SMEs 2017/2018

SMEs growing beyond borders



Internal Market,
Industry,
Entrepreneurship
and SMEs

Annual Report on European SMEs 2017/2018

The 10th anniversary of the Small Business Act

SME Performance Review 2017/2018

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Annual Report on European SMEs 2017/2018

The 10th Anniversary of the Small Business Act

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Acronyms

EMAS	EU Eco-Management and Audit Scheme
FTA	Free Trade Agreement
M&A	Mergers and acquisitions
NACE	Statistical classification of economic activities in the European Community
NFBS	Non-financial business sector
NTB	Non-tariff trade barrier
SBA	Small Business Act for Europe
SME	Small and medium-sized enterprise

Executive Summary

KEY MESSAGES

- The EU SMEs' strong recovery continues.
- SMEs' contribution to growth in value added and employment exceeded what would have been expected on the basis of their relative importance in the economy.
- Performance across the EU continued to vary, with six Member States generating SME value added in 2017 which was still below their respective levels of 2008.
- Fuelled by the economic recovery, between 2014 and 2016 the number of high-growth firms in the EU increased by 24%. Two-thirds of these enterprises come from only six Member States (Germany, the United Kingdom, Spain, France, Italy and Poland).
- The outlook for 2018 and 2019 remains positive but somewhat uncertain due to unsettled international trade conditions.
- SME internationalisation has contributed to growth. EU-28 SME exports of goods have increased by 20% since 2012.
- The Single Market is the go-to market for EU-28 SMEs. It accounted for 70% of the value of SME exports, with 80% of exporting SMEs selling to other Member States.
- The economic significance of the indirect contribution made by SMEs to exports is frequently underestimated.
- SMEs internationalise based on strategic choices. Available policy support can play a decisive role in influencing that choice.
- There is room for policy measures aimed at stimulating non-exporting SMEs to seek international expansion.

The EU SMEs' strong recovery continues

The resurgence of EU SMEs has continued over the past year and is set to extend into the near future. Over the period 2008 to 2017, gross value added generated by EU-28 SMEs increased cumulatively by 14.3% and SME employment increased by 2.5%.

The economy as a whole generated a cumulative increase of 16.5% in value added and 1.8% in employment.

EU-wide developments are not evenly reflected in Member States. In six Member States the 2017 level of SME value added was still below its 2008 level (Croatia, Cyprus, Greece, Italy, Portugal and Spain). In 15 Member States the SME employment level in 2017 did not reach its 2008 level (Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, France, Greece, Ireland, Italy, Latvia, Lithuania, Portugal, Romania, Slovenia and Spain).

EU-28 SMEs made a significant contribution to the recovery and subsequent expansion of the EU-28 economy. They accounted for 47% of the total increase from 2008 to 2017 in the value added generated by the non-financial business sector, and for 52% of the cumulative increase in employment in the sector. In fact, their contribution exceeded what would have been expected on the basis of their relative importance in the economy.

The number of SMEs in the EU-28 increased by 13.8% between 2008 and 2017. The number of newborn SMEs markedly exceeds the actual increase in SME population because of the high mortality rate of SMEs, especially among young enterprises. Each new SME that survived over the period 2012-2015 required the birth of 9 SMEs that did not.

The EU's start-up and scale-up firms benefited from the economic upswing. There are signs of a healthy development in the still small segment of scale-up firms, especially businesses which are expanding rapidly based on innovative products and a clearly devised growth strategy. In the EU-28, in 2016, there were 179,060 high-growth enterprises. The number of high-growth enterprises, i.e. firms with a three year-average growth rate in employment of at least 10%, is generally accepted as a proxy for scale-up firms. Between 2014 and 2016, the number of high-growth firms in the EU increased by 24%.

Two-thirds of these high-growth enterprises are concentrated in 6 Member States: Germany (23.9% of all high-growth enterprises in 2015), the United Kingdom (14.4%), Spain (8.6%), France (8.4%), Italy (7.6%), and Poland (6.4%). Together, these 6 Member States accounted for 69% of all high-growth enterprises in the EU-28 in 2015.

The recent increase in scale-up firms bodes well for the future, although the EU is not yet on a par with the dynamism of other partner regions and countries, such as the United States. Also, it cannot be taken for granted that the very favourable economic conditions in the EU which fuelled the recent increase in fast-growing firms will extend indefinitely into the future. This is why the EU is providing targeted support to this business segment, most notably through its 'start-up and scale-up initiative'.

The outlook for 2018 and 2019 remains positive

As for future projections regarding EU SMEs, value added in the EU-28 non-financial business sector is expected to increase by 4.3% in both 2018 and 2019.

EU-28 SME employment is projected to grow by 1.5% in 2018 and 1.3% in 2019.

This positive outlook is subject to a number of risks, such as the further development of Brexit or potential international trade conflicts. The impact of these factors on EU SMEs is impossible to gauge at this stage.

The internationalisation of SMEs

The internationalisation of SMEs is this year's special theme, because the successful exploitation of markets abroad has proved to be an important driver of the recent growth of many EU SMEs.

SMEs can expand internationally in a number of different ways. Examples include exporting or importing goods and services, making outward foreign direct investment or attracting foreign investors to their business, becoming part of a national value chain which has an international focus, or being part of a global value chain, engaging in cross-border R&D and innovation collaboration, or licencing or franchising products or services.

EU-28 SME exports of goods have increased by 20% since 2012

The value of goods exports by SMEs has increased by almost 20% since 2012, slightly faster than overall SME value added. In 2016, 36.1% of all goods exports by EU-28 enterprises came from SMEs. SMEs represented 88.3% of all EU-28 enterprises exporting goods. Both indicators went up during the period between 2012 and 2016.

The Single Market is the key market for EU-28 SMEs. In 2016, almost 70% of all SME exports (in value) went to other Member States. The rest of the world accounted for only 30% of all SME exports.

Furthermore, in 2016, 80% of all exporting SMEs were engaged in intra-EU trade, while less than half of exporting SMEs sold to markets outside the EU-28, and slightly more than a quarter of exporting SMEs sold to both markets.

SMEs can benefit indirectly from foreign demand

Even non-exporting SMEs can participate indirectly in the global economy by being upstream suppliers of exporting firms. Such indirect contribution of SMEs to Member States' export performance is very significant. An OECD and World Bank study determined that in nine EU Member States, SMEs accounted for more than 50% of value added of exports, when indirect exports were taken into consideration.

Furthermore, SMEs that do not export and are not part of a global value chain also benefit indirectly from increases in foreign demand. This is because an increase in production and sales of exporting enterprises translates into a boost in domestic demand for goods and services.

Key factors identifying SMEs that are likely to export

The pattern of SME exports seems to follow the strategic choices of individual companies: while a large proportion of SMEs do not export at all, most of the exporting SMEs are regular exporters. Nevertheless, a number of characteristics distinguish companies that are likely to export.

The key factors which increase the likelihood that an SME will export are: belonging to a group, being older, being large (in terms of turnover), having the ambition to grow, being active in the goods sector, selling to other businesses or organisations, and being innovative.

Why and how best to help SMEs to internationalise?

Most frequently SMEs refrain from entering new markets because they do not entirely understand or have the ability to master the risks related to operating abroad.

This is why their individual needs usually fall into one of the following categories: 'provision of information on foreign markets, their legal and regulatory environment', 'connecting with new partners', 'mentoring, training', and 'providing financial support'.

On top of encouraging Member States to support their SMEs in exploring export opportunities and in furthering their actual export activities under the 'Internationalisation SBA principle', the EU has implemented a wide range of programmes which support SMEs interested in either exporting for the first time or in growing their exports. A good example is the Enterprise Europe Network, present in more than 60 countries, which helps European SMEs to develop business in new markets and to source or licence new technologies.

Notably, policy assistance that reaches out to SMEs which are currently not interested in expanding beyond their domestic market is currently not particularly well developed. Such measures could seek to overcome this lack of interest and eventually increase the percentage share of SMEs selling abroad.

Context of the 2018 SME Performance Review

The year 2018 marks the tenth anniversary of two important events for European SMEs.

Firstly, ten years ago, the European Commission adopted the communication "*Think Small First*" – A "*Small Business Act*" for Europe¹. Its broad objectives are to:

- improve the approach to entrepreneurship in Europe
- simplify the regulatory and policy environment for SMEs
- remove the remaining barriers to their development.

These objectives are underpinned by 10 principles, intended to encourage the development of/support for the implementation of EU and Member State policies.²

Secondly, the 2008 crisis and the ensuing recession, the worst since the depression years of the early 1930s, slowed down domestic demand, while strong EU-28 exports were for many years the main growth engine of the EU-28 economy.

Thus, SMEs in EU-28 Member States have been subjected to two opposing forces over the past 10 years: the implementation of the Small Business Act has supported

¹ Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions, "*Think Small First*" – A "*Small Business Act*" for Europe, {SEC(2008) 2101}, {SEC(2008) 2012}, COM(2008) 394 final, Brussels, 25.6.2008.

² The 10 principles are provided in Annex 1.

the development and growth of European SMEs, while weak domestic economic conditions have negatively influenced their growth prospects.

The SBA achievements and the road ahead

More than 3 300 SBA policy measures have been adopted/implemented since 2011 in the EU-28 to implement most of the SBA recommendations and goals. However, much more could be done, especially under the principles of 'skills & innovation', 'easing business transfers', and 'second chance'.

In addition, a detailed statistical analysis shows that the more extensive the implementation of the SBA, the better the performance of SMEs.



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Introduction

The present report is part of the 2017/18 SME Performance Review.³ The year 2018 is a special year, as the Small Business Act (SBA) celebrates its tenth anniversary and also, in the autumn of 2018, it will be ten years since the financial and economic crisis of 2008 hit the world economy. Therefore, in addition to reviewing the recent economic performance of SMEs, the report also examines in greater detail the achievements of the SBA and the contribution of EU-28 SMEs to the recovery of the EU-28 economy from the depths of the recession in 2008/09.

In addition, as in previous years, the report presents the results of an in-depth analysis of a special topic of particular relevance for SMEs in the European Union.⁴ This year's special topic is the participation of SMEs in the global economy and the extent to which they engage in cross-border activities through trade, foreign direct investment, licensing, etc.

³ More details on the SME Performance Review are provided in Annex 1.

⁴ For example, the special topic in the 2017 Annual Report was SMEs and self-employment, and the 2016 Annual Report discussed the impact of national bankruptcy regimes on enterprise creation.

The analysis in the present report focuses on SMEs in the non-financial business sector. This broad sector includes almost all sectors of the economies of the EU-28 Member States.⁵

SMEs comprise three different categories of enterprises, namely micro-enterprises, small enterprises and medium-sized enterprises (see Table 1). The official EC definition of SMEs takes account of three different factors (level of employment, level of turnover, and size of the balance sheet). However, the data in the present report are based only on the employment definition, since this is the definition used by the Structural Business Statistics (SBS) database maintained by Eurostat, the main data source for the report.

Table 1: Definition of SMEs

Company Category	Employees	Turnover	Balance sheet total
Micro	< 10	< €2 million	< €2 million
Small	< 50	< €10 million	< €10 million
Medium-sized	<250	< €50 million	< €43 million

Source: Commission Recommendation of 6 May 2003 concerning the definition of micro, small, and medium-sized enterprises (2003/361/EC), Official Journal of the European Union, L 124/36, 20 May 2003

Overall, in 2017, SMEs in the EU-28 non-financial business sector accounted for:

- almost all EU-28 non-financial business sector enterprises (99.8 %) (Table 2)
- two-thirds of total EU-28 employment (66.4 %)
- slightly less than three-fifths (56.8 %) of the value added generated by the non-financial business sector.

Micro SMEs are by far the most common type of SME, accounting for 93.1 % of all enterprises and 93.3%⁶ of all SMEs in the non-financial business sector (Table 2).

However, micro SMEs accounted for only 29.4 % of total employment in the non-financial business sector, while small and medium-sized SMEs accounted for 20.0 % and 17.0 % respectively of total employment (Table 2).

In contrast to the uneven distribution of the number of enterprises and employment across the three SME size classes, their contribution is broadly equal in terms of value added, ranging from 17.6% (small SMEs) to 20.8 % (micro SMEs) (Table 2).

⁵ The non-financial business sector includes all sectors of the economy except the following ones: 'agriculture, forestry, and fishing' (NACE section A), 'financial and insurance activities' (NACE section K), 'public administration and defence; compulsory social security' (NACE section O), 'education' (NACE section P), 'human health and social work activities' (NACE section Q), 'arts, entertainment and recreation' (NACE section R), 'other service activities' (NACE section S), 'activities of households as employers; undifferentiated goods- and services-producing activities of households for own use' (NACE section T) and 'activities of extraterritorial organisations and bodies' (NACE section U). NACE is the Eurostat statistical classification of economic activities in the European Union.

⁶ The figure of 93.3% is derived by dividing the number of micro SMEs shown in Table 2 (22,830,944) by the number of all SMEs shown in the same table (24,483,496).

Table 2: Number of SMEs and large enterprises in the EU-28 non-financial business sector in 2017 and their value added and employment

	Micro SMEs	Small SMEs	Medium-sized SMEs	All SMEs	Large enterprises	All enterprises
Enterprises						
Number	22,830,944	1,420,693	231,857	24,483,496	46,547	24,530,050
%	93.1%	5.8%	0.9%	99.8%	0.2%	100.0%
Value added						
Value in € (trillion)	1,525.6	1,292.1	1,343.0	4,160.7	3,167.9	7,328.1
%	20.8%	17.6%	18.3%	56.8%	43.2%	100.0%
Employment						
Number (in 000)	41,980,528	28,582,254	24,201,840	94,764,624	47,933,208	142,697,824
%	29.4%	20.0%	17.0%	66.4%	33.6%	100.0%

Note: Large enterprises are enterprises with 250 or more employees

Source: Eurostat, National Statistical Offices, DIW Econ

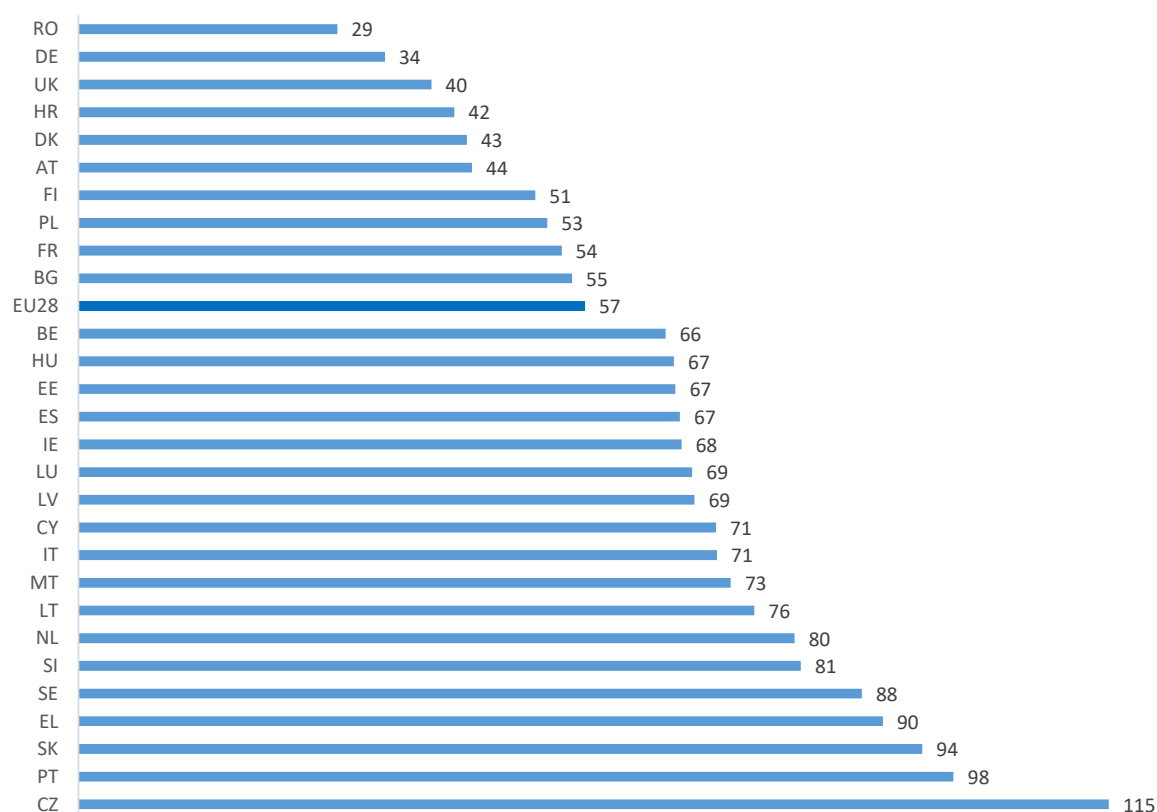
The prevalence of SMEs varies greatly across the EU-28. While there were 57 SMEs per 1,000 inhabitants (of 15 years or above) in the EU-28 economy in 2017, in a few countries this number was as low as 34 (DE) and 29 (RO) (Figure 1).

In contrast, in a few countries (CZ, EL, PT, SE and SK), the number of SMEs per 1,000 inhabitants of 15 years or above exceeded the EU-28 average by 50% to 100%.

The differences in the prevalence of SMEs across the EU-28 is almost entirely a reflection of the very wide range in the number of micro SMEs across the 28 EU Member States, since the number of small and medium-sized SMEs varies relatively little among EU-28 Member States (Figure 2).

This large variation in the number of micro SMEs per 1,000 inhabitants (of 15 years or above) reflects a range of different factors such as the industrial structure of the economy, the adoption and promotion of public policies encouraging self-employment and the creation of enterprises, especially micro-enterprises, the level of entrepreneurship, and general economic conditions.

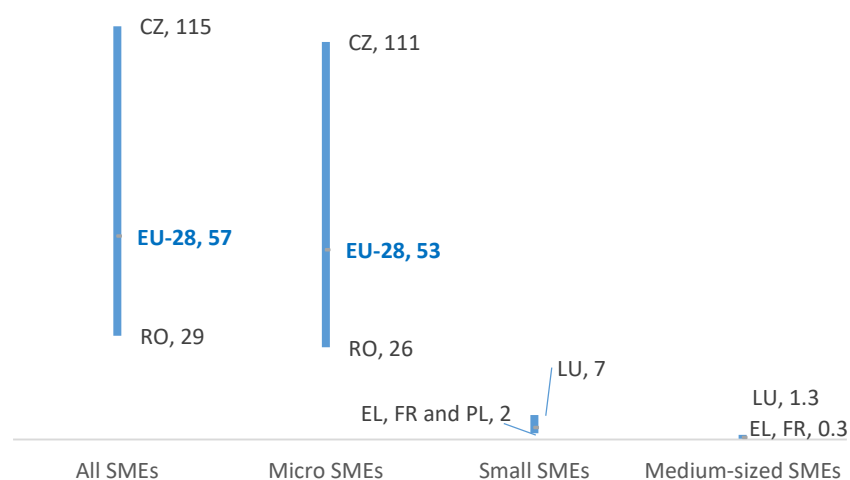
Figure 1: Number of SMEs per 1,000 inhabitants in the non-financial business sector in the EU-28 and Member States in 2017



Note: Inhabitants of 15 years or above

Source: Eurostat, National Statistical Offices, DIW Econ

Figure 2: Range of number of SMEs per 1,000 inhabitants in the non-financial business sector in 2017 among EU-28 Member States – all SMEs, micro SMEs, small SMEs and medium-sized SMEs



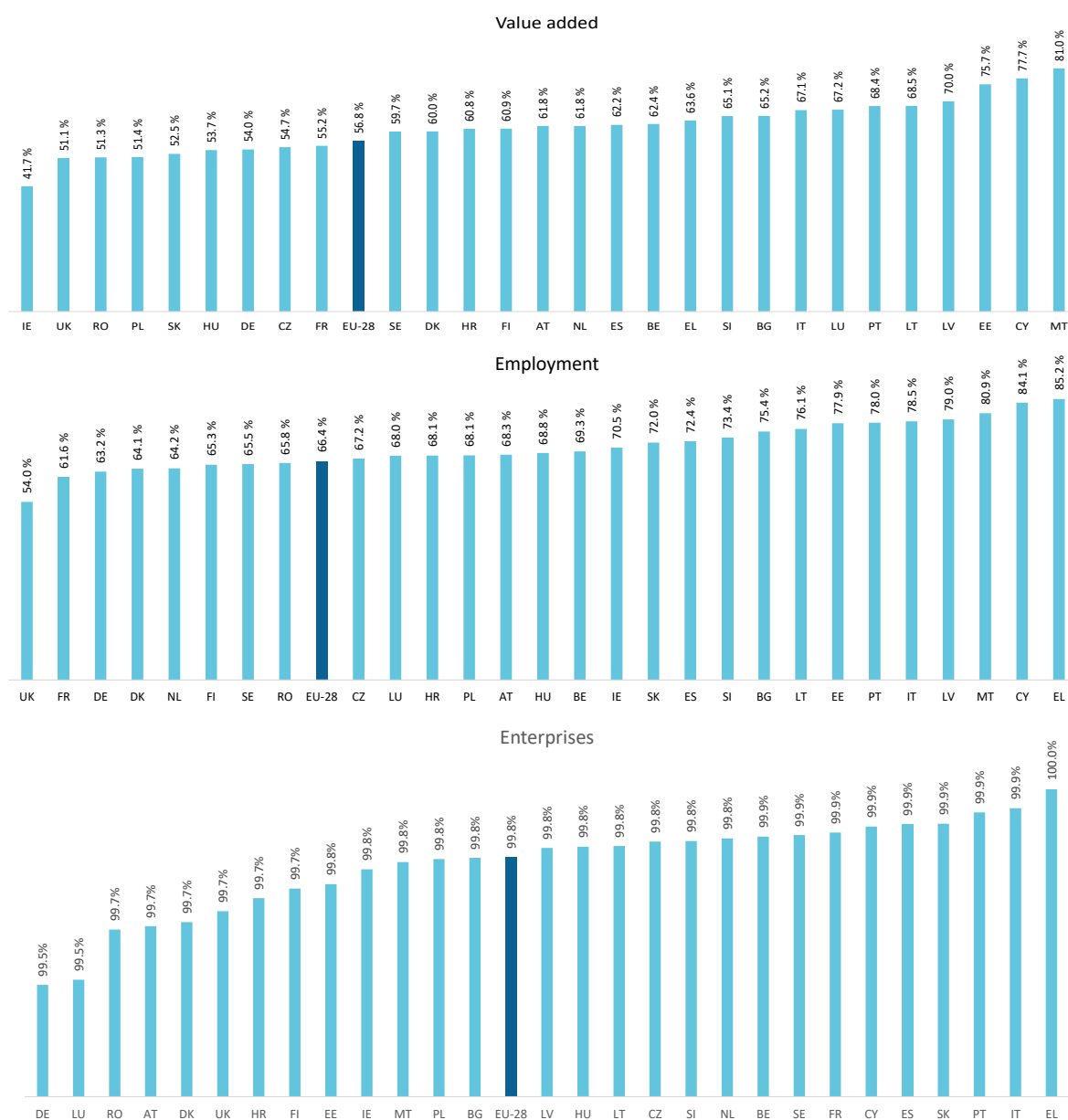
Note: Inhabitants of 15 years or above. EU-28 figure is 3 SMEs per 1,000 inhabitants for small SMEs and 1 SME per 1,000 inhabitants for medium-sized SMEs. Detailed information at Member State level is provided in Annex 2

Source: Eurostat, National Statistical Offices, DIW Econ

The contribution of SMEs to the economies of the EU-28 Member States also varies greatly. For example, in four Member States (CY, EE, MT and LV), SMEs accounted for 70% or more of the total value added in the non-financial business sector in 2017 while in one, IE, the SMEs share of the value added generated by the non-financial business sector was just below 42% (Figure 3).

In the case of employment, SMEs in three Member States (CY, EL and MT) accounted for 80% or more of total employment in the non-financial business sector in 2017, while in five Member States (DE, DK, FR, NL and UK), the SME employment share in the non-financial business sector in 2017 was less than 65% (Figure 3). Finally, SMEs accounted for practically all enterprises in the non-financial business sector in all Member States in 2017.

Figure 3: Contribution of SMEs to the non-financial business sector in Member States in 2017 – share of SME value added, SME employment and number of SME enterprises in total value added, employment and number of enterprises of the non-financial business sector



Source: Eurostat, National Statistical Offices, DIW Econ

Among EU-28 Member States, when micro SMEs account for a large share of value added (and employment) in the non-financial business sector, both small and medium-sized SMEs typically account at the same time for a small share. In fact,

across the EU-28 Member States, the correlation between the value added share of micro SMEs and the value added shares of small and medium-sized SMEs is strongly negative. The same result is found in the case of employment (Table 3).

Overall, the two results suggest that the Member State-specific composition of the SME population does not follow a natural progression from micro SMEs to small SMEs and then to medium-sized SMEs.

Table 3: Correlation of value added and employment shares of micro, small and medium-sized SMEs in EU-28 Member States in 2017

	Value added share	Employment share
Micro SMEs / Small SMEs	-0.64	-0.94
Micro SMEs / Medium-Sized SMEs	-0.88	-0.94
Small SMEs / Medium-Sized SMEs	0.20	0.76

Source: Eurostat, National Statistical Offices, DIW Econ

The relative importance of each of the three SME size classes varied markedly among EU-28 States in 2017.

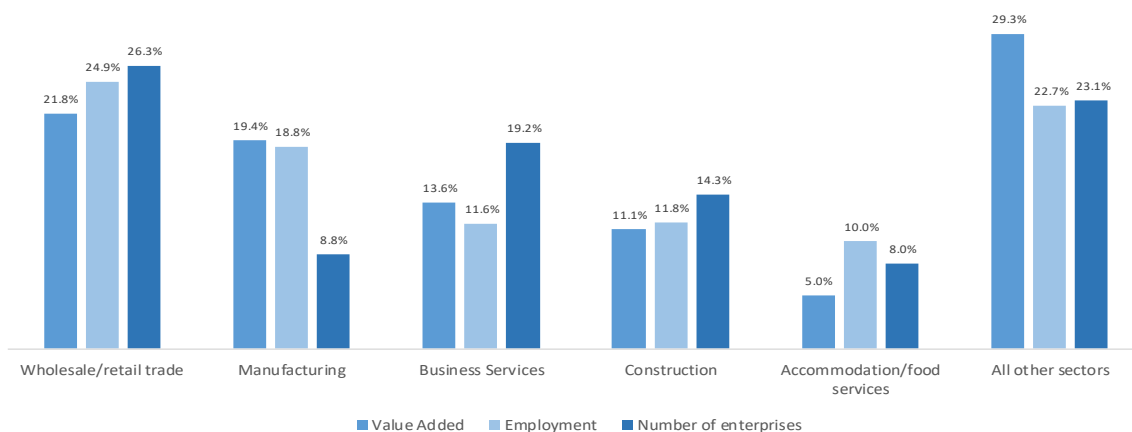
For example, in Ireland, in 2017, the share of SME value added accounted for by micro SMEs in the non-financial business sector was 61%, the highest share among all EU-28 Member States, whereas it was only 28% in Germany (see Annex 3 for details).

However, in the majority of Member States, the micro SMEs' share is in the range of 30% to 40%. The share of SME value added accounted for by small SMEs shows much less variation across EU-28 Member States, ranging from 21% in the case of Ireland to 35% in the case of Croatia. In contrast, the share of SME value added accounted for by medium-sized SMEs shows much greater variation, ranging from 19% in the case of Ireland to 42% in the case of Luxembourg.

The shares of the different SME size classes in SME employment in the non-financial business sector show a somewhat greater dispersion in 2017, ranging from 27% in Luxembourg to 67% in Greece in the case of micro SMEs, 19% in Poland to 36% in Germany in the case of small SMEs and 13% in Greece to 37% in Luxembourg in the case of medium-sized SMEs.

SMEs in the EU-28 non-financial business sector are heavily concentrated in 5 sectors, namely 'accommodation and food services', 'business services', 'construction', 'manufacturing' and 'wholesale and retail trade'. Together, in 2017, they accounted for 71% of total SME value added generated by the EU-28 non-financial business sector and 77% of SME employment and of SMEs in the sector overall. Of these five sectors, the 'wholesale and retail trade' sector alone accounted for about ¼ of total SME value added, employment, and SMEs as a whole, in the EU-28 non-financial business sector in 2017.

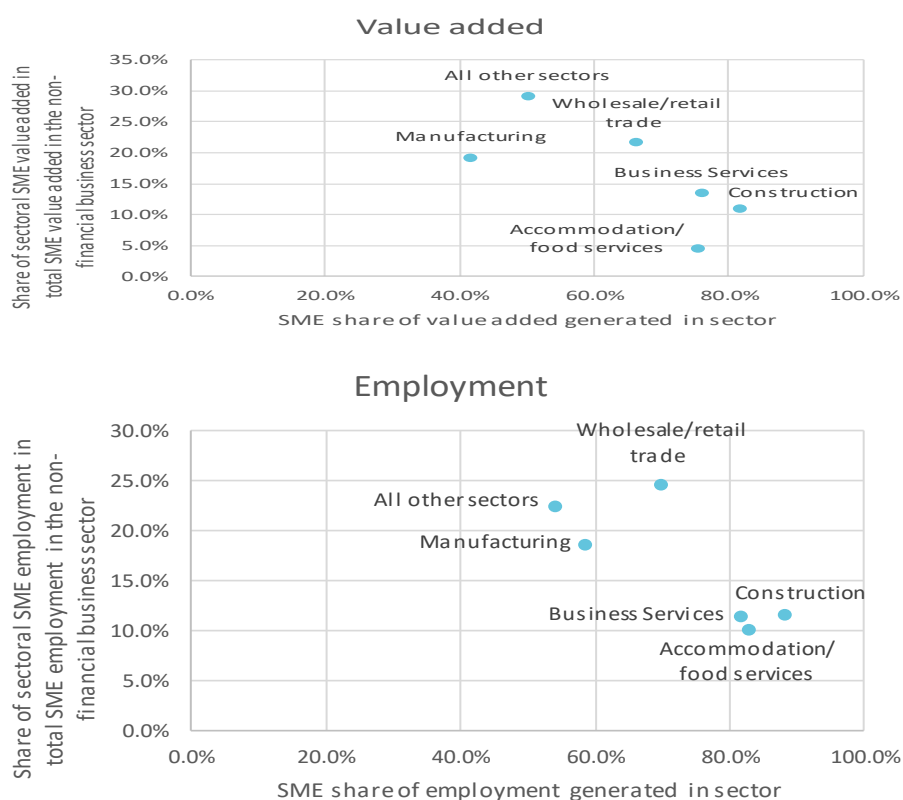
Figure 4: Shares of SME value added, employment and number of SME enterprises in the EU-28 non-financial business sector in 2017 accounted for by the 5 key SME economic sectors



Source: Eurostat, National Statistical Offices, DIW Econ

Moreover, in four of the five sectors, namely 'accommodation and food services', 'business services', 'construction' and 'wholesale and retail trade', SMEs accounted in 2017 for $\frac{2}{3}$ or more of the EU-28 sector's value added and employment (Figure 5).

Figure 5: Contribution of SMEs in various EU-28 non-financial business sectors and importance of the sectors for SMEs in 2017



Note: "All other sectors" include the following NACE 1 industries: 'Electricity, gas, steam and air conditioning supply', 'Water supply, sewerage, waste management and remediation activities', 'Transportation and storage', 'Information and communication', 'Real estate activities', 'Professional, scientific and technical activities other than business services' and 'Administrative and support service activities'

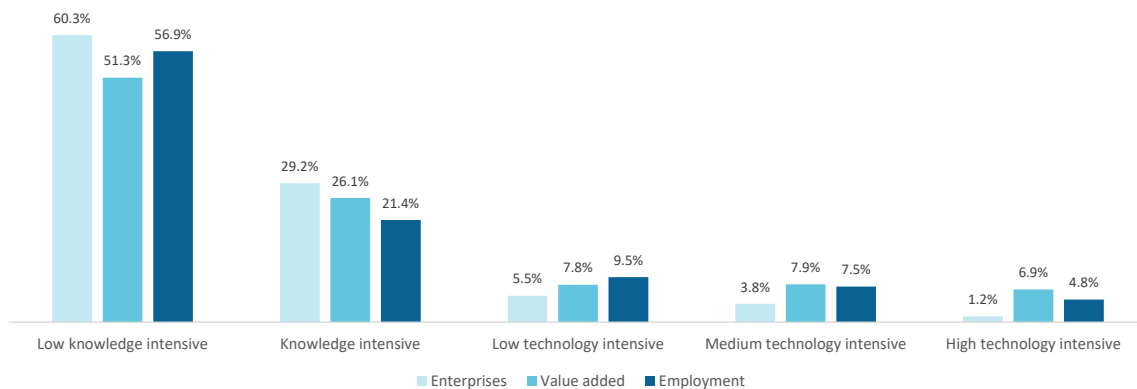
Source: Eurostat, National Statistical Offices, DIW Econ

The information provided in Annex 5 shows that, in the EU-28 in 2017, the contribution of SMEs to the valued added and employment of a sector varies markedly at a more granular industry classification.⁷

- In some industries such as ‘remediation activities and other waste management services’ and ‘veterinary activities’, SMEs accounted for more than 90% of total sectoral value added in 2017. However, SMEs in these 2 industries accounted for only 0.3% of the total value added generated by SMEs in the EU-28 non-financial business sector.⁸
- In contrast, in six sectors (‘manufacture of basic pharmaceutical products and pharmaceutical preparations’, ‘manufacture of coke and refined petroleum products’, ‘manufacture of motor vehicles, trailers and semi-trailers’, ‘manufacture of other transport equipment’, ‘manufacture of tobacco products’ and ‘telecommunications’) SMEs accounted for 15% or less of the sector’s value added in 2017.

There is great policy interest in encouraging SMEs to become more innovative and to export, since many SMEs are currently operating in sectors which are characterised by either low knowledge or technology intensities or low export intensities: about $\frac{2}{3}$ of SMEs (in terms of the number of SME enterprises in the EU-28 non-financial business sector) were active in either low knowledge intensive service industries or low-tech manufacturing industries (Figure 6).⁹ The concentration of SMEs in these two industry groupings is mainly due to the large presence of micro and small SMEs (Table 4).

Figure 6 : Distribution in 2017 of EU-28 SMEs in the non-financial business sector across sectors of different knowledge and technology intensities



Note: The shares are computed for the sub-sector of the non-financial business sector which includes all industries in the different knowledge and industry groupings. The following industries of the non-financial business sector are not included in the sub-sectors: ‘mining of coal and lignite’, ‘extraction of crude petroleum and natural gas’, ‘mining of metal ores’, ‘other mining and quarrying’, ‘mining support service activities’, ‘electricity, gas, steam and air conditioning supply’, ‘water collection, treatment and supply’, ‘sewerage’, ‘waste collection, treatment and disposal activities; materials recovery’, ‘remediation activities and other waste management services’, ‘construction of buildings’, ‘civil engineering’, ‘specialised construction activities’.

Source: Eurostat, National Statistical Offices, DIW Econ

⁷ The data are provided at NACE 2 level – see Annex 4 for complete list of NACE 2 industries in the non-financial business sector.

⁸ See Annexes 5 and 6 for detailed information on the contribution of SMEs in each of the NACE 2 sectors and the contribution of SMEs in each of these sectors to total SME value added and employment in the non-financial business sector.

⁹ The list of industries included in the different knowledge and technology groupings is provided in Annex 7.

Table 4: Distribution of EU-28 SME value added, employment and number of enterprises within each of the three SME size classes across sectors of different knowledge and technology intensities

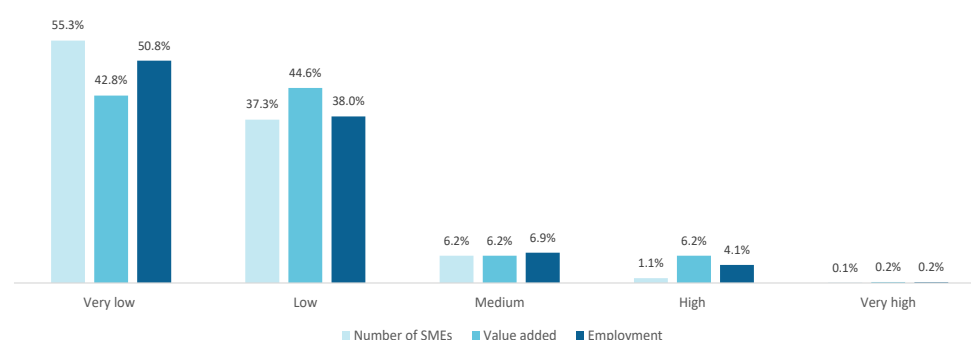
	Value added			Employment			Number of enterprises		
	M	S	M-S	M	S	M-S	M	S	M-S
Low knowledge intensive services	20.8%	16.3%	14.3%	27.4%	17.5%	11.9%	56.3%	3.5%	0.5%
Knowledge intensive services	10.9%	7.4%	7.7%	10.7%	5.3%	5.4%	28.0%	1.0%	0.2%
Low tech industries	1.6%	2.6%	3.7%	2.8%	3.2%	3.5%	4.8%	0.6%	0.1%
Medium tech industries	1.4%	2.8%	3.7%	1.8%	2.6%	3.0%	3.2%	0.5%	0.1%
High tech industries	0.6%	1.9%	4.3%	0.6%	1.4%	2.8%	0.9%	0.2%	0.1%

Note: M = micro SMEs, S = small SMEs and M-S = medium-sized SMEs

Source: Eurostat, National Statistical Offices, DIW Econ

Similarly, 93% of SMEs are active in industries characterised by very low or low export intensities (Figure 7), again reflecting the concentration of micro and small SMEs in these two industry groupings (Table 5).¹⁰

Figure 7: Distribution in 2017 of EU-28 SMEs across sectors of different export intensities – all SMEs



Note: see Annex 8 for detailed information on industry groupings by export intensity

Source: Eurostat, National Statistical Offices, DIW Econ

¹⁰ The list of industries included in the different export intensity groupings is provided in Annex 8.

Table 5: Distribution of EU-28 SME value added, employment and number of enterprises within each of the three SME size classes across sectors of different export intensities

Export intensity	Value added			Employment			Number of enterprises		
	M	S	M-S	M	S	M-S	M	S	M-S
Very low	20.8%	16.3%	14.3%	27.4%	17.5%	11.9%	56.3%	3.5%	0.5%
Low	10.9%	7.4%	7.7%	10.7%	5.3%	5.4%	28.0%	1.0%	0.2%
Medium	1.6%	2.6%	3.7%	2.8%	3.2%	3.5%	4.8%	0.6%	0.1%
High	1.4%	2.8%	3.7%	1.8%	2.6%	3.0%	3.2%	0.5%	0.1%
Very high	0.6%	1.9%	4.3%	0.6%	1.4%	2.8%	0.9%	0.2%	0.1%

Note: M = micro SMEs, S = small SMEs and M-S = medium-sized SMEs

Source: Eurostat, National Statistical Offices, DIW Econ

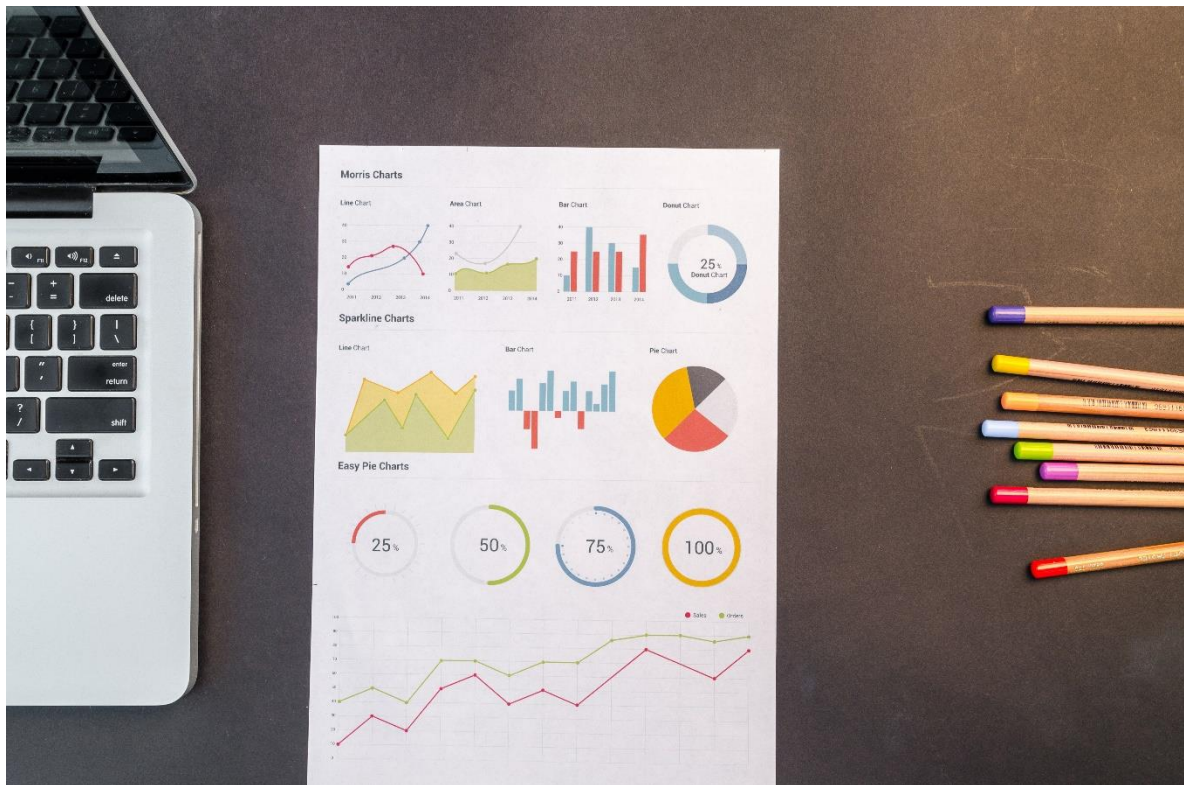


Photo by Lukas from Pexels

Part 1: Tenth Anniversary of the Small Business Act and 10 years of recovery from the 2008 financial crisis

Introduction to Part I

This first part of the Annual Report:

- Provides in chapter 1 an overview of the Small Business Act, the rationale for having such an act, the monitoring process, and the use of findings from annual monitoring in the EU policy-making process.
- Next, it reviews in chapter 2 the performance of SMEs over the 10-year period since the depths of the 2008/09 economic recession and highlights the contribution of EU SMEs to the recovery of the EU economy and its subsequent return to a steady growth path.

1. Ten years of the Small Business Act in Europe

The first chapter identifies policy trends at EU-28 level and sums up the overall progress in implementing the voluntary policy recommendations of the “Small Business Act” (SBA) for Europe. Persistent policy challenges are also highlighted, based on remaining policy gaps and the performance of the SBA indicators.

BOX 1

The “Small Business Act” for Europe (SBA)

The “Small Business Act” for Europe (SBA), adopted in June 2008, has served as the framework for guiding SME policy-making, based on a set of voluntary policy recommendations centred on the following 10 principles: Entrepreneurship; ‘Second chance’; ‘Think small first’; ‘Responsive administration’; State aid & public procurement; Access to finance; Single Market; Skills & Innovation; Environment; and Internationalisation. The overall objective of the SBA is to reduce administrative burdens, foster entrepreneurship, improve access to finance and markets, and overall, to improve the conditions for SMEs to develop and grow.

An econometric analysis was undertaken to assess the effects of SBA policy intervention on SME outcomes, compared to the analysis based on clustering and correlations (see Annex 15 for detailed methodology and estimation results).

The empirical analysis over the period 2011-2017:

- aimed to estimate the effect of SBA policy interventions on three SME performance measures, namely the variables in level terms, in log level terms and in growth rate
- involved the estimation of a number of models to test the robustness of any findings.

Statistically robust and positive effects of SBA interventions on SME outcomes were identified in many instances. This is much less apparent when relying only on clustering and correlations. A multivariate approach is a more powerful tool for identifying the effects of a particular variable, as confounding effects of other variables can be controlled. In essence, SME outcomes are related to several explanatory variables, but SBA policies also have an identifiable effect.

The precision of the estimates and the robustness of the effects of SBA policies on SME outcomes varied greatly across model specifications.

Positive effects on SME value added were encountered across a wide range of specifications and estimated with a relatively high level of statistical precision.

There is also a range of models in which the effect of SBA policies on the number of SMEs is positive and significant.

In relation to the last SME outcome of interest, SME employment, results were mixed overall and none of the specifications considered yielded a very high level of statistical significance. This is not surprising since SME employment did not increase much over the period 2011-2017.

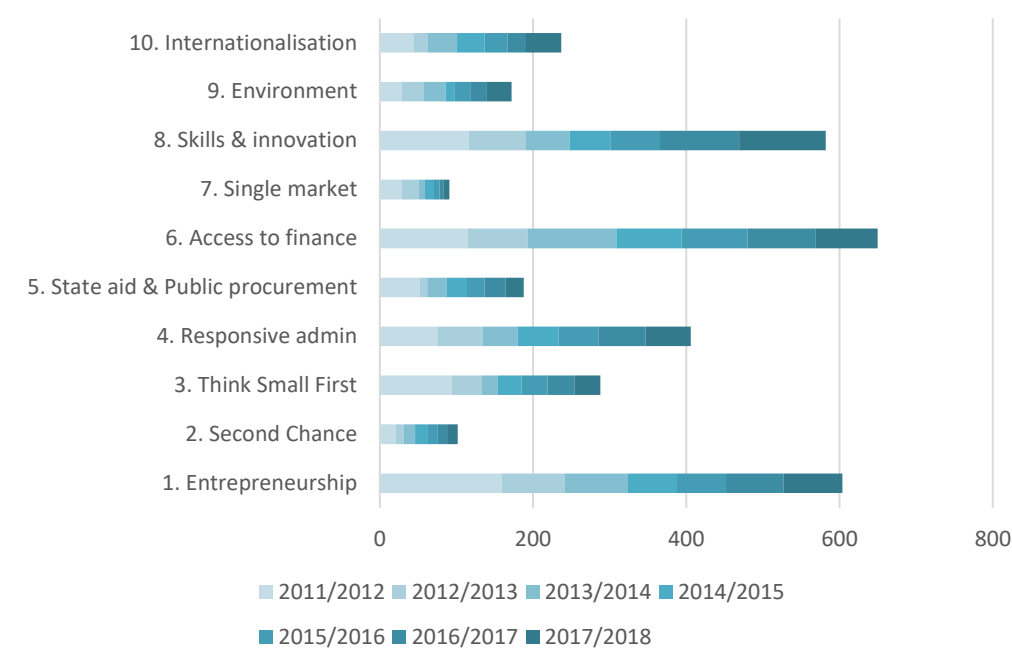
The SBA, as a voluntary initiative, has successfully set in motion significant and consistent policy action at MS level, based on a common framework.

Indeed, **more than 3,300 policy measures have been adopted/implemented since 2011** in the EU-28 – an average of more than 450 a year – covering the 10 principles of the SBA.

The network of SME envoys has coordinated, facilitated and provided impetus to the successful implementation of the SBA, while the annual SME Performance Review has served to monitor and assess its implementation and track the performance of SMEs and the SBA indicators at MS level.

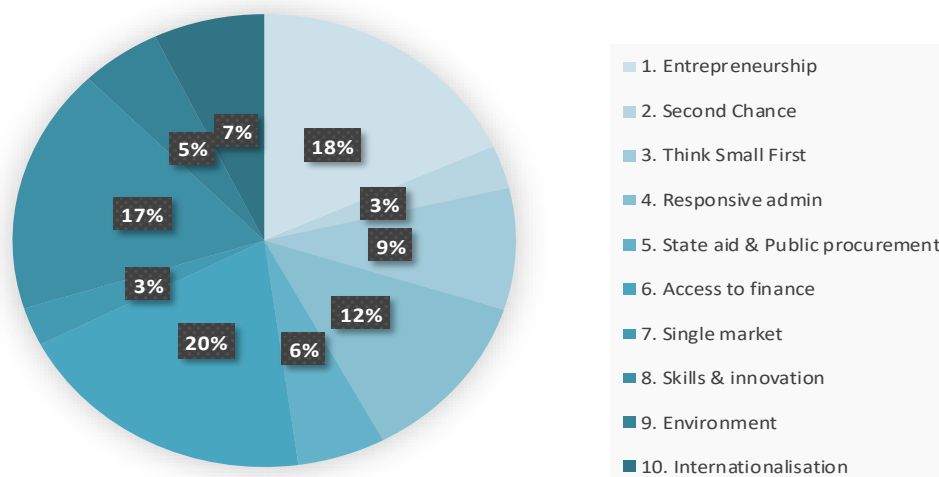
Since 2011, the principles ‘access to finance’, ‘entrepreneurship’, ‘skills & innovation’, and to a lesser extent ‘responsive administration’ have enjoyed the greatest policy progress, with around two-thirds of the identified policy measures adopted/implemented. ‘Second chance’ and ‘single market’ are the principles with the least policy activity observed, followed by ‘environment’ and ‘state aid & public procurement’.

Figure 8: SBA policy implementation – EU-28 (2011-2018)



Source: CARSA and PwC

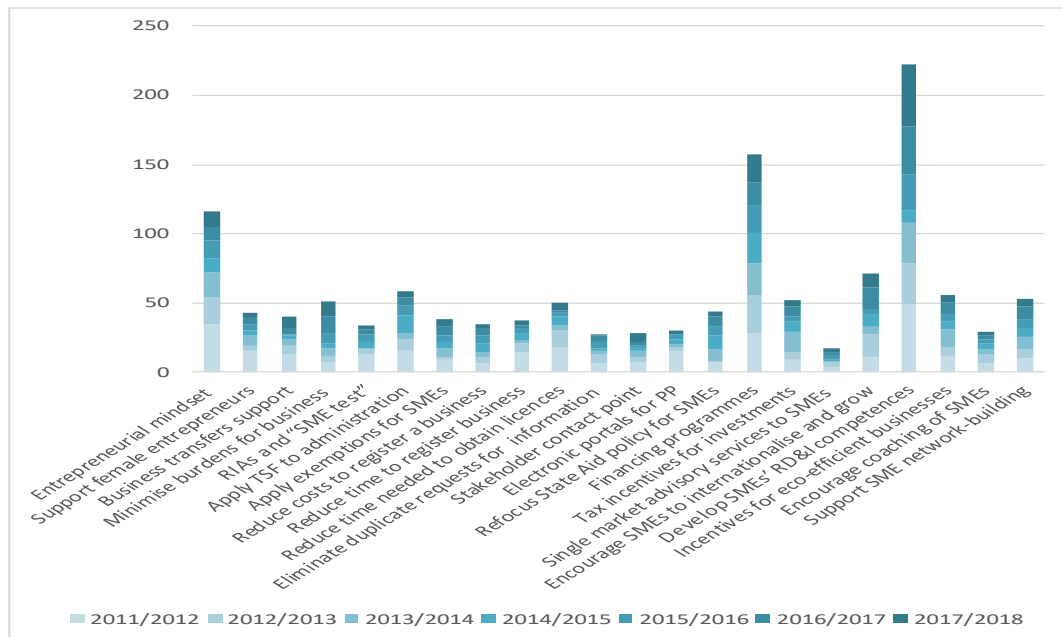
Figure 9: Distribution of policy measures adopted/implemented per SBA principle – EU-28 (2011-2018)



Source: CARSA and PwC

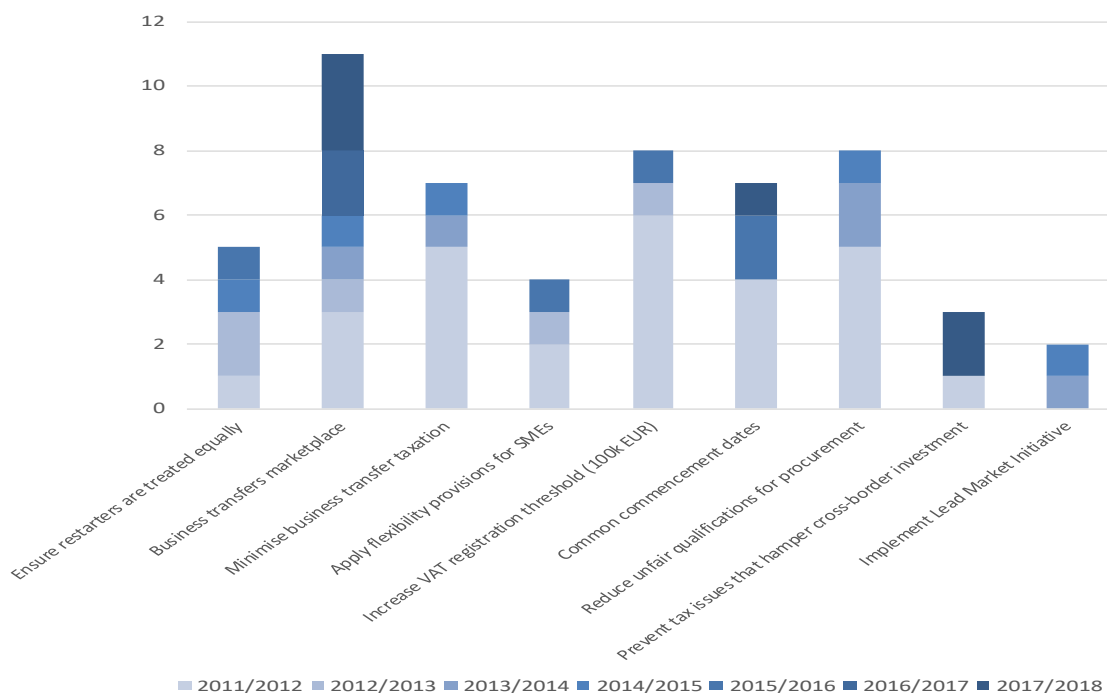
Overall, by far the three most commonly adopted/implemented measures across the EU since 2011 include measures for developing the RD&I competencies of SMEs, for establishing public financing programmes and for promoting an entrepreneurial mindset, covering in total an estimated 450 out of 3 300 measures.

Figure 10: Most commonly implemented measures at EU-28 level (2011-2018)



Source: CARSA and PwC

On the other hand, some of the least commonly adopted/implemented measures concern ensuring restarters are treated equally, adopting common commencement dates, increasing the VAT registration threshold and reducing unfair qualifications for SMEs for public procurement. Few measures have been put in place on easing business transfers, e.g. through marketplaces and minimised business transfer taxation.

Figure 11: Least commonly implemented measures at EU-28 level (2011-2018)

Source: CARSA and PwC

Nevertheless, as shown in the inventory checklist tables below, significant policy progress has been achieved and **most of the SBA recommendations, with a few exceptions, have been implemented during the past 10 years.**

Table 6: SBA inventory checklist intensities

Entrepreneurship No. of EU-28 Member States with the answer 'Yes' 0-7 • 8-14 • 15-21 • 22-28	Are there specific measures to increase the number of entrepreneurs/new company formations? <i>Specific measures notably include business plan competitions, rewarding role model entrepreneurs, entrepreneurship grants, support to start up a company, measures for social security, tax incentives, strategic support from clusters etc.</i>	28
	Are there programmes incorporated into the education curriculum to teach, improve and measure entrepreneurial skills from an early age?	22
	Is there training in place to allow teachers to teach entrepreneurship issues?	22
	Are there sufficient measures in place to provide entrepreneurship support specifically for WOMEN, YOUNG PEOPLE, UNEMPLOYED, IMMIGRANTS, and REFUGEES? Entrepreneurship support includes advice, training, financing, mentoring etc.	19
	Is there a marketplace and/or specific support and matching schemes to ensure successful business transfers?	13
'Second chance' No. of EU28 Member States with the answer 'Yes' • 0-7 • 8-14 • 15-21 • 22-28	Are there early warning and help desk mechanisms in place to prevent entrepreneurs from going bankrupt? <i>Prevention measures notably include information campaigns, training, and information sessions on procedures to reduce the stigma of failure.</i>	15
	Are restarters treated on an equal footing?	13
	Are legal bankruptcy procedures completed within a year and is bankruptcy discharged in a maximum of three years?	11
	Is there the possibility of automatic discharge for honest entrepreneurs after liquidation (or fast track and specific procedures in place for SMEs)?	10
'Think Small First' No. of EU-28 Member States with the answer 'Yes' • 0-7 • 8-14 • 15-21 • 22-28	Are SME stakeholders consulted on new legislative proposals?	27
	If so, are consultation results taken into consideration and made publicly available?	22
	Is the regulatory impact assessment (RIA) process in place?	26
	Is the "Think Small First" principle applied both to legislation and administrative procedures affecting SMEs?	22
	Have specific targets for the reduction of administrative burdens been set and achieved?	20
	If so, are the results of the impact assessment effectively used to change (or cancel) the proposed legislation?	17
	Is the 'SME Test' systematically applied as an integral part of regulatory impact assessments?	17
	Is there a "common commencement date" for all new legislation and amendments to the existing legislation relevant to SMEs?	6

'Responsive administration' <i>No. of EU-28 Member States with the answer 'Yes'</i> • 0-7 • 8-14 • 15-21 • 22-28	Is there a 'one stop shop' where SMEs can perform all administrative requirements and where guidance is provided?	22
	Is there an SME friendly and effective e-Government infrastructure allowing SMEs to quickly handle all procedures (online)?	20
	Is the existing single point of contact responsible for ensuring the effectiveness of start-up procedures?	16
	Are the various databases of different public administrations sufficiently connected so that companies only have to provide information once (except for updates)?	13

State aid & public procurement <i>No. of EU-28 Member States with the answer 'Yes'</i> • 0-7 • 8-14 • 15-21 • 22-28	Does the State Aid policy address SMEs' needs?	26
	Is there an effective e-Procurement portal where all public procurements can be screened and applied?	25
	Is there "Public Procurement of innovation" in place?	20
	Are there protective measures in place for SMEs in the case of late payments?	17
	Is it a common practice to divide big tenders into smaller lots so that small SMEs can also apply and to provide opportunities for collective bidding by SMEs (e.g. via clusters)?	14

Access to finance <i>No. of EU-28 Member States with the answer 'Yes'</i> • 0-7 • 8-14 • 15-21 • 22-28	Are there bank loans and corresponding guarantee schemes to provide access to loans?	28
	Are there national grants and risk capital to support SMEs and start-ups?	28
	Is there funding dedicated to starting up a business as well as for innovation, proof of concept and for the commercialisation of innovation?	28
	Are there Business Angels funds and Venture Capital Funds established?	26
	Are EU-based funds for SMEs relatively easily accessible?	23
	Is there a 'one stop shop' to support SMEs in accessing the required funds?	13

Single market <i>No. of EU-28 Member States with the answer 'Yes'</i> • 0-7 • 8-14 • 15-21 • 22-28	Does the national government take steps to correctly transpose EU laws on time?	28
	Is there an effective "Internal Market Information System" and SOLVIT centre to solve the Single Market related problems of SMEs?	25
	Is there a single point of contact to support SMEs within the Single Market?	24
	Are there measures to enable the participation of SMEs in the development of standards and to help them to better access European standards?	22
	Are there measures to help SMEs overcome the difficulties in accessing patents and trademarks within the Single Market?	21

Skills & innovation <i>No. of EU-28 Member States with the answer 'Yes'</i> • 0-7 • 8-14 • 15-21 • 22-28	Are there public measures to ensure that SMEs can provide/get access to training for employees and business advisory/support services?	28
	Are there specific measures in place to develop the RD&I competencies of SMEs and to support high growth innovative companies?	28
	Is there a well-developed network of training providers accessible across the country and sectors?	25
	Is there a mechanism to support SMEs take part in innovation partnerships at national/EU level as well as to help with the commercialisation of RTD results (i.e. IPR management)?	25
	Is there financial support for SMEs which engage in vocational education and training (VET)?	23
	Is there a mechanism in place to assess labour market needs and to adopt education and vocational training accordingly to meet labour market demand?	22

Environment <i>No. of EU-28 Member States with the answer 'Yes'</i> • 0-7 • 8-14 • 15-21 • 22-28	Are there support measures to ensure energy efficiency/use of renewables by SMEs and to encourage the development of innovative eco-efficient processes, products and services as well as their uptake by traditional companies?	25
	Are there support measures to put green public procurement in place?	19
	Is there an organisation specifically responsible for providing support to SMEs to ensure environmental and energy regulatory compliance?	17
	Are there support measures to incentivise SMEs to become EMAS certified?	10

Internationalisation <i>No. of EU-28 Member States with the answer 'Yes'</i> • 0-7 • 8-14 • 15-21 • 22-28	Are there missions/partnership agreements/trips/networking events organised by the responsible authorities to boost SME new market entry outside the EU?	28
	Is there financial support (loans, guarantees, equity, export credit insurance facilities) available specifically for SME internationalisation?	27
	Are there clusters, accelerators and trade organisations in the country to boost SME internationalisation?	25
	Is there an umbrella organisation providing all sorts of support (strategic, operational, legal, financial, linguistic etc.) to SMEs for internationalisation and to stimulate trade & export?	20

Source: CARSA and PwC

All EU Member States now have specific measures in place to increase the number of entrepreneurs and boost new enterprise growth. Over 100 policy measures have focused on boosting an entrepreneurial mindset, followed to a lesser extent by measures supporting female entrepreneurs. Most EU Member States also have a strong focus on entrepreneurial education for both teachers and students. Support measures targeting female, youth and immigrant entrepreneurship are present in more than half of EU Member States. However, less than half offer specific support to ensure successful business transfers.

Despite the more than 100 policy measures adopted/implemented under the 'second chance' principle since 2011, few measures have been adopted to ensure that honest restarters are treated equally. The majority of the measures aim to ensure bankruptcy procedures are completed within a year. Nevertheless, it is still not possible to complete legal bankruptcy proceedings within a year in most EU countries, nor to be discharged from bankruptcy within three years. Similarly, discharge for honest entrepreneurs after liquidation is not automatic in most EU countries. Just over half of EU Member States have put early warning and help desk mechanisms in place to prevent entrepreneurs from going bankrupt.

Regulatory Impact Assessments (RIAs) are in place in almost every EU Member State, and SME stakeholders are generally consulted on new legislative proposals, with most EU Member States also publishing the results of the consultations. In general, the 'think small first' principle is applied to both legislation and administrative procedures affecting SMEs to reduce disproportionate burdens on SMEs, although around half of EU Member States are still struggling to use the results of RIAs effectively, and to systemically apply the 'SME Test'. Most EU Member States still do not have 'common commencement dates' for new or amended legislation.

Over 400 policy measures have been adopted/implemented since 2011 at EU-level under the 'responsive administration' principle. The most commonly implemented measures aim at reducing the time and costs needed to register a company and acquire licenses, and to eliminate duplicate requests for information. The 'once only' principle, however, remains under-applied, despite efforts to eliminate duplicate requests for information, as most EU Member States have yet to sufficiently connect different public administration databases. Nevertheless, most EU Member States now have a 'one stop shop' for SMEs, and an effective e-Government infrastructure allowing SMEs to handle various administrative procedures online.

Close to 190 policy measures have been adopted/implemented under the 'state aid & public procurement' principle since 2011. The most commonly implemented measures aim to refocus state aid policy for SMEs, followed by the creation of e-procurement portals. In contrast, few policy measures have been put in place to avoid disproportionate qualification requirements for public procurement or to promote the dialogue between SMEs and large buyers. In almost every EU Member State, there is an effective e-procurement portal. 'Public procurement of innovation' is in place in most EU Member States, as well as protective measures for SMEs in the case of late payments. However, it is common practice to divide big tenders into smaller lots – improving the chances for SMEs to apply or bid collectively – in only half of EU Member States. Policy efforts to address unfair qualification requirements for SMEs to compete in public procurement tenders are still largely inadequate.

Around 650 policy measures have been adopted/implemented related to the 'access to finance' principle since 2011. The most commonly implemented measures - over 150 - are related to financing programmes. However, few measures have been adopted/implemented to further boost venture capital funds. Exceptional policy progress has been achieved by all EU Member States in implementing the SBA recommendations under 'access to finance'. All EU Member

States now have funding dedicated to starting up a business as well as for supporting innovation, proof of concept and commercialisation (e.g. bank loans and corresponding guarantee schemes, national grants and risk capital). EU-based funds for SMEs are relatively easily accessible in most EU Member States. Business Angel funds and Venture Capital funds are also established in most EU Member States.

Immense policy progress has been achieved across the EU in implementing Single Market directives. EU Member States, for instance, have established a comprehensive single point of contact and an effective SOLVIT centre to help SMEs. The majority of EU Member States also help SMEs to participate in the development of standards and to overcome the difficulties in accessing patents and trademarks.

Exceptional policy progress has also been achieved by all EU Member States in implementing the SBA recommendations under 'skills & innovation'. Remarkably, nearly 600 policy measures have been adopted/implemented under the 'skills & innovation' principle since 2011, and policy intensity has picked up in recent years. Over one third of the measures aim at developing the RD&I competencies of SMEs. All EU Member States have established measures to help SMEs offer training to employees and to provide access to business advisory/support services, as well as to support the development of their RD&I competencies. Most EU Member States also have a well developed and accessible network of training providers and mechanisms to support the commercialisation of RTD results. However, not all EU Member States assess labour market needs to adopt vocational education and training to better meet labour market demand.

Over 170 policy measures have been adopted/implemented since 2011 at EU level under the 'environment' principle, with the majority focusing on incentives for eco-efficient businesses. In contrast, few measures have been adopted/implemented related to the EU Eco-Management and Audit Scheme (EMAS) regulatory incentives and cohesion funds to support eco-friendly SMEs. Support measures and incentives are widely in place across the EU to encourage energy efficiency and the use of renewables by SMEs, and the development of innovative eco-efficient processes, products and services. However, green public procurement is not yet commonplace and not all EU Member States have established an organisation specifically dedicated to offering support to SMEs in complying with environmental and energy regulations. In addition, most EU Member States still do not have support measures to incentivise SMEs to become EMAS certified.

Since 2011, close to 240 policy measures have been adopted/implemented in the EU to support the internationalisation of SMEs. While the most commonly implemented measures support SME network building, few measures have been put in place to encourage the coaching of SMEs by large enterprises. Most EU Member States have set up an umbrella organisation to provide different types of support services to help SMEs to internationalise. In addition, there are clusters, accelerators and trade organisations in the majority of EU Member States to boost SME internationalisation. Different types of financial support measures dedicated to internationalisation are also widely in place across the EU, and all EU Member States have embarked on trade missions to boost the entry of European SMEs into new markets outside the EU.

2. Contribution of SMEs to the recovery and growth of the EU-28 economy since 2008

This second chapter examines, first of all, how the performance of the SME sector compares to that of large enterprises, and to the economy as a whole, in terms of SME employment and SME value added over the period 2009 to 2017 in the EU-28 and in EU-28 Member States.

Next, it identifies the SME size classes and SME industry groups which have been the best and worst performers over the past ten years at the level of the EU-28 and of individual Member States. It also discusses the reasons for differences in performance and quantifies the contribution made by SMEs to the recovery and subsequent expansion of the EU-28 economy.

Finally, the chapter takes a closer look at the evolution of business births, deaths, start-ups, scale-ups and high growth enterprises over this period.

2.1 Comparative analysis of the performance of EU-28 SMEs since 2008

2.1.1 *The broader macroeconomic context*

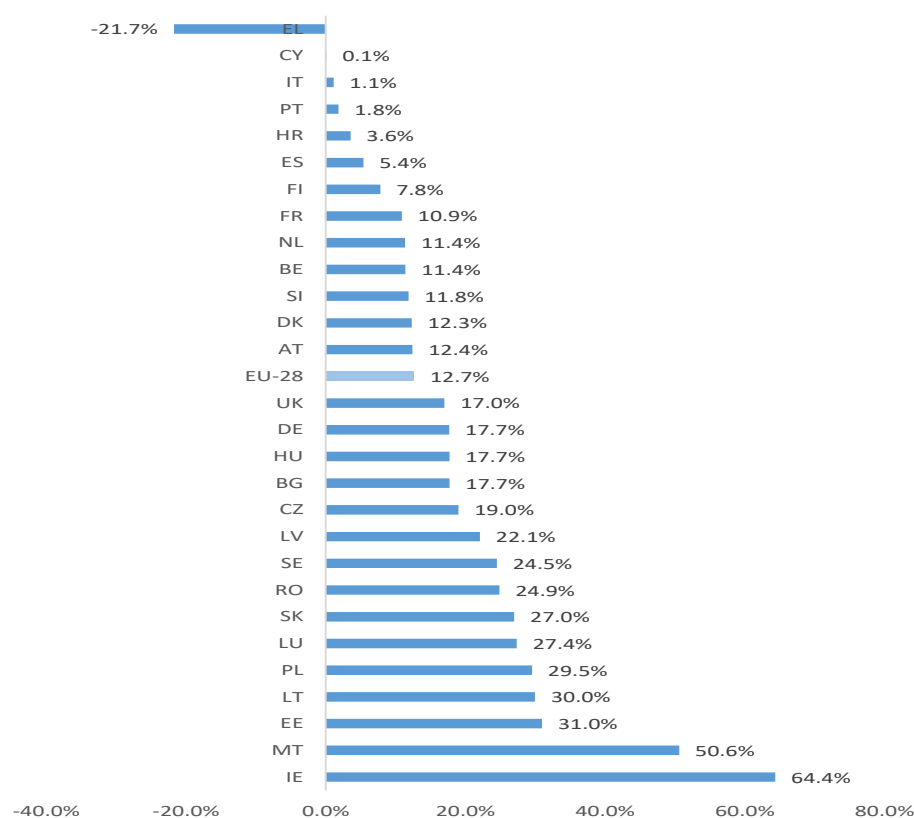
As is well known, the economies of the different Member States have followed very dissimilar growth paths since 2009. While the financial and economic crisis affected almost all Member States in 2009, some also experienced a second major negative economic shock shortly afterwards with the sovereign debt crisis.

At the EU level, over the 8 year period from the trough of the recession in 2009 until 2017, GDP (at constant prices) increased in all Member States apart from Greece (Figure 12).

However, in six Member States, cumulative growth from 2009 to 2017 was extremely anaemic, ranging from just 0.1% in Cyprus to 8% in Finland. Economic growth was also subdued in a further six Member States with GDP (at constant prices) showing a cumulative increase of 11% to 12% from 2009 to 2017.

In contrast, GDP expanded by 51% in Malta and 64% in Ireland over the same period. Moreover, GDP (at constant prices) grew cumulatively by 17% to 31% in 13 other Member States from 2009 to 2017.

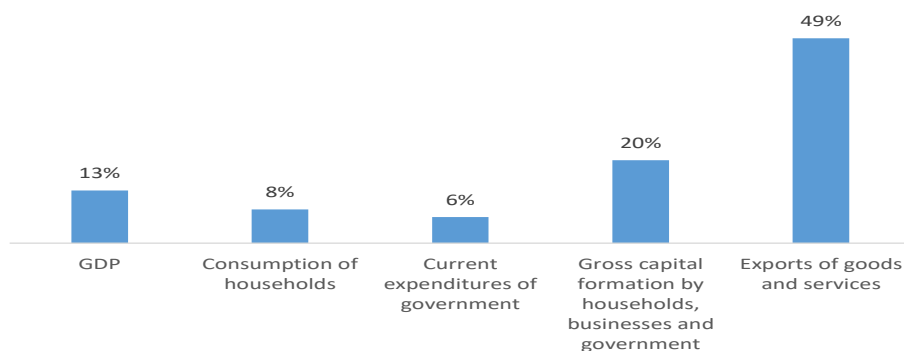
Figure 12: Cumulative change (in %) from 2009 to 2017 in GDP (at constant prices) in the EU-28 and Member States



Source: Eurostat

Exports of goods and services were by far the most important factor in the recovery of the EU-28 economy from the recessionary trough of 2009. These exports increased by 49% from 2009 to 2017, while household consumption and current expenditures of government remained very subdued, increasing respectively by 8% and 6% over the same period (Figure 13). Gross capital formation, that is investment by households, government and business, grew by 20%, while overall GDP expanded by only 13%.

Figure 13: Cumulative increase in GDP, consumption of households, current expenditures of government, gross capital formation and exports of goods and services in the EU-28 economy from 2009 to 2017



Note: Each of the macroeconomic indicators is presented in real terms using the Eurostat chain-linked volume index, with 2010=100

Source: Eurostat

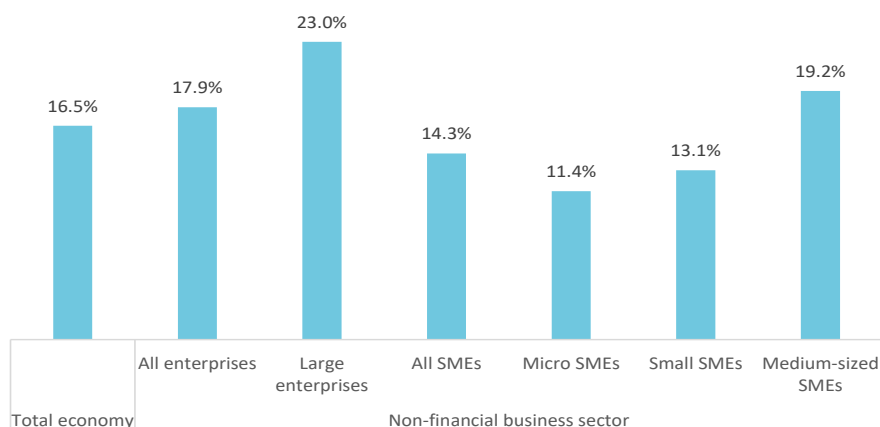
The very large differences in a) the overall economic performance of Member States since 2009 and b) the evolution of the major components of aggregate demand, are reflected in major differences in SME performance across Member States and also economic sectors.

2.1.2 The performance of SMEs since 2008

Over the period 2008 to 2017, gross value added generated by the EU-28 non-financial business sector increased marginally more than EU-28 economy-wide gross value added, and within the non-financial business sector, EU-28 large enterprises posted a much stronger value added performance than EU-28 SMEs (Figure 14). The weaker value added performance of EU-28 SMEs reflects almost entirely the weaker performance of micro and small EU-28 SMEs.

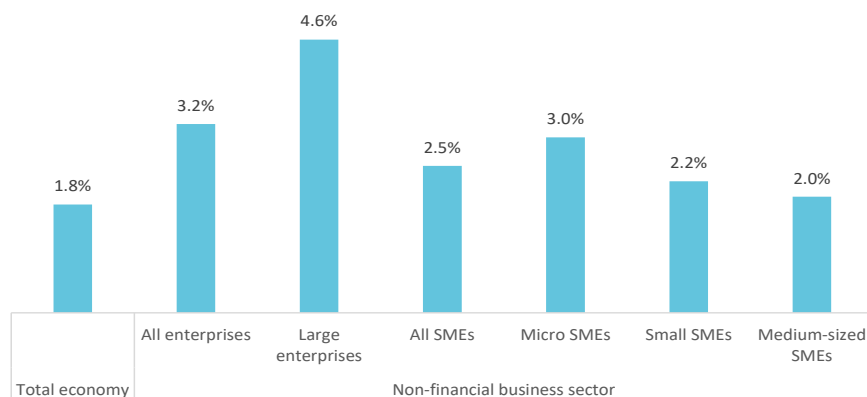
In contrast, non-financial business sector employment growth was notably stronger than in the economy as a whole, with large enterprises and, to a lesser extent, micro SMEs significantly outperforming the overall economy (Figure 15).

Figure 14: Increase from 2008 to 2017 in EU-28 gross value added (in current prices) economy-wide and in the non-financial business sector



Source: Eurostat, National Statistical Offices, DIW Econ

Figure 15: Increase from 2008 to 2017 in EU-28 employment economy-wide and in the non-financial business sector

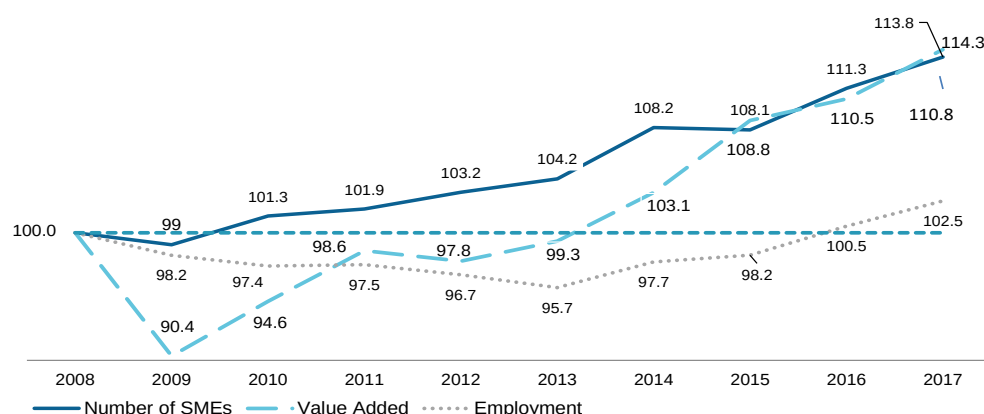


Source: Eurostat, National Statistical Offices, DIW Econ

At the EU-28 level, the recovery of SME value added from the recession started in 2010 (with a minor setback in 2012) (Figure 16).

In contrast, the recovery of EU-28 SME employment was markedly delayed, only starting in 2014.

Figure 16: Evolution of SME value added and employment and number of SMEs in the EU-28 non-financial business sector (2008=100)



Source: Eurostat, National Statistical Offices, DIW Econ

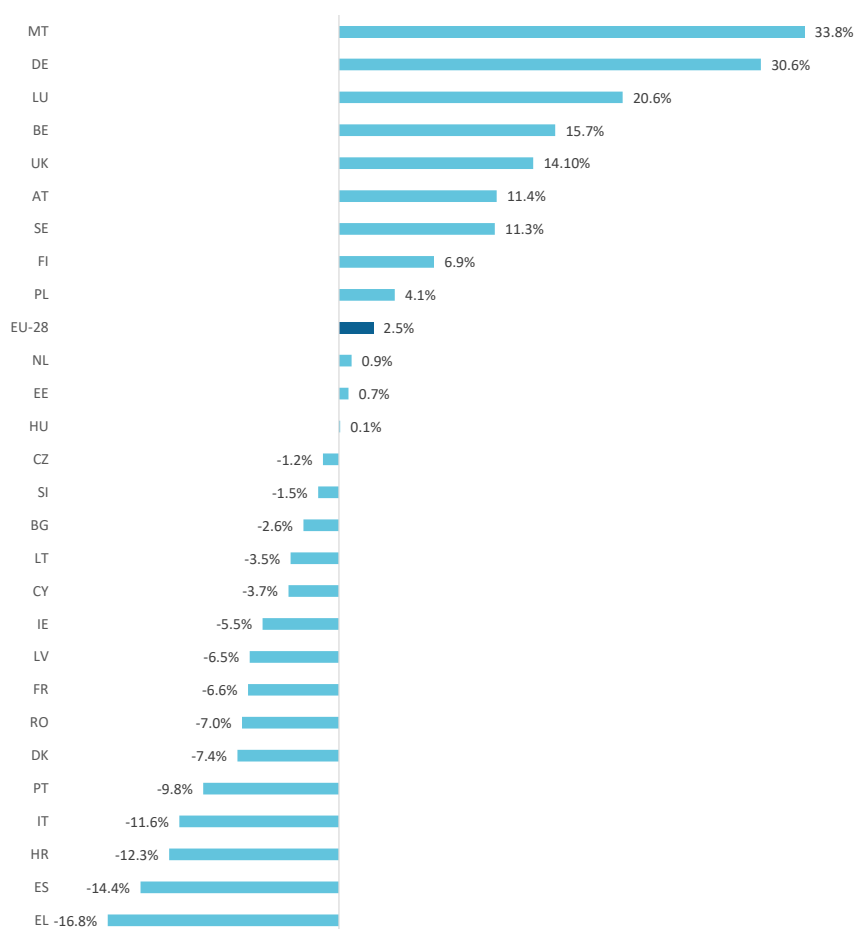
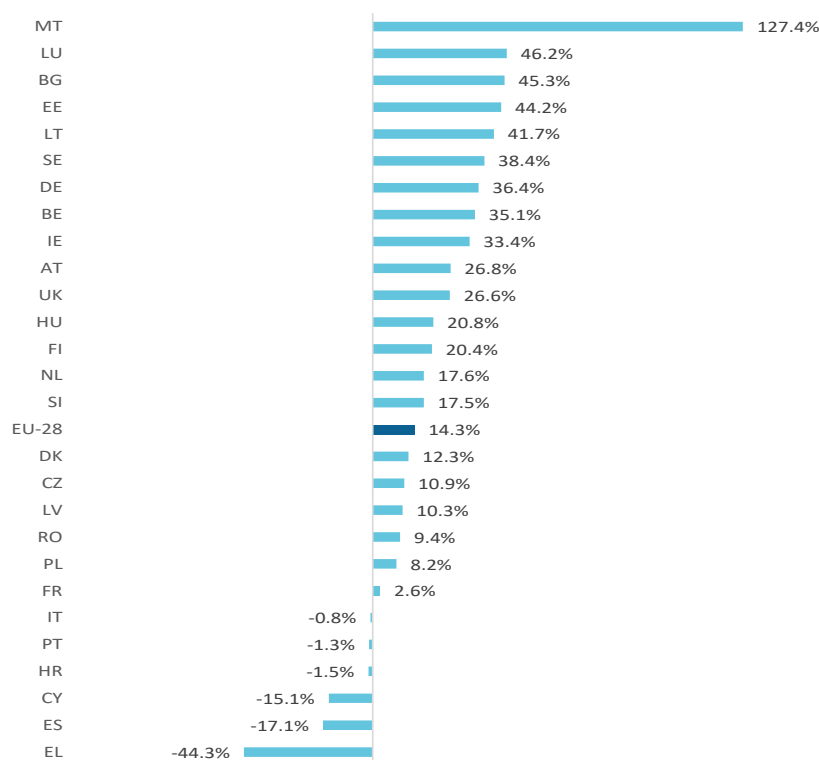
The recovery of SME value added at the EU-wide level masks highly divergent developments:

- in six Member States the level of SME value added in 2017 remained below its 2008 level (CY, EL, ES, HR, IT and PT)
- in five Member States (BG, EE, LT, LU and MT) the 2017 level of SME value added exceeded its 2008 level by 40% or more (Figure 17).

The differences are even more striking in the case of SME employment in the non-financial business sector:

- the SME employment level in 2017 was below its 2008 level in 15 Member States (BG, CY, CZ, DK, FR, EL, ES, HR, IE, IT, LT, LV, PT, RO and SI)
- it exceeded its 2008 level by 20% or more in only 3 Member States (DE, LU and MT) (Figure 17).

Figure 17: Cumulative change (in %) from 2008 to 2017 in SME value added and employment in the non-financial business sector of EU-28 Member States



Note: Slovakia not shown because of a structural break in the data series

Source: Eurostat, National Statistical Offices, DIW Econ

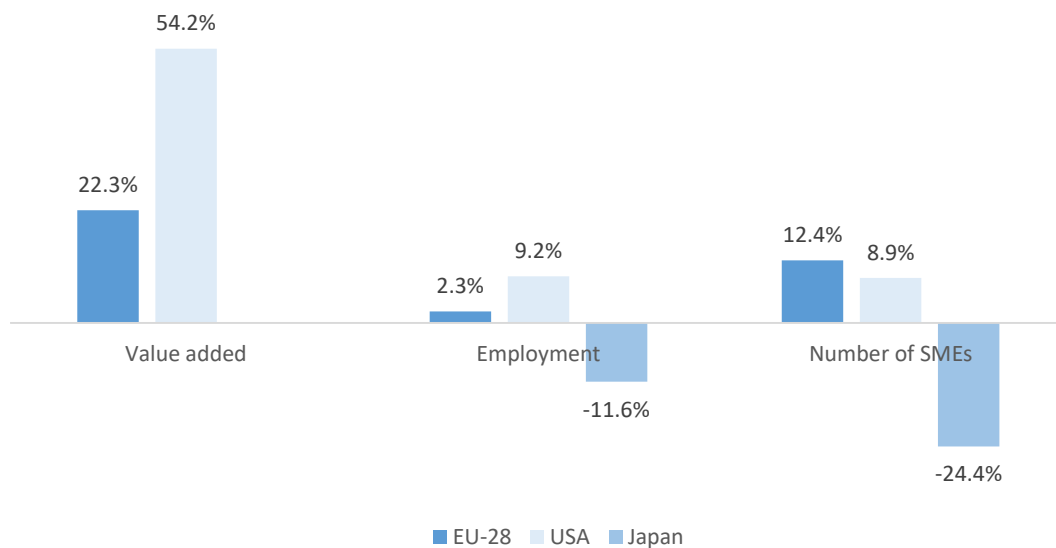
2.2 Comparison of the performance of SMEs in the EU-28, USA and Japan

As SME data for 2017 are not yet available for the USA and Japan, and no data are available for Japan¹¹ on the number of SMEs and SME employment in 2008, this sub-section focuses on the period 2009 -2016.

The three jurisdictions (EU-28, USA and Japan) show very different patterns over the period 2009 – 2016 (Figure 18):

- The USA shows cumulative growth from 2009 to 2016 in SME value added and employment which is more than double that of the EU-28. However, the increase in the number of SMEs in the USA was about 30% lower than in the EU-28.
- In contrast, SME employment and the number of SMEs fell markedly in Japan over the period 2009-2016.

Figure 18: Cumulative increase in the number of SMEs and SME value added and employment from 2009 to 2016 in the EU-28, the USA and Japan



Source: Eurostat, National Statistical Offices, DIW Econ

2.3 Contribution of SMEs to the evolution of value added and employment in the non-financial business sector in the EU-28 and in EU-28 Member States from 2008 to 2017

SMEs made a significant contribution to the value added growth of the non-financial business sector in the EU-28 and in a number of Member States from 2008 to 2017:

- In the EU-28 economy, SMEs accounted for 47% of the total increase in value added in the non-financial business sector (Figure 19).
- Moreover, during this period, among the 21 Member States¹² in which value added increased both in the non-financial business sector and economy-wide, SMEs accounted for 2/3 or more of the total increase in value added in 9 Member States (AT, BG, BE, EE, FI, LT, LU, MT and SI) (Figure 19).

¹¹ No data on SME value added over the period 2009 – 2016 are available in the case of Japan except for 2015 and 2016.

¹² The performance of SMEs in Slovakia is not discussed in this section due to a structural break in the data series.

- In contrast, in 2 Member States (FR and IE), SMEs accounted for only a small fraction of the increase in value added over the same period.¹³

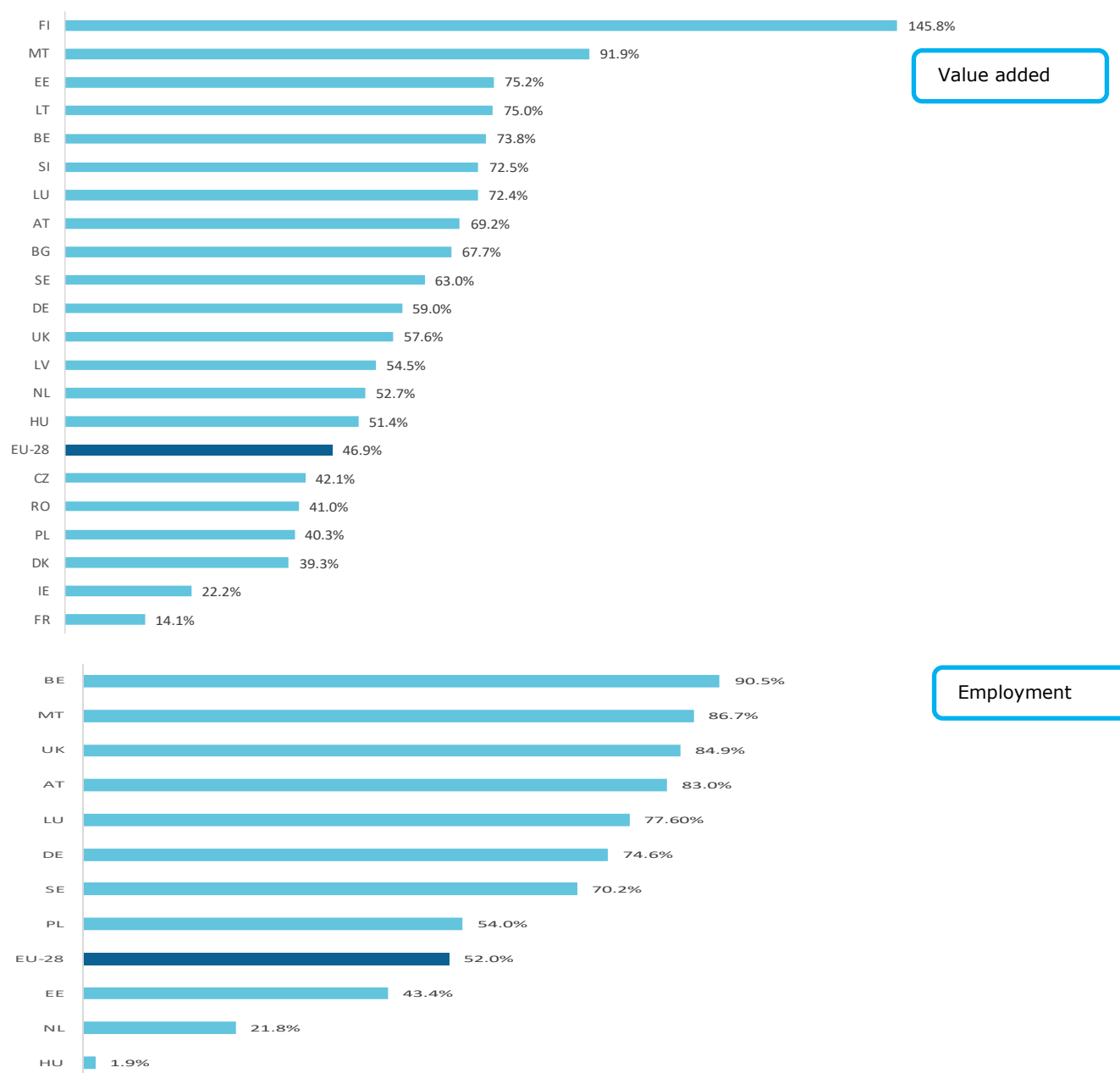
The employment contribution of SMEs shows a more mixed picture (Figure 19):

- In the EU-28 economy, SMEs accounted for slightly more than half (52%) of the total increase in employment in the non-financial business sector from 2008 to 2017.
- Moreover, in eight Member States (AT, BE, DE, FI¹⁴, LU, MT, SE and UK), 70% or more of the employment growth in the non-financial business sector over this period was generated by SMEs.
- In contrast, in nine Member States (CZ, DK, EL, ES, FR, IE, IT, LV and PT), SMEs accounted for 2/3 or more of the total drop in employment in the non-financial business sector from 2008 to 2017 (Figure 20).

¹³ In the case of CY, EL, ES, and HR, the value added of SMEs and the non-financial business sector declined between 2008 and 2017. SMEs accounted for 87% of the overall decline in value added in the non-financial business sector in CY, 84% in EL, 114% in ES and 13% in HR. In the case of IT and PT, total value added in the non-financial business sector increased but the value added generated by SMEs declined.

¹⁴ The data for Finland are not shown in Figure 19 because the contribution of SMEs is very large (1,381%), a reflection of marked growth in SME employment while overall employment in the non-financial business sector changed very little.

Figure 19: Share of the increase from 2008 to 2017 in value added and employment of the non-financial business sector accounted for by SMEs



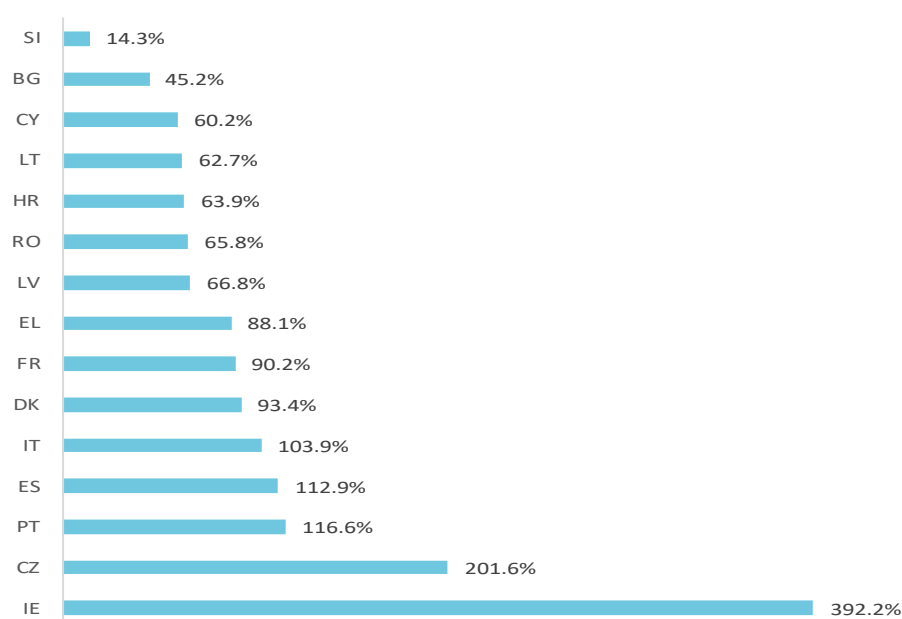
Note: Value added data are only shown for Member States in which both the value added generated by SMEs and the non-financial business sector overall increased from 2008 to 2017. In CY, EL, ES and HR, there was a fall in both the value added generated by SMEs and the NFBS. SMEs accounted for 87.2%, 84.1%, 114.5% and 13.3% respectively of the decline in NFBS value added. In IT and PT, the value added generated by SMEs decreased while the value added of the NFBS increased. The share of the increase in value added in the NFBS exceeds 100% in FI. This is due to the fact that NFBS value added generated by large enterprises decreased from 2008 to 2017. Therefore, the increase in NFBS value added by all enterprises was smaller than the increase in the NFBS value added generated by SMEs.

Employment data are only shown for Member States in which both SME employment and employment in the NFBS increased from 2008 to 2017. In all Member States not shown in the figure, except FI and SK, both SME employment and employment in the NFBS was lower in 2017 than in 2008 (see Figure 20 for the contribution of SMEs to the decline in employment). The share of total employment growth generated by SMEs in FI is 1,381%. The percentage increase is very large because overall employment in the non-financial business sector changed very little.

Slovakia is not shown because of a break in the data series

Source: Eurostat, National Statistical Offices, DIW Econ

Figure 20: Share of the decrease from 2008 to 2017 in employment in the non-financial business sector accounted for by SMEs



Note: The share of the decrease in NFBS employment accounted for by SMEs exceeds 100% in CZ, ES, IE, IT and PT. This is due to the fact that employment of large enterprises in the NFBS increased from 2008 to 2017. Therefore, the decrease in NFBS employment by all enterprises was smaller than the decrease in SME employment in the NFBS

Source: Eurostat, National Statistical Offices, DIW Econ

Micro SMEs accounted for slightly more than half of the total contribution of SMEs to the change in employment in the NFBS from 2008 to 2017¹⁵, almost double the contribution of small SMEs and almost three times the contribution of medium-sized SMEs (Table 7).¹⁶

In contrast, medium-sized SMEs accounted for about 2/5 of the total contribution of SMEs to the change in NFBS value added from 2008 to 2017¹⁷, almost 50% more than micro and small SMEs.

Table 7: Share of the increase from 2008 to 2017 in EU-28 value added and employment of the non-financial business sector accounted for by SMEs of different sizes

	All SMEs	Micro SMEs	Small SMEs	Medium-sized SMEs
Contribution to increase in EU-28				
Value added	46.9%	14.0%	13.5%	19.4%
Employment	52.0%	27.4%	14.1%	10.5%

Source: Eurostat, National Statistical Offices, DIW Econ

¹⁵ More precisely 53% (i.e. 27.4%/52.0%).

¹⁶ See Annexes 11 and 12 for detailed information on the relative contribution of the three SME size classes to the change in NFBS value added and employment in EU-28 Member States from 2008 to 2017.

¹⁷ More precisely 41% (i.e. 19.4%/46.9%).

2.4 Contribution of SMEs to the recovery of the European economy

Although the EU-28 NFBS accounted for only 53% of EU-28 GDP¹⁸ in 2017, and SMEs accounted for 57% of total value added generated by the EU-28 NFBS, SMEs made a large contribution to the economic recovery of the EU-28 economy following the economic and financial crisis of 2008/09 (Table 8).¹⁹

- In two Member States (MT and SI), SMEs accounted for more than 50% of the total increase in GDP (at current prices) from 2009 to 2017
- In a further 5 Member States (BG, EE, IT, LT and LV), the contribution of SMEs ranged from 43% to 49%.

Table 8: Contribution of SMEs to the increase in GDP (at current prices) from 2009 to 2017

	All SMEs	Micro SMEs	Small SMEs	Medium-sized SMEs
SI	58.9	21.8	17.8	19.3
MT	55.9	27.3	17.9	10.6
BG	48.6	20.4	17.0	11.2
EE	47.2	21.1	13.4	12.7
IT	47.0	20.8	6.6	19.5
LT	43.7	15.9	13.8	14.0
LV	43.0	15.7	12.9	14.3
UK	38.0	12.2	13.4	12.4
AT	36.7	10.3	12.9	13.5
NL	35.8	13.1	8.7	14.0
HR	34.3	4.1	16.8	13.4
HU	34.2	10.8	13.5	9.9
BE	34.1	17.1	11.4	5.6
FI	32.6	5.7	10.9	16.0
SE	31.6	11.9	10.1	9.5
LU	31.1	6.8	8.3	16.0
DK	29.4	12.6	3.5	13.4
CZ	29.4	11.3	5.7	12.5
EU-28	29.0	10.1	8.4	10.5
DE	28.9	8.1	9.5	11.3
IE	25.0	22.0	3.4	
PL	19.3	6.4	5.9	7.0
RO	16.1	7.2	4.9	4.0
FR	15.2	4.8	5.9	4.5
PT	12.1		3.5	8.6

Note: The contribution is reported in the table above only for Member States in which both the value added generated by SMEs and GDP in current prices increased from 2009 to 2017. Slovakia is not included in the analysis because of a break in the data series. No figures are shown for medium-sized SMEs in Ireland and micro SMEs in Portugal because the SME size classes show a decrease in value added from 2009 to 2018

Source: Eurostat, National Statistical Offices, DIW Econ

¹⁸ In order to be able to compare the level of value added generated by SMEs with GDP, the value added measure of GDP is used.

¹⁹ As only information on value added in current prices is available in the Eurostat SBS database, the analysis in section 2.4 focuses on the growth in SME value added and GDP in current prices.

Member States differ considerably in terms of the SME size class which made the largest contribution to economic recovery from 2009 to 2017.

- In the EU-28 overall, medium-sized SMEs made the largest contribution, followed closely by micro SMEs (Table 8).
- Medium-sized SMEs also made the largest contribution in nine Member States (AT, CZ, DE, DK, FI, LU, NL, PL and PT).
- In contrast, micro SMEs made the largest contribution in eleven Member States (BE, BG, EE, IE, IT, MT, LT, LV, RO, SI and SE)
- Small SMEs made the largest contribution in only 4 Member States (FR, HR, HU and UK).

2.5 Was the contribution of SMEs to the recovery and expansion of the EU-28 from 2009 to 2017 disproportionate relative to their importance in the economy?

A large contribution made by SMEs to the increase in the value added or employment of the non-financial business sector or the economy as a whole does not mean that SMEs made a disproportionate contribution to the growth of the economy.

For example, if SMEs in the NFBS account for a large share of gross value added²⁰ generated by the whole economy, it would be expected that a large share of the increase in economy-wide value added would also be accounted for by SMEs.

In order to examine more rigorously the contribution of SMEs to the recovery of the European economy from the depths of the recession in 2009, the analysis below compares the proportion of the change from 2009 to 2017 in economy-wide gross value added (and employment) which is accounted for by SMEs in the NFBS to the NFBS SME share of economy-wide gross value added (employment) in 2009.²¹

The general conclusion of this analysis is that, over the period 2009-2017, SMEs made a contribution to the economy-wide recovery and subsequent expansion which exceeds what would have been expected on the basis of their relative importance in the economy in 2009 in the EU-28 and in the majority of Member States in which both SME value added (employment) and economy-wide value added (employment) increased from 2009 to 2017.

In the EU-28 as a whole, SMEs contributed 13% more than expected to the recovery in value added based on their share of gross value added in 2009 (Figure 78).²²

Moreover, among the 24 Member States which showed an increase in both the value added generated by SMEs in the NFBS and also economy-wide gross value added, SMEs contributed²³:

- less than expected in only 6 Member States (DK, FR, IE, PL, PT and RO) based on their contribution to value added in 2009
- only marginally more than expected in 2 Member States (DE and LU)
- somewhat more in 2 Member States (CZ and SE)
- between 9% and 40% more in 6 Member States (AT, BE, EE, FI, HU and NL)
- between 50% and 100% more in 5 Member States (BG, HR, LV, MT and UK)
- more than 100% more in 3 Member States (IT, LT, SI).

²⁰ Gross value added is equal to GDP minus taxes on products plus subsidies on products. The SME output measure used throughout this report is value added at factor cost which is similar to the economy-wide gross value added.

²¹ For a detailed description of the methodology used to assess the relative contribution of SMEs and the results of the detailed analysis, see Annex 13.

²² Slovakia is excluded from the analysis because of a break in the data series.

²³ For detailed country-specific information see Annex 13.

A similar picture emerges from an analysis of the contribution of SMEs in the NFBS to the recovery of economy-wide employment (Figure 79), although fewer Member States show an increase in SME employment in the NFBS and the overall economy from 2009 to 2017.

At the level of the EU-28 economy, SMEs in the NFBS contributed 14% more to the economy-wide employment recovery than would have been expected on the basis of their share of economy-wide employment in 2009.

At Member State level, SMEs contributed:

- less than expected on the basis of their employment share in 4 Member States (CZ, HU, MT and LU)
- slightly more than 30% in 2 Member States (DK and IE)
- between 45% and 60% more in 4 Member States (AT, EE, NL and SE)
- between 140% and 170% more in 3 Member States (BE, DE and PL)
- more than 200% more in 2 Member States (FI and LT).

Among the 6 Member States which showed a decline in both SME employment in the NFBS and in the economy as a whole over the period 2009 - 2017²⁴:

- 3 Member States (BG, CY and EL) show a smaller SME contribution to the overall decline than would have been expected on the basis of their share of total employment in 2009
- 3 Member States (ES, HR and PT) show a much greater contribution to the overall decline than expected.

A similar analysis²⁵ comparing the contribution made by SMEs to the recovery and subsequent expansion of the EU-28 economy with the contribution made by US SMEs to the recovery and expansion of the US economy shows that, as already noted, the contribution of EU-28 SMEs to economy-wide growth in gross value added and employment over the period 2009 – 2016 is somewhat greater than would have been expected on the basis of their share of economy-wide gross value added and employment in 2009.

In sharp contrast, the contribution of US SMEs to economy-wide growth in value added over the same period is markedly lower than would have been expected, and their contribution to economy-wide employment growth is both higher than expected and higher than the contribution of EU-28 SMEs.

2.6 Drivers of the SME performance of SMEs from 2008 to 2017

The evolution of the value added generated by SMEs in the NFBS over the period 2008 to 2017 depended very much on the evolution of the demand they faced.

As already noted earlier in this chapter, exports of goods and services were by far the main growth engine of the EU-28 economy over the period 2008 – 2017. In contrast, growth in consumer expenditure remained subdued.

Consequently, it would be expected that SMEs supplying directly or indirectly (through participation in global value chains) to foreign markets would show a better performance than SMEs serving mostly consumers in home markets.

A simple correlation analysis between changes in the various aggregate demand components (household consumption, government expenditure, gross capital formation and exports of goods and services) shows that (Table 9):

²⁴ See Annex 13 for country-specific information.

²⁵ Due to a lack of Japanese data on SME value added and a decline in SME employment while total employment increased, no contribution analysis was undertaken for Japan.

- In the EU-28 economy, changes in household consumption are very highly associated²⁶ with changes in the value added generated by SMEs in 'professional, scientific and technical activities' and 'transportation and storage' and, to a somewhat lesser extent,²⁷ with changes generated by SMEs in 'accommodation and food service activities', 'administrative and support service activities', 'construction', 'information and communication', 'manufacturing' and 'real estate activities'.
- Changes in government current expenditures do not show a strong or very strong correlation with annual changes in SME value added in any of the sub-sectors of the NFBS.
- Changes in gross capital formation by households, government and businesses are very highly correlated with changes in SME value added in 'construction', 'professional, scientific and technical activities' and 'transportation and storage' and, to a somewhat lesser extent, with changes in SME value added in 'accommodation and food service activities', 'administrative and support service activities', 'information and communication', 'manufacturing' and 'real estate activities'.
- Finally, changes in exports of goods and services are highly associated with changes in SME value added in 'manufacturing', 'transportation and storage' and 'professional, scientific and technical activities', and to a lesser extent with changes in SME value added in 'administrative and support service activities', 'mining and quarrying' and 'water supply, sewerage, waste management and remediation activities'.

²⁶ The correlation coefficient between annual changes (in %) in the aggregate demand component and annual changes (in %) in SME value added in a particular sector is 0.90 or higher. See Annex 14 for the precise results of the correlation analysis.

²⁷ The correlation coefficient between annual changes (in %) in the aggregate demand component and annual changes (in %) in SME value added in a particular sector ranges from 0.80 to 0.89.

Table 9: Correlation in 2009 to 2017 between annual changes (in %) in various EU-28 aggregate demand components and annual changes (in %) in SME value added in various economic sectors

Aggregate demand component	Household consumption	Government current expenditures	Gross capital formation by households, government and businesses	Exports of goods and services
NACE 1 sector				
Mining and quarrying				
Manufacturing				
Electricity, gas, steam and air conditioning supply				
Water supply, sewerage, waste management and remediation activities				
Construction				
Wholesale and retail trade, repair of motor vehicles and motorcycles				
Transportation and storage				
Accommodation and food service activities				
Information and communication				
Real estate activities				
Professional, scientific and technical activities				
Administrative and support service activities				

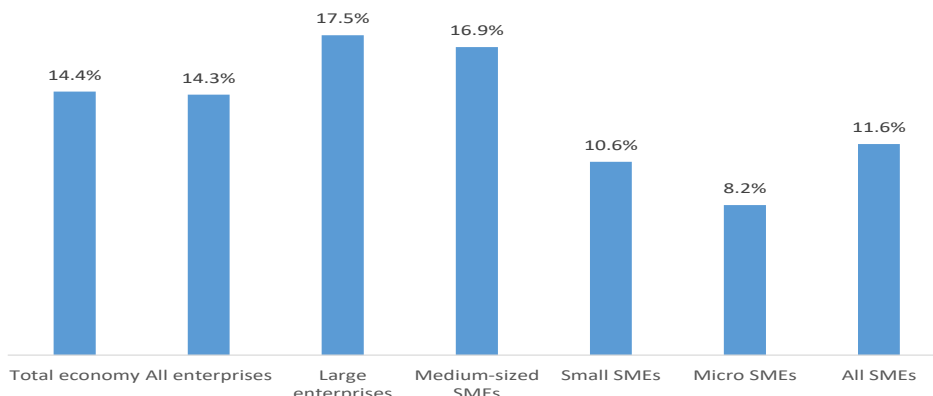
Note: '...' = correlation coefficient of 0.90 or greater, '...' = correlation coefficient of 0.80 to 0.89, '...' = correlation coefficient of 0.70 to 0.79, '...' = correlation of less than 0.70. See Annex 13 for estimated correlation coefficients

Source: Eurostat, National Statistical Offices, DIW Econ

2.7 Implications for apparent labour productivity of different patterns in value added and employment changes from 2008 to 2017

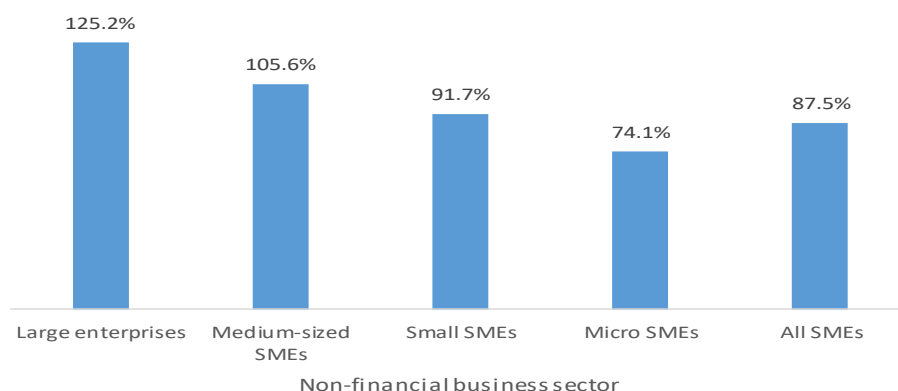
Apparent labour productivity, defined as value added divided by employment, shows very different patterns across SME size classes and Member States.

In the EU-28 economy, micro SMEs and, to a slightly lesser extent, small SMEs posted much weaker cumulative growth in labour productivity over the period 2008-2017 than medium-sized SMEs and large enterprises in the non-financial business sector (Figure 21). In fact, the productivity performance of the last two enterprise size classes differs very little and is more than twice as strong as the productivity performance of micro SMEs.

Figure 21: Cumulative growth in apparent labour productivity in the EU-28 – 2008 to 2017

Source: Eurostat, National Statistical Offices, DIW Econ

Not only did small and - especially - micro SMEs increase their productivity by less than large enterprises but they also showed a lower productivity level in 2008 (Figure 22). This implies that the productivity gap which already existed in 2008 widened further over the period 2008 – 2017.

Figure 22: Relative level of apparent labour productivity in the EU-28 NFBS in 2008 (NFBS = 100)

Source: Eurostat, National Statistical Offices, DIW Econ

However, the conclusion that micro and small SMEs experienced weaker growth in apparent labour productivity than large enterprises over the period 2008-2017 does not hold true for all Member States. In fact, the information provided in Table 10 shows that:

- micro SMEs generated higher increases in apparent productivity from 2008 to 2017 than large enterprises in eleven Member States (BE, BG, EE, HR, HU, LT, MT, PT, RO, SE and UK);
- similarly, small SMEs in twelve Member States (AT, BE, BG, EE, FI, HR, HU, IT, LT, MT, NL and PT) generated higher increases in apparent labour productivity than that of large enterprises from 2009 to 2017.

Table 10: Cumulative growth from 2008 to 2017 in apparent labour productivity

	Economy wide	Non-financial business sector	Large corporations	All SMEs	Medium-sized SMEs	Small SMEs	Micro SMEs
AT	18.6%	10.8%	10.5%	11.7%	14.8%	13.6%	7.2%
BE	16.3%	13.5%	13.0%	15.4%	12.4%	28.6%	14.6%
BG	51.0%	35.9%	38.6%	35.9%	30.1%	40.6%	45.9%
CY	4.5%	-10.9%	1.9%	-13.6%	-6.0%	-18.7%	-13.5%
CZ	12.6%	13.3%	16.2%	10.5%	24.3%	9.9%	2.1%
DE	17.8%	2.5%	6.6%	0.9%	2.2%	2.0%	-1.3%
DK	21.4%	25.7%	34.4%	20.3%	28.1%	10.4%	23.1%
EE	34.3%	29.6%	28.2%	30.0%	24.9%	29.7%	46.1%
EL	-15.6%	-19.0%	-0.5%	-27.3%	16.5%	-27.6%	-44.6%
ES	12.3%	0.9%	0.5%	-2.0%	16.5%	-0.4%	-8.5%
EU-28	14.4%	14.3%	17.5%	11.6%	16.9%	10.6%	8.2%
FI	14.3%	0.0%	-4.2%	4.9%	14.4%	1.6%	-0.9%
FR	10.2%	17.8%	26.5%	11.3%	16.4%	10.7%	8.7%
HR	7.8%	8.8%	2.5%	13.7%	19.0%	10.7%	13.0%
HU	-1.8%	2.6%	-4.5%	5.3%	0.4%	9.2%	6.2%
IE	67.9%	107.6%	161.6%	53.8%	-13.4%	28.4%	117.4%
IT	6.2%	15.6%	16.0%	12.9%	28.0%	17.4%	3.5%
LT	35.0%	39.5%	32.7%	43.5%	44.1%	45.3%	65.5%
LU	21.5%	11.3%	10.0%	12.1%	49.5%	-6.3%	-4.2%
LV	25.4%	28.8%	44.6%	23.6%	42.2%	39.9%	3.0%
MT	36.2%	31.5%	-7.7%	48.0%	19.8%	41.3%	72.2%
NL	13.1%	13.1%	15.3%	11.6%	29.2%	15.7%	-4.2%
PL	23.1%	-0.6%	-0.4%	-1.9%	4.2%	-1.1%	-5.0%
PT	13.7%	7.3%	-2.7%	9.4%	7.8%	16.1%	4.6%
RO	42.8%	-0.2%	2.4%	-2.6%	-10.8%	-11.5%	20.4%
SE	24.2%	8.6%	7.1%	10.0%	6.5%	4.7%	17.3%
SI	12.5%	20.7%	35.7%	15.7%	36.2%	22.8%	3.0%
SK	23.1%	6.5%	65.8%	-17.0%	25.5%	-0.1%	-35.6%
UK	7.2%	3.7%	6.3%	1.6%	1.1%	-5.4%	9.7%

Source: Eurostat, National Statistical Offices, DIW Econ

Clearly, the labour productivity performance of SMEs varies across SME size classes and Member States, and no consistent pattern emerges from the data shown in Table 10. Nevertheless, some factors, such as lack of scale, managerial skills, expertise, innovation, finance and ambition to grow are often cited as holding back productivity growth in SMEs.²⁸

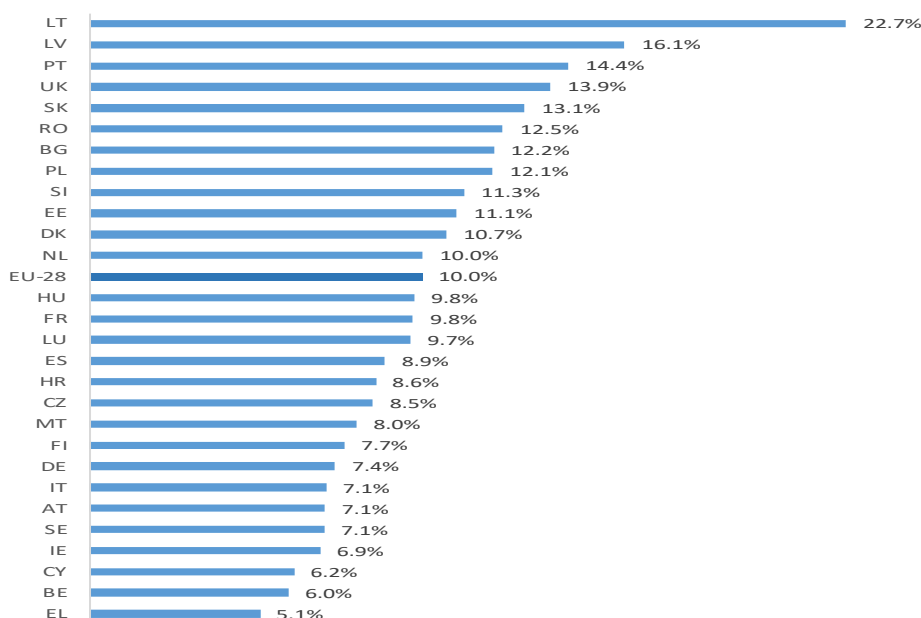
2.8 The evolution of the SME population since 2008

As noted earlier in the report, the number of SMEs in the EU-28 increased by 13.8% from 2008 to 2017. However, the annual net increase in the number of SMEs is smaller than the number of SME births, as many SMEs die each year.

²⁸ See, for example, OECD (2018), Strengthening SMEs and entrepreneurship for productivity and inclusive growth, Key Issues Paper, SME Ministerial Conference, 22-23 February, Mexico City.

The Eurostat business demography data²⁹ which are available for the years 2012 to 2015 show that the average enterprise birth rate from 2012 to 2015 in the EU-28 was 10% (Figure 23). The variation in birth rate among Member States was rather limited, with 26 Member States showing an average birth rate within a range of +/- 5 percentage points of the EU average. The only notable exception is LT where the average birth rate exceeded the EU average by 12.7 percentage points.

Figure 23: Average enterprise birth rates for the years 2012-2015



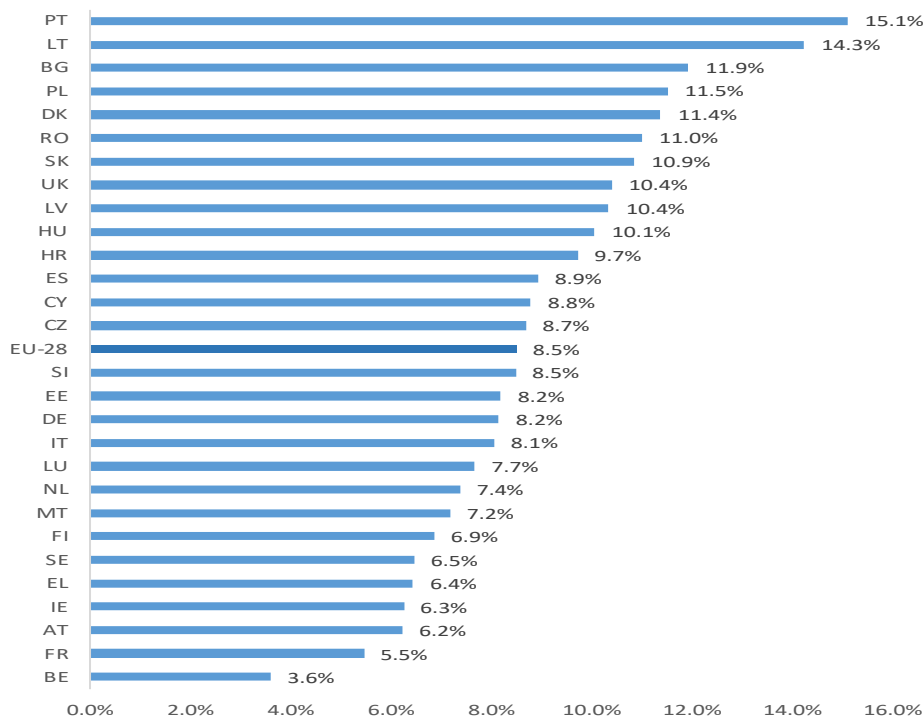
Source: Eurostat

While on average from 2012 to 2015, 10 new enterprises were born for every 100 existing enterprises, 8.5 enterprises died. Only BE, LT and PT show an enterprise death rate which is + / - 3.5 percentage points above / below the EU average (Figure 24).

The net birth rate (i.e. the difference between the birth rate shown in Figure 23 and the death rate shown in Figure 24) is negative in 7 Member States (BG, CZ, DK, HR, HU, IT and PT) and zero in ES (Figure 25). This outcome is due to a combination of low birth rates and high death rates.

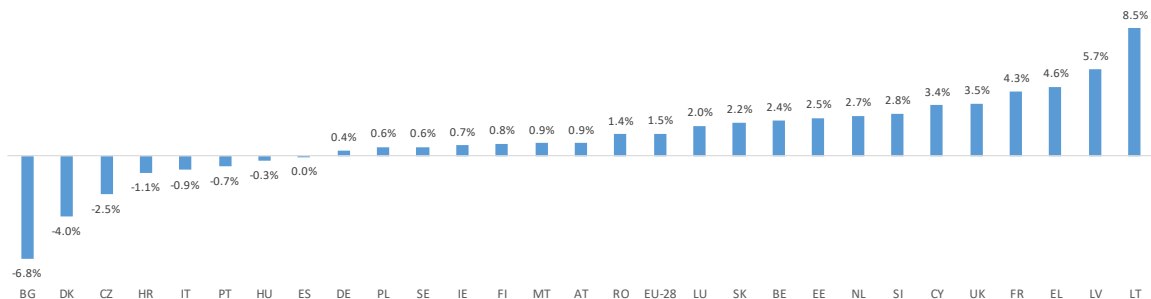
²⁹ The Eurostat business demography data cover all enterprises. However, as few large enterprises are born or die every year, the general picture emerging from an analysis of the business demography data is a good reflection of the demographic dynamics within the SME population.

Figure 24: Average enterprise death rates for the years 2012-2015



Source: Eurostat

Figure 25: Average net enterprise birth rates (birth rate minus death rate) for the years 2012-2015



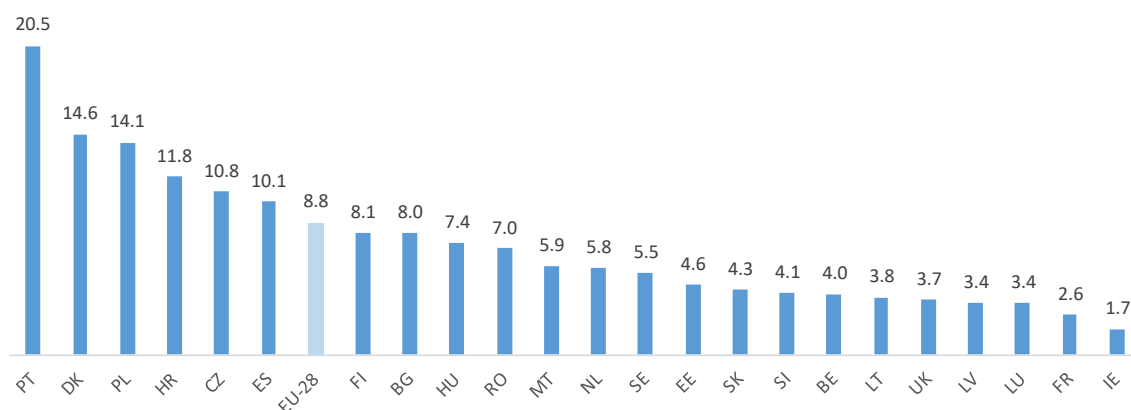
Source: Eurostat

The high enterprise death rates observed in all Member States implies a high churn rate of the enterprise population and a large number of enterprises need to be born every year for the overall enterprise population to grow.

Within the EU-28, an increase in the enterprise population by 1 unit required the birth of 8.8 enterprises on average over the period 2012-2015.

- In twelve of the 23 Member States for which such a statistic could be computed (BE, EE, LT, LU, LV, MT, NL, RO, SI, SK, SE and UK), between 3 and 7 births were required to increase the enterprise population by one enterprise (Figure 26).
- In contrast, in FR and IE, fewer than 3 births were required.
- However, more than 7 and up to 21 births were required in BG, CZ, DK, ES, FI, HR, HU, PL and PT.

Figure 26: Number of enterprise births required to increase the enterprise population by one unit - average over 2012-2015



Note: Data missing for Austria, Cyprus, Germany, Greece and Italy

Source: Eurostat

2.9 Start-ups

This section presents some key characteristics of start-ups in the European Union. The data presented below were gathered for the “EU-Startup Monitor”³⁰ through an online survey which was run in cooperation with many practitioner supporters, start-up associations and a variety of ecosystem³¹ stakeholders from February 2018 until May 2018 and directly targeted founders and top tier employees of start-ups. Start-ups in all Member States were encouraged to participate and the survey yielded sufficient³² data for 18 countries, so that the results presented below provide a comprehensive overview of the current start-up landscape.³³

Only two perceptions of start-ups seem to be common across Europe, namely, their importance for economic growth and their ability to deliver innovative ideas, products and services. Unfortunately, no European central register of start-up businesses exists, and national business registries generally do not provide information on the degree of innovativeness of businesses, their growth objectives or their sources of financing during their creation. This makes it difficult to find data on start-ups.

³⁰ The source for data is Steigertahl, L. and Mauer, R. (2018) EU Startup Monitor, hereafter abbreviated to “EU Startup Monitor”, www.startupmonitor.eu.

³¹ The term “ecosystem” here refers to the established structure that supports the foundation and growth of start-ups at a local or national level and comprises stakeholders such as universities, associations, political institutions and investment firms (such as venture capital firms and angel investors), who privately invest in innovative businesses.

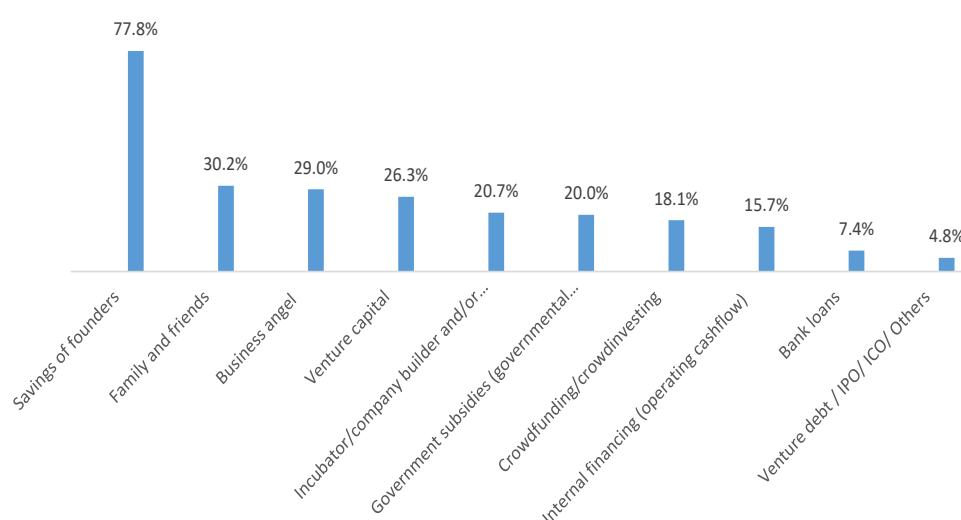
³² There are limitations to the study which need to be taken into account when drawing conclusions from the findings. First, no reliable data exists about the overall population of start-ups in Europe. Hence it is unclear to what extent the national sample frames used in the survey are representative of the population of start-ups in Member States. Second, in terms of representativeness, the response rate varies across Member States, reflecting different levels of sophistication of each country's start-up ecosystem. Third, there is a clear bias in the survey responses towards start-ups with digital business models. Although one can assume that the response rate of digital start-ups is markedly higher nowadays than that of non-digital start-ups, no information exists on the actual difference in response rate, which may have implications for the representativeness of the sample. Finally, the dataset is cross-sectional and hence only captures the situation at one point in time, namely, early 2018, and no conclusion can be drawn about the dynamics of the start-up population. Of note also is the fact that most respondents did not complete the survey questionnaire in their mother tongue as the questionnaire was in English.

³³ Data for Austria have been generated in cooperation with the “Austrian Startup Monitor”. The value shown in this report for Austria has not been included in the EU average as the original data for Austria and the data from the “Austrian Startup Monitor” do vary somewhat due to use of different languages and additional sources of data.

All start-ups are SMEs, but not all SMEs are start-ups, due to differences in set-up and vision. As noted in the introduction, EU Recommendation 2003/361 defines a SME on the basis of employment and either turnover or the balance sheet total. In the case of start-ups, these criteria may be difficult to apply, since a company may have a large number of employees but may not yet have a significant turnover. Moreover, the initial capital required to grow the business is commonly much higher (sometimes in the order of millions) for a start-up than for SMEs in general.

The sources of finance are often very different, too. Business angel (29.0%), venture capital (26.3%) or crowd investor (18.1%) support is common for start-ups, whereas SMEs in general often rely on traditional bank loans or only the savings of the founders (*Figure 27*).

Figure 27: Sources of financing



Note: * Austria data from "Austrian Startup Monitor"

Source: "EU-Startup Monitor"

The term 'start-up' has no official definition but is commonly based on three criteria, namely:

- age (younger than ten years)
- innovation (of product or business model)
- aim to scale up (intention to grow the number of employees and/or markets in which they operate).³⁴

2.9.1 Profile of the founders of the start-ups

Broadly speaking, European founders of start-ups have a common profile: the average founder is male (82.8%, Figure 28), holds a university degree (84.8%, Table 11), is currently 38 years old but was 35 years old when founding the business (see Figure 29). These findings contradict the stereotype of a youngster creating a start-up in a garage, and shows how well-equipped most founders are, with both a university education and practical knowledge. They further show that the start-up environment is increasing in its level of sophistication. When asked by the survey about their motivation for starting a business, many founders reported seeking self-fulfilment (79.1%) and independence (62.9%) or identified a market opportunity (7.6%).

³⁴ The definition taken from "EU Startup Monitor".

Start-ups are commonly founded by teams (2.7 founders per start-up according to the survey).

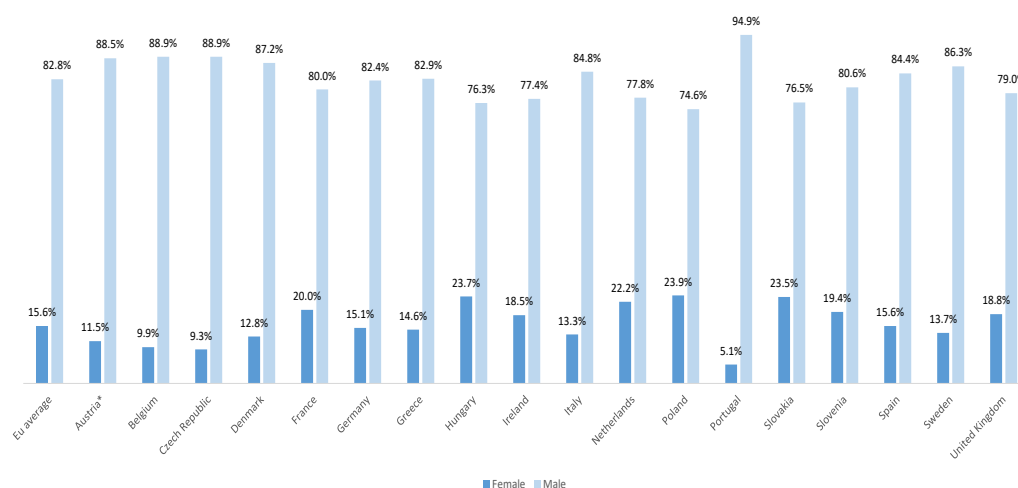
Table 11: Level of education of start-up founders

Country	Percentage of all founders					
	Less than high school degree	High school degree or equivalent	Some university /college but no degree	Bachelor's or equivalent	Master's or equivalent	Doctoral or equivalent
Austria*	NA	16,7%	5.9%	15.5%	48.9%	9.9%
Belgium	1.2%	3.7%	9.9%	11.1%	63.0%	9.9%
Czech Republic	1.9%	14.8%	5.6%	13.0%	57.4%	7.4%
Denmark	2.1%	2.1%	4.3%	21.3%	63.8%	6.4%
France	1.4%	1.4%	1.4%	1.4%	78.6%	14.3%
Germany	0.0%	2.0%	8.3%	21.0%	49.8%	18.0%
Greece	0.0%	2.4%	2.4%	26.8%	53.7%	14.6%
Hungary	5.3%	7.9%	13.2%	23.7%	44.7%	5.3%
Ireland	0.0%	3.2%	7.3%	28.2%	46.0%	14.5%
Italy	0.0%	13.9%	7.9%	17.6%	37.6%	21.2%
Netherlands	1.4%	0.0%	8.3%	19.4%	62.5%	5.6%
Poland	0.0%	8.5%	7.0%	16.9%	60.6%	4.2%
Portugal	1.3%	1.3%	2.6%	20.5%	56.4%	14.1%
Slovakia	2.9%	2.9%	8.8%	2.9%	58.8%	23.5%
Slovenia	0.0%	13.9%	13.9%	38.9%	25.0%	5.6%
Spain	1.0%	3.1%	9.4%	14.6%	57.3%	11.5%
Sweden	0.0%	3.9%	19.6%	11.8%	58.8%	3.9%
United Kingdom	0.0%	1.4%	10.1%	26.8%	51.4%	10.1%
EU average	0.7%	4.9%	7.9%	19.3%	53.0%	12.6%

Note: * Austria data from "Austrian Startup Monitor"

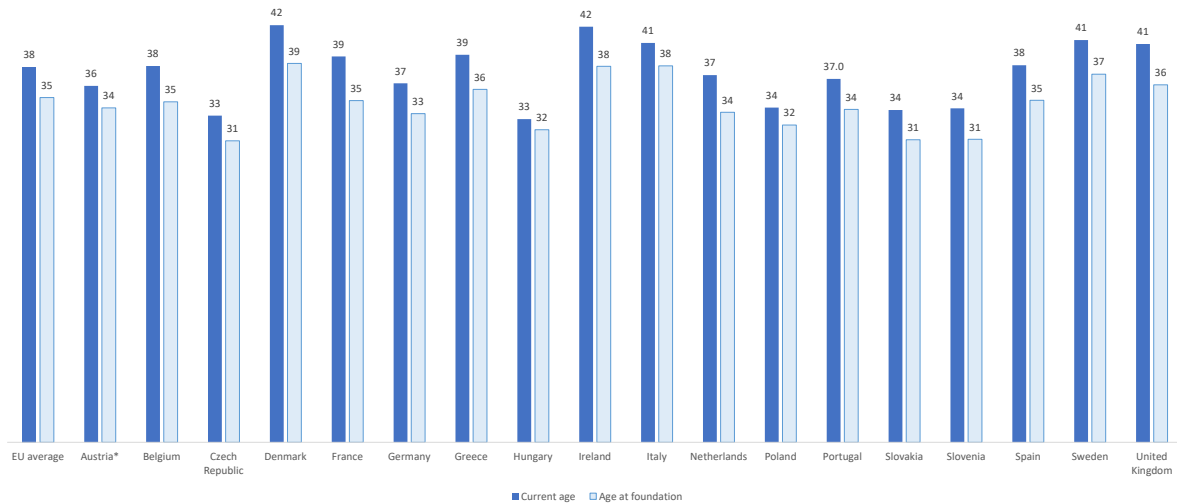
Source: "EU-Startup Monitor"

Figure 28: Gender of Start-up founders by Member State



Source: "EU-Startup Monitor" except data for Austria which are from the "Austrian Startup Monitor".

Figure 29: Age of founders by Member State (in years)



Note: * Austria data from “Austrian Startup Monitor”

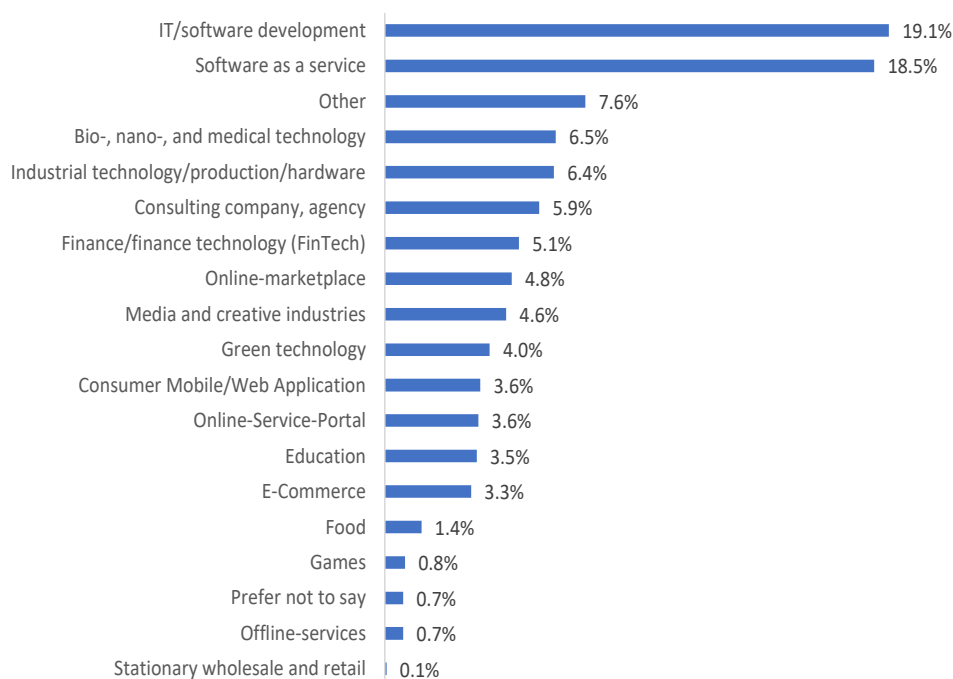
Source: “EU-Startup Monitor”

2.9.2 Sectors in which the start-ups are active

The sectors in which the start-ups are active are very diverse (Figure 30). Most companies provide a product or service online (only 0.7% offer offline solutions). While sectors such as IT/Software Development (19.1%) or Software as a Service (18.5%) are still well-represented, new companies have also been created in trending sectors such as Green Technologies (4.0%) and in the Fin-Tech sector (5.1%). Geographically, the biggest European start-up hubs have been established in Berlin, Copenhagen, Lisbon, London and Paris. Generally, start-ups develop in five stages: Seed Stage, Start-up Stage, Growth Stage, Later Stage and Steady Stage.³⁵

Most start-ups which took part in the data collection are either in the start-up stage (46.1% have completed a marketable product or service and show first revenues/users) or in growth stage (33.7% show significant positive developments in sales turnover and/or number of users). Thus, the survey response sample includes companies that have successfully launched (entered the market) and are in the process of scaling up their business.

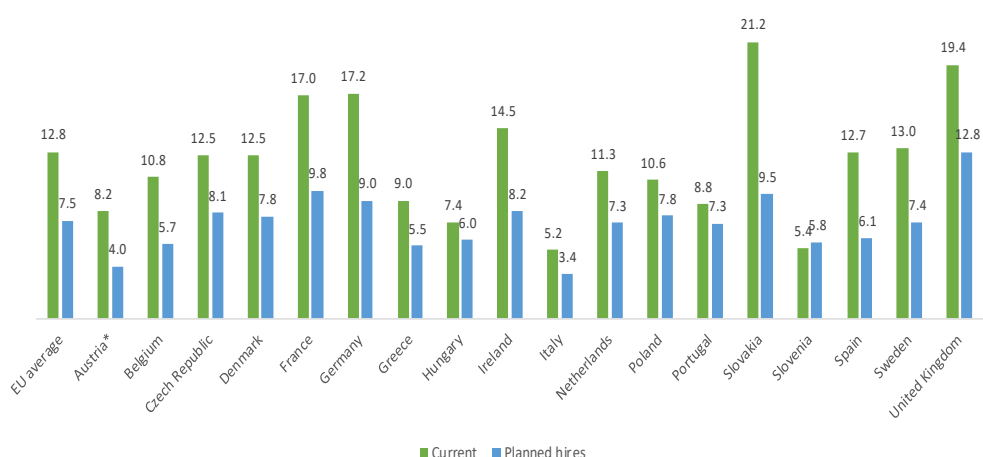
³⁵ Source: adapted from Lewis, Virginia L. and Churchill, Neil C., The Five Stages of Small Business Growth (1983). Harvard Business Review, Vol. 61, Issue 3, p. 30-50 1983.

Figure 30: Sectors in which the start-ups are active

Source: "EU Startup Monitor"

2.9.3 Employment creation by start-ups

European start-ups are creating a large number of jobs. On average, the companies which participated in the survey currently have 12.8 employees and are planning to hire another 7.5 people within the next twelve months (Figure 31). Even more hires are planned by more established economies such as in the UK (12.8), Germany (9.0) and France (9.8), while more emerging ecosystems such as in Slovakia (9.5), the Czech Republic (8.1) and Poland (7.8) are catching up in developing their start-up ecosystem.

Figure 31: Current number of employees in start-ups and average planned hires within next 12 months

Note: * Austria data from "Austrian Startup Monitor"

Source: "EU Startup Monitor"

2.9.4 Internationalisation of start-ups

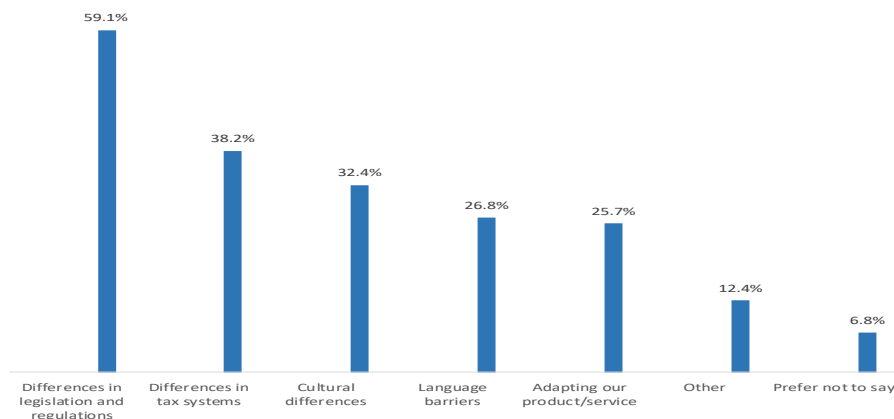
Many start-ups are so-called “born globals”, which means that they operate across borders and in some cases open an office in more than one country when starting operations.

Growing is a crucial part of the DNA of start-ups and therefore it is no surprise that 88.0% of participating start-ups are planning to (further) internationalise in the coming twelve months.

Most European start-ups first expand within the European Union and usually start with neighbouring countries before moving to wider international markets. It is therefore no surprise that 85.0% of participants reported plans to internationalise within the EU within the next 12 months. Outside of the EU, 43.4% of participants identified North American and California’s famous Silicon Valley as the most desired locations for growth. More recently, there has been noticeable interest in internationalisation from Europe to Asia. One fourth (25.8%) of participating start-ups are looking to internationalise into the Asian region.

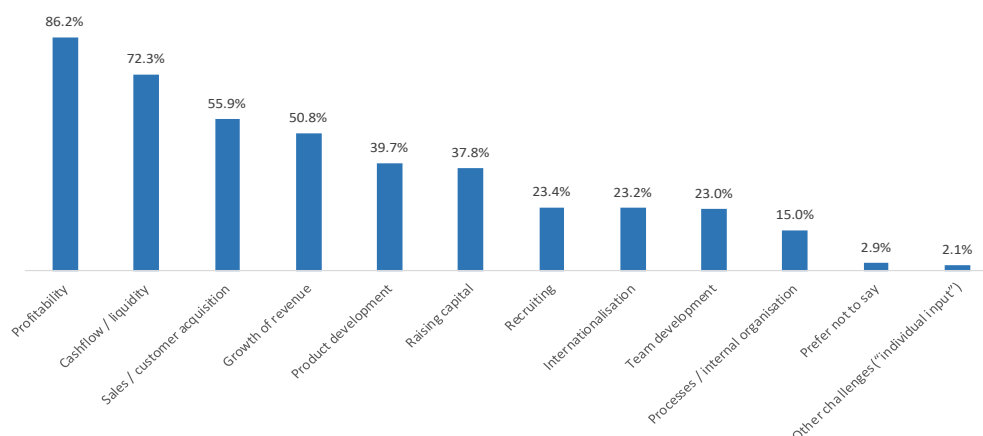
Growing across borders can be difficult and founders are confronted with many challenges. Differences in legislation and regulations (59.1%), especially regarding differences in tax systems (38.2%) are the biggest hurdles, followed by cultural differences (32.4%) and language barriers (26.8%). (Figure 32).

Figure 32: Greatest internationalisation challenges faced by start-ups



Source: “EU Startup Monitor”

Internationalisation is difficult but necessary to overcome the start-ups’ biggest business challenges. Profitability (86.2%) and cashflow (72.3%) (Figure 33) are considered by most start-ups as their biggest challenges and are typically addressed by expansion of the start-ups’ activities. Moving to another market means accessing a larger number of potential customers, a larger pool of people from which to recruit and often new capital markets to approach for further funding.

Figure 33: Business challenges faced by start-ups

Source: EU Startup Monitor

2.9.5 Cooperation

Another way to overcome challenges and access new opportunities is through collaboration with other enterprises. According to the results of the start-up survey, 71.1% of start-ups collaborate with large corporations (Fortune 500 companies) and/or SMEs.

27.5% of survey participants are engaged in active collaborations with Fortune 500 companies. 67.8% of these collaborations are cross-border. Among the variety of reasons for collaborating, image and reputation transfer was identified as important for 41.6% of respondents. An even more important reason, identified by 83.8% of participants, was access to customers and markets.

Start-up collaborations with SMEs are almost three times as common as collaborations with large corporations: 78.64% of start-ups that engaged in cooperations are actively collaborating with SMEs, with 60.2% of these collaborations being cross-border. The main goal is to access new markets (76.5%) and a lesser goal is to boost reputation (24.2%).

2.10 Trends in venture capital funding

The prevalence of venture deals reflects both the availability of, and demand for, funding for SMEs with ambitious growth plans. The OECD (2014) emphasises the importance of venture funds not only as a source of funding, but also in stimulating entrepreneurship, supporting young companies and replacing or complementing traditional bank finance. Greater venture capital sector activity can therefore be regarded not just in terms of the sums of capital being channelled to growing companies, but also in terms of fostering productivity growth in these companies (see, for example, Romain and Van Pottelsberghe, 2004; and Tang and Chyi, 2008).

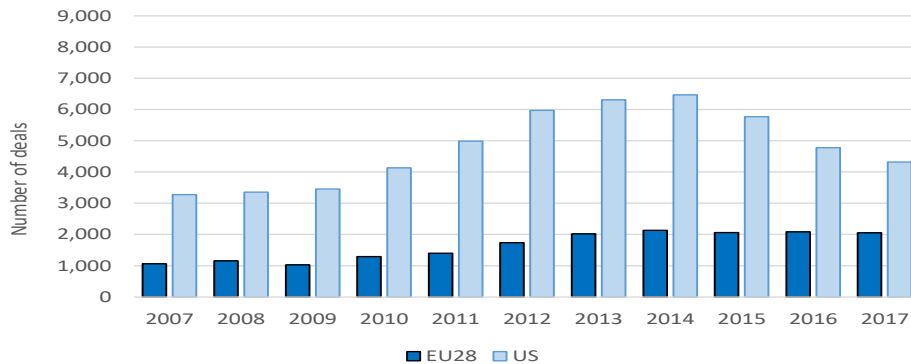
The present section considers venture capital (VC) funding activity in the EU-28 over the period 2007 to 2017 against a benchmark of the US, as well as providing a comparison of VC funding activity across individual Member States.

Since 2007, VC funding activity has been between two and three and a half times greater in the US than in the EU, with regard to the number of deals struck (Figure 34) and one and a half to two and a half times greater in terms of the value of these deals (Figure 35).

Since the global financial crisis began having an impact on VC funding activity in 2009, average deal values, up to 2014, have been substantially lower than their 2007 peak in the EU-28. The average deal value was €4.0m between 2009 and 2014, while it was €5.6m in 2007 in the EU-28 (Figure 35). A similar pattern to that described for the EU-28 was seen in the US (Figure 35).

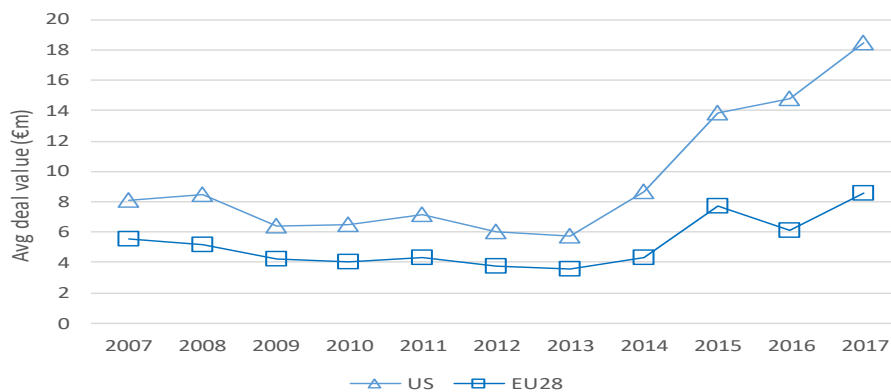
In the last three years, 2015-17, deal values have exceeded their 2007 peak on average in the EU-28. While this can also be seen for the US, the US saw a sizeable reduction in the number of deals taking place compared to the period 2012-14.

Figure 34: Aggregate number of venture capital deals, EU-28 and US, 2007-17



Source: Preqin

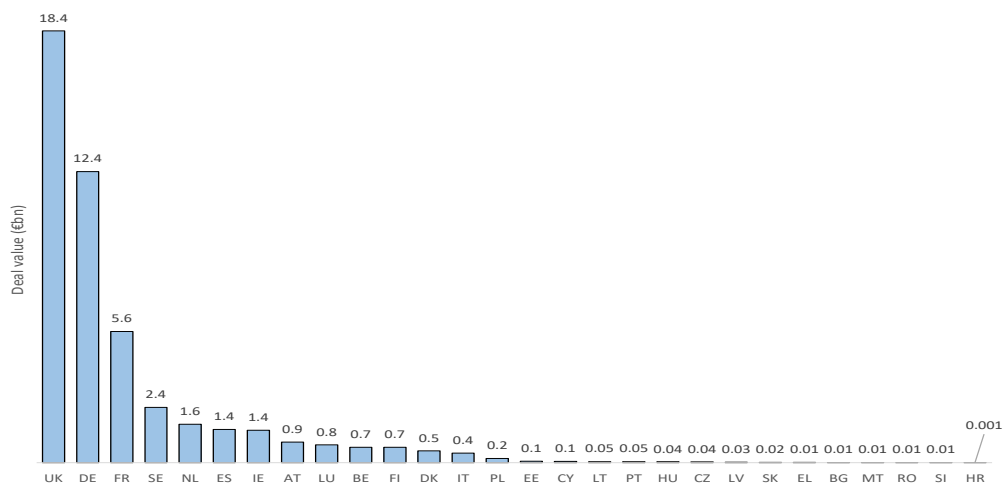
Figure 35: Average value of venture capital deals, EU-28 and US, 2007-17



Source: Preqin

Over the period 2015-17, the UK, Germany and France have accounted for three quarters of the value of all VC funding disbursed in the EU28, and the top 10 EU Member States received 95% of all VC funding (Figure 36).

Interestingly, VC funding activity may be small in terms of aggregate deal value in some countries but is large in terms of the number of deals made. Italy, for example, is the 13th largest VC funding market by value but is the 6th largest market by number of deals (Table 12). Equally, relatively few (large) deals take place in Luxembourg, so it is ranked 17th in terms of number of deals but 9th in total deal value.

Figure 36: Aggregate value of venture capital deals in EU-28 Member States, 2015-17

Source: Preqin

Table 12: Ranking of EU Member States by VC funding activity 2015-2017

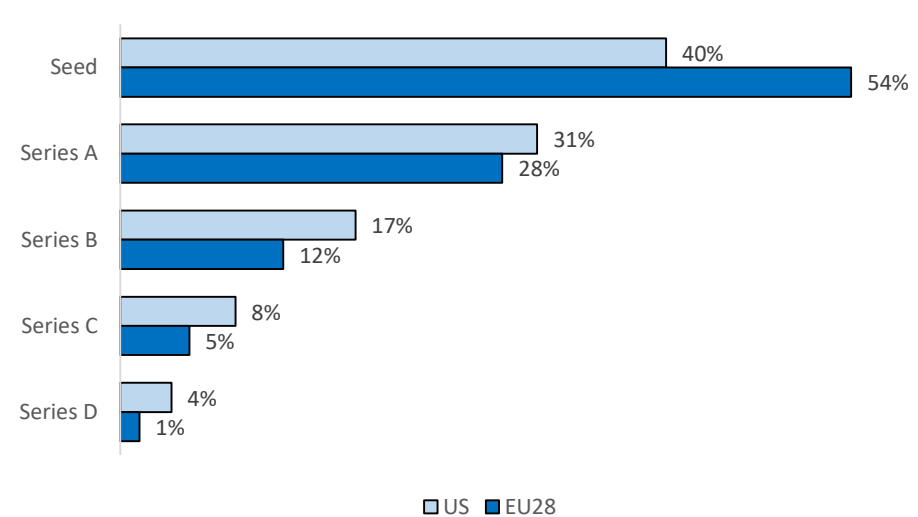
	Number of deals	Rank by number of deals	Aggregate deal value (€bn)	Rank by aggregate deal value
UK	2167	1	18.4	1
Germany	958	2	12.4	2
France	737	3	5.6	3
Sweden	375	5	2.4	4
Netherlands	223	7	1.6	5
Spain	535	4	1.4	6
Ireland	165	9	1.4	7
Austria	94	12	0.9	8
Luxembourg	18	17	0.8	9
Belgium	109	11	0.7	10
Finland	197	8	0.7	11
Denmark	143	10	0.5	12
Italy	247	6	0.4	13
Poland	48	13	0.2	14
Estonia	33	14	0.1	15
Cyprus	6	25	0.1	16
Lithuania	12	20	0.05	17
Portugal	24	15	0.05	18
Hungary	22	16	0.04	19
Czech Republic	17	18	0.04	20
Latvia	9	21	0.03	21
Slovakia	9	22	0.02	22
Greece	16	19	0.01	23
Bulgaria	4	27	0.01	24
Malta	3	28	0.01	25
Romania	8	24	0.01	26
Slovenia	9	23	0.01	27
Croatia	5	26	0.001	28

Source: Preqin

Figure 37 provides a breakdown of venture deals that took place between 2015 and 2017 by funding round, for the EU-28 and the US. Seed funding is the first stage of venture capital financing provided by a professional VC firm, and is typically a small investment in a very early stage company that usually has no turnover. In contrast, series A funding is the first significant round of venture capital funding, where Series A preferred stock is offered by a portfolio company to the venture capitalist. Series A preferred stock is convertible into common stock in certain cases, such as an IPO or the sale of the company.

It is evident that a larger percentage of deals in the EU involved a firm receiving seed funding compared to the US. However, a larger percentage of deals in the US involved series A and subsequent funding rounds. While it is difficult to interpret the differences in funding patterns between the EU-28 and the US, the results may suggest that more US firms, compared to EU firms, progress from being very early stage companies to companies with established commercial operations and growth plans.

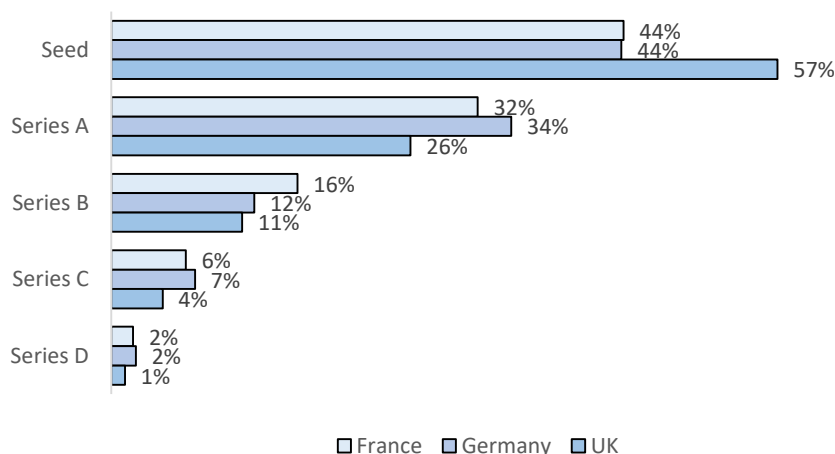
Figure 37: Share of venture capital deals by funding round, EU-28 and US, 2015-17



Source: Preqin

Figure 38 provides a further breakdown of the share of venture capital deals by funding round at the EU-28 level by considering the three largest VC hubs: France, Germany and the UK. The UK supports relatively more firms with seed funding, whereas France and Germany concentrate more on later and larger funding rounds.

Figure 38: Share of venture capital deals by funding round, France, Germany and United Kingdom, 2015-17



Source: Preqin

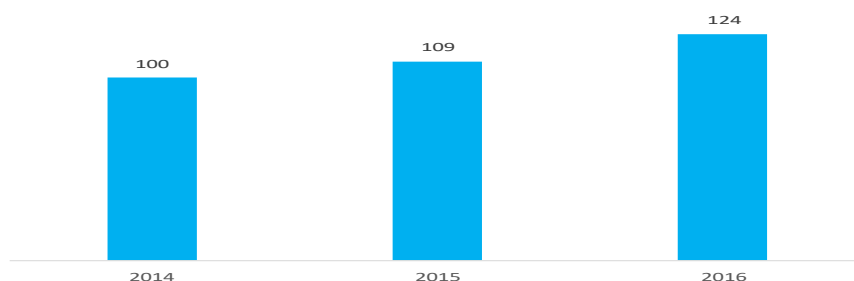
2.11 High-growth enterprises

Some of the high-growth enterprises (scale-ups) as well as more established enterprises may for a time experience very rapid growth in turnover and employment. In the EU-28 in 2016 there were 179,060 high-growth enterprises. Such enterprises are characterised as a) having 10 employees or more at the beginning of their growth spurt and b) increasing the number of their employees annually by 10% or more in three consecutive years. High-growth enterprises are defined only on the basis of their employment level and employment growth patterns in the Eurostat data, while start-ups (discussed in section 2.9) are defined on the basis of a wider range of criteria, such as age (younger than ten years), innovation (in product or business model) and aim to scale up.

In the EU-28, the number of such high-growth enterprises is increasing rapidly (Figure 39), although their overall number is still relatively small.

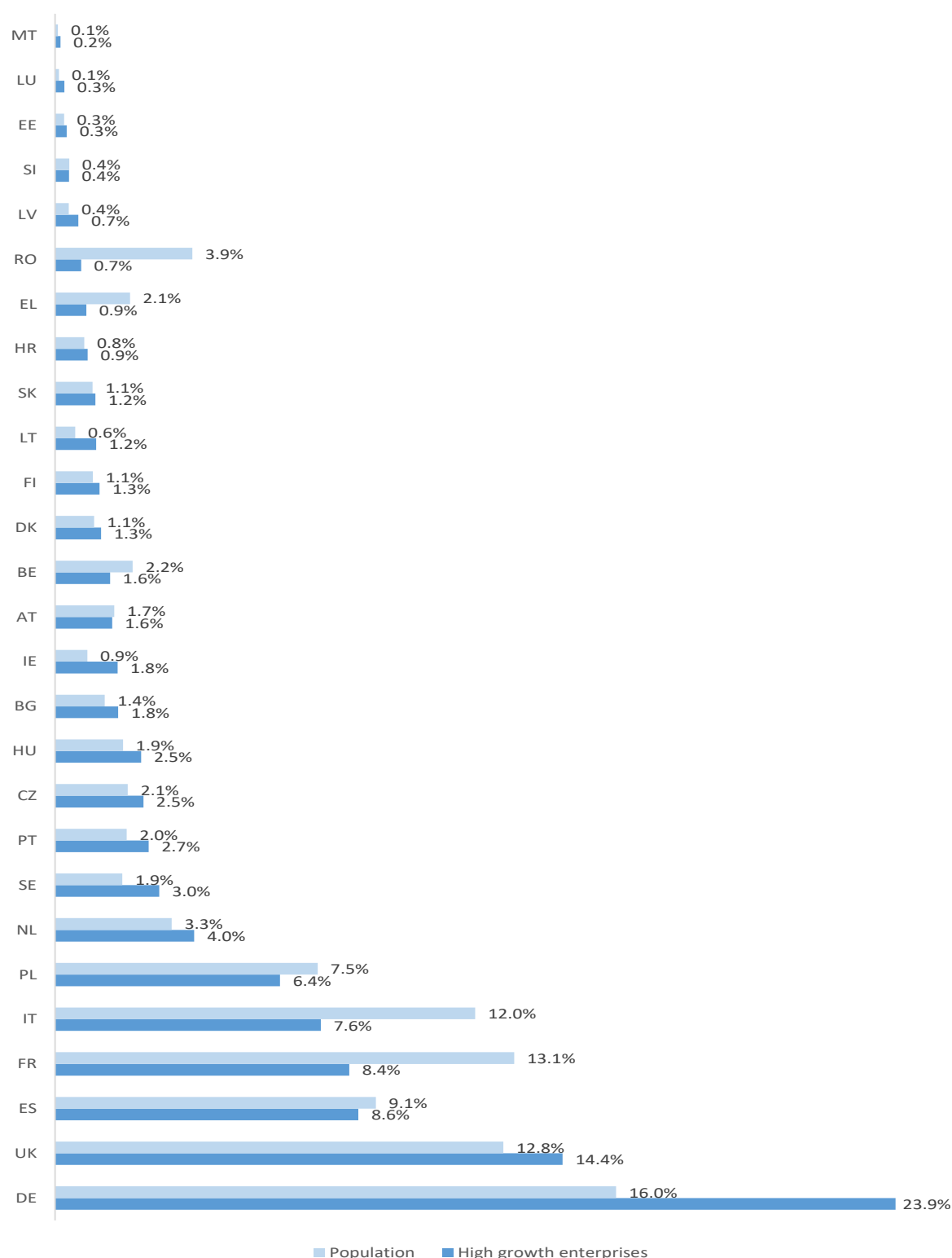
Most of these high-growth enterprises can be found in DE (23.9% of all high-growth enterprises in 2015), UK (14.4%), ES (8.6%), FR (8.4%), IT (7.6%) and PL (6.4%). Together, these 6 Member States accounted for 69% of all high-growth enterprises in the EU-28 in 2015 (Figure 40).

Figure 39: Number of high-growth enterprises in the EU-28, 2014 to 2016 (2014=100)



Source: Eurostat

Figure 40: Distribution of high-growth enterprises and population across Member States, percentage of total number of high-growth enterprises in the EU-28 and population share in 2015



Source: Eurostat

2.12 Key takeaways from chapter 2

This second chapter reviewed many aspects of the evolution and performance of the EU-28 SME population since 2008 and the key points to note from this broad overview are presented below.

Over the period 2008 to 2017, gross value added generated by EU-28 SMEs increased cumulatively by 14.3% and SME employment increased by 2.5%, while the

economy as a whole generated a cumulative increase of 16.5% in value added and 1.8% in employment.

However, these EU-wide statistics mask highly divergent developments in Member States, with the level of SME value added in 2017 still below its 2008 level in six Member States (CY, EL, ES, HR, IT and PT) and the SME employment level in 2017 remaining below its 2008 level in 15 Member States (BG, CY, CZ, DK, EL, ES, FR, HR, IE, IT, LT, LV, PT, RO and SI)

EU-28 SMEs made a significant contribution to the recovery and subsequent expansion of the EU-28 economy following the economic and financial crisis of 2008/09. They accounted for 47% of the total increase from 2008 to 2017 in the value added generated by the non-financial business sector and for 52% of the cumulative increase in employment in the sector. In fact, their contribution exceeded what would have been expected on the basis of their relative importance in the economy. In sharp contrast, the contribution of US SMEs to economy-wide growth in value added over the same period is markedly lower than would have been expected.

Growth in apparent labour productivity, defined as value added divided by employment, shows very different patterns across SME size classes and Member States. In the EU-28 economy, micro SMEs and, to a slightly lesser extent, small SMEs posted much weaker cumulative growth in labour productivity over the period 2008-2017 than that of medium-sized SMEs and large enterprises in the non-financial business sector. In fact, the productivity performance of the last two enterprise size classes differs very little and is more than twice as strong as the productivity performance of micro SMEs.

The number of SMEs in the EU-28 increased by 13.8% from 2008 to 2017. Due to the high mortality rate of SMEs, especially young SMEs, the number of newborn SMEs markedly exceeds the actual increase in SME population. In fact, in the EU-28, an increase in the SME population of 1 unit required the birth of 9 SMEs on average over the period 2012-2015.

Some of the new SMEs are start-ups, i.e. enterprises which, from the beginning, aim to grow quickly. Many start-ups are so-called “born globals”, aiming to operate very quickly in global markets. A recent survey of start-ups showed they were targeting not only other European markets but were also considering more distant markets such as the USA and Asia. The survey also showed that 71% of the start-ups which participated in the survey also engage in collaborations to overcome their growth challenges.



Photo from Pexels

Part 2: The performance of SMEs in 2016 and 2017 and the outlook for 2018 and 2019

Introduction to Part 2

This second part of the SME Annual Report focuses on the performance of SMEs from 2016 to 2019. Actual data are used for 2016 and nowcasts for 2017. The data for 2018 and 2019 are forecasts.

Chapter 4 reviews the performance of SMEs in 2016 and 2017 in the EU-28 and Member States on the basis of three key performance indicators: valued added, employment and number of enterprises, as well as a number of additional indicators such as labour productivity and profitability. Furthermore, the chapter provides some information on the latest developments in business demography, start-ups and scale-ups.

Chapter 5 compares and contrasts the recent performance of SMEs in the EU-28, Japan and the USA, and in other selected countries.

Finally, chapter 6 presents the latest forecasts for the three key SME indicators for the EU-28 and Member States.

3. The performance of SMEs in 2016 and 2017 in the EU

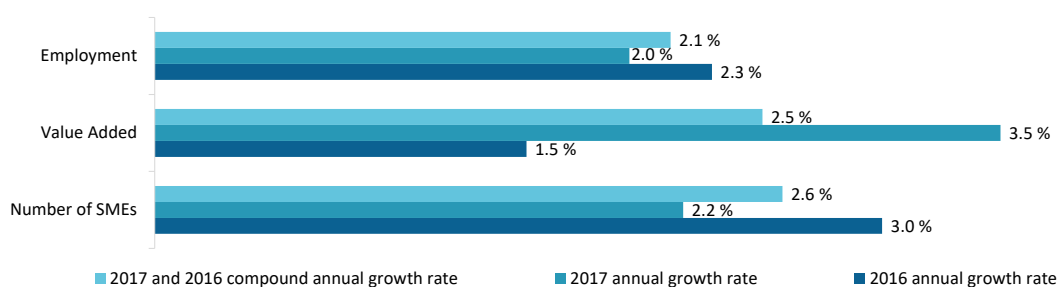
3.1 Review of the performance of SMEs

The SME sector in the EU-28 continued to grow at a moderate pace in 2017. Value added generated by SMEs in the non-financial business sector increased by 3.5%, following growth of 1.5% in 2016, and SME employment grew by 2.0% in 2017 after an increase of 2.3% in 2016 (Figure 41).

The weak value added growth of only 1.5% generated by EU-28 SMEs in 2016 masks stronger underlying economic fundamentals and is entirely due to the large exchange rate movements of the euro (€) vis-à-vis the pound sterling (£) over the period 2015 to 2017. In 2015, the € depreciated by 10% against the £. Thereafter, the € appreciated against the £ by 12.9% in 2016 and a further 7.0% in 2017.

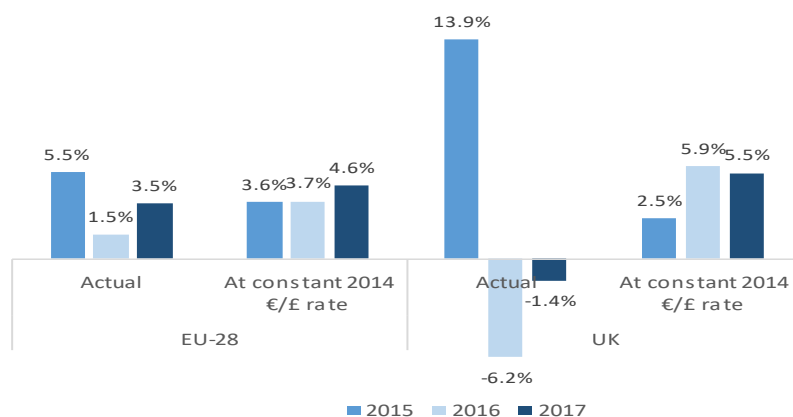
These large swings in the exchange rate between the € and £ had a significant impact on the value added (expressed in €) generated by UK SMEs and hence on the reported value added of EU-28 SMEs. For example, the value added generated by EU-28 SMEs would have increased by 3.7% in 2016 and 4.6% in 2017 if the €/£ exchange rate had remained constant from 2015 to 2017 at its 2014 value (Figure 42).

Figure 41: Growth in EU-28 SME employment and value added and EU-28 number of SMEs in the non-financial business sector in 2016 and 2017



Source: Eurostat, National Statistical Offices, DIW Econ

Figure 42: Annual growth in value added by EU-28 SMEs and UK SMEs at actual €/£ exchange rate and 2014 €/£ exchange rate



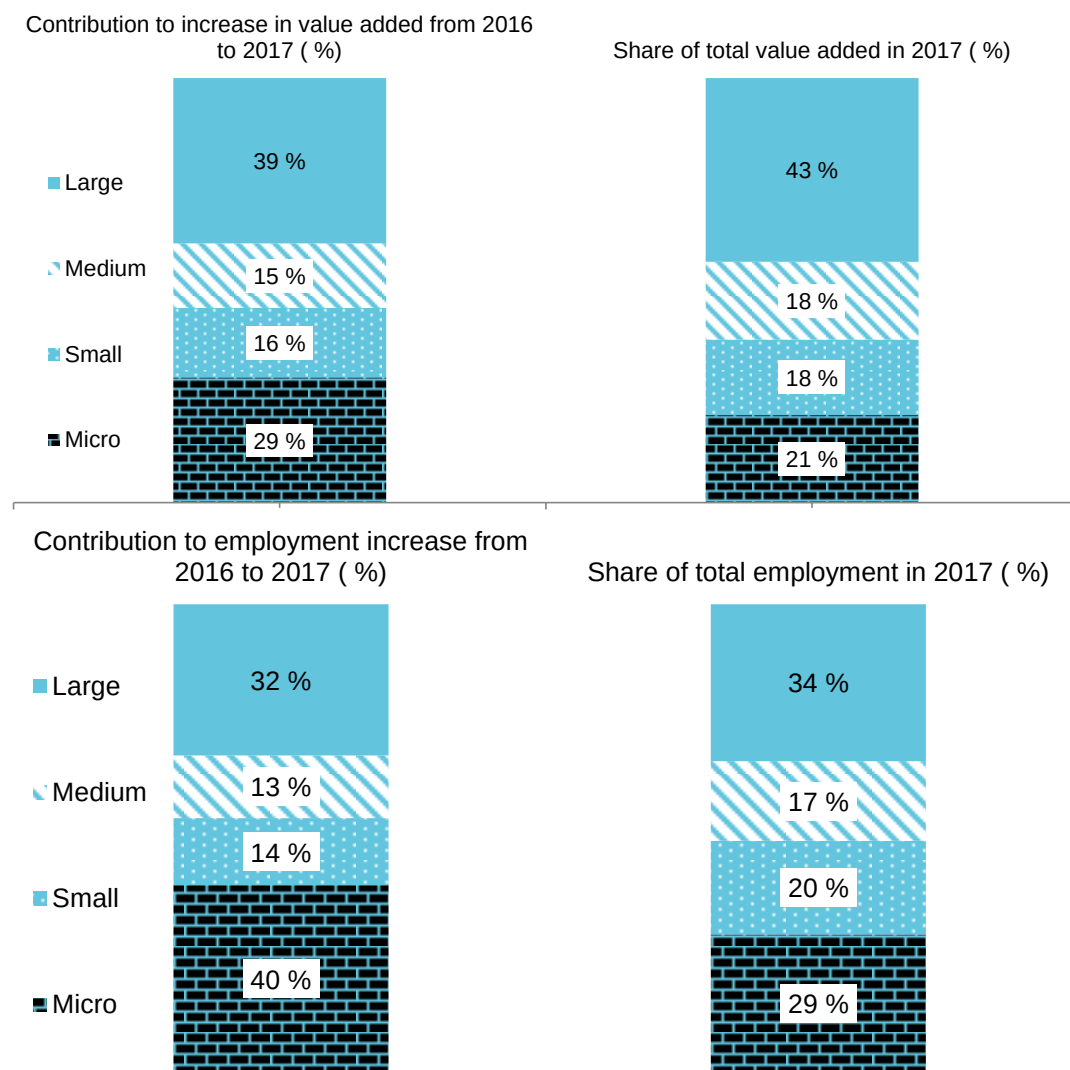
Source: Eurostat, National Statistical Offices, DIW Econ

In 2017, EU-28 SMEs accounted for 60% of the increase in NFBS value added even though their share of total value added was only 57% (Figure 43).

Within the SME sector, micro EU-28 SMEs made an exceptionally large contribution in 2017. They accounted for 29% of the increase in the value added generated in the EU-28 non-financial business sector, while their share of total value added in the sector was only 21% (Figure 43). In contrast, small and medium-sized SMEs made proportionately lower contributions to the growth in value added in the EU-28 non-financial business sector in 2017.

Similarly, EU-28 micro SMEs made a remarkable contribution to employment growth in the EU-28 non-financial business sector, accounting for 40% of all the employment growth in the sector, while their employment share was only 29% (Figure 43).

Figure 43: Contribution of different size class enterprises to growth in value added and employment in the EU-28 non-financial business sector in 2017

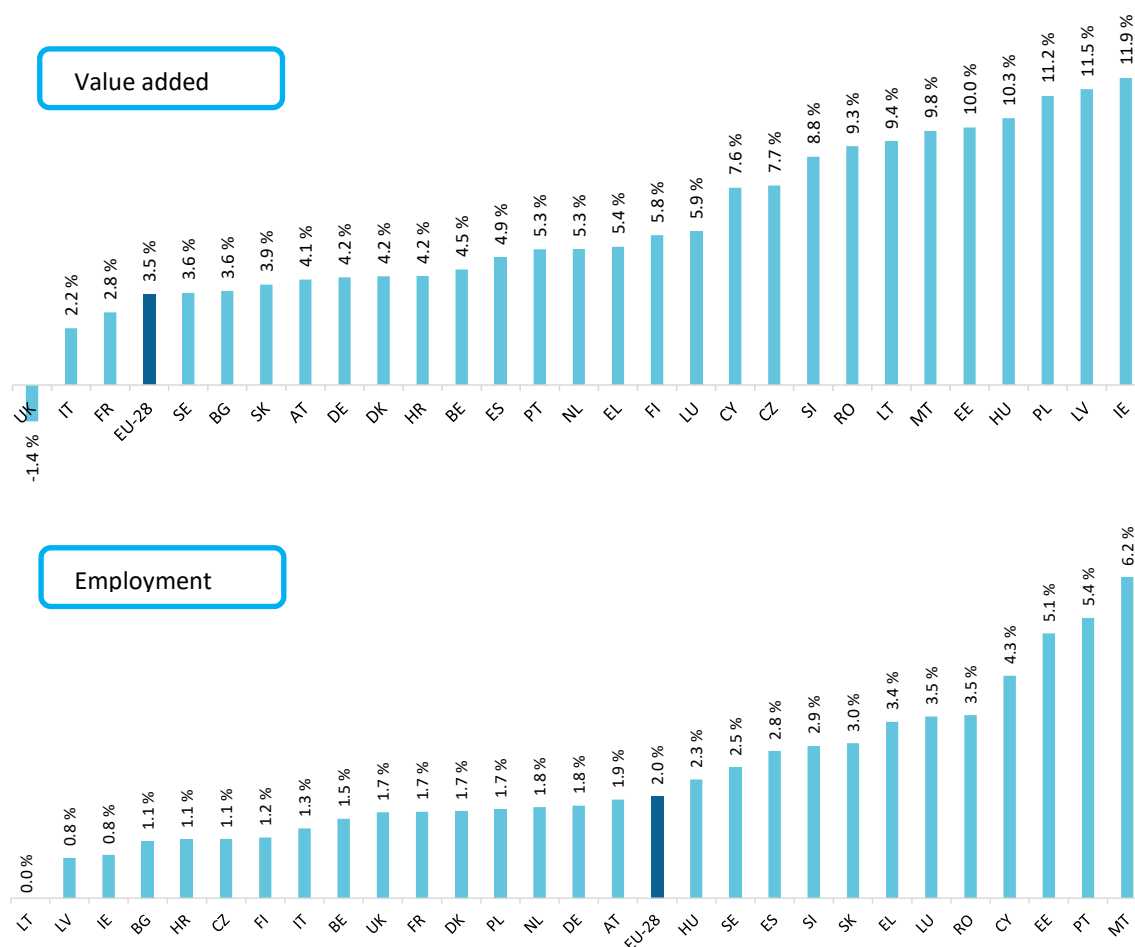


Source: Eurostat, National Statistical Offices, DIW Econ

All EU-28 Member States, except the UK, recorded growth in SME value added in the non-financial business sector in 2017. Nine Member States (EE, HU, IE, LT, LV, MT, PL, RO and SI) showed particularly strong annual growth of 8% or more in 2017. The decline in UK SME value added in 2017 was entirely due to the exchange rate movements of recent years. This decline, combined with weak SME value added growth in France and Italy, dragged down EU-28 value added growth, despite robust growth in SME value added in many Member States (Figure 44).

Furthermore, all Member States, apart from Lithuania, generated increases in SME employment in the non-financial business sector in 2017. In 7 Member States (CY, EE, EL, LU, MT, PT and RO) annual employment growth exceeded 3%, whereas employment declined very marginally in Lithuania by 0.01%.

Figure 44: Annual percentage change in 2017 of SME value added and employment in the non-financial business sector of EU Member States



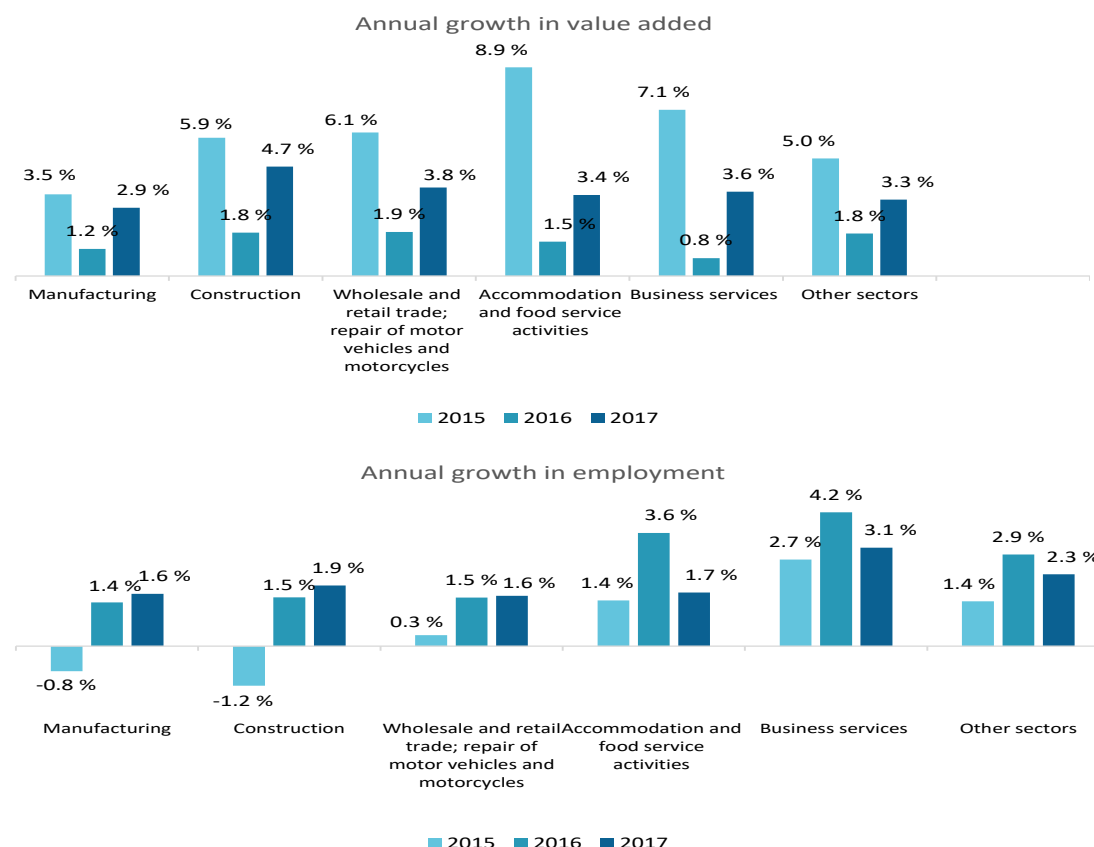
Note: In 2017, SME employment in the non-financial business sector declined by 0.01% in Lithuania

Source: Eurostat, National Statistical Offices, DIW Econ

In 2017, the increase in SME value added in the non-financial business sector was relatively well balanced across the main SME sectors, with growth ranging from 2.9% in 'manufacturing' to 4.7% in 'construction' (Figure 45).

Similarly, SME employment growth varied relatively little across sectors in 2017, ranging from 1.6% ('manufacturing' and 'wholesale and retail trade') to 3.1% in 'business services'.

Figure 45: Annual growth in EU-28 SME value added and employment in various sectors in 2015, 2016 and 2017



Source: Eurostat, National Statistical Offices, DIW Econ

While the analysis above shows that the differences in SME employment performance in 2017 were relatively small across economic sectors, a more granular analysis reveals a much more nuanced picture.

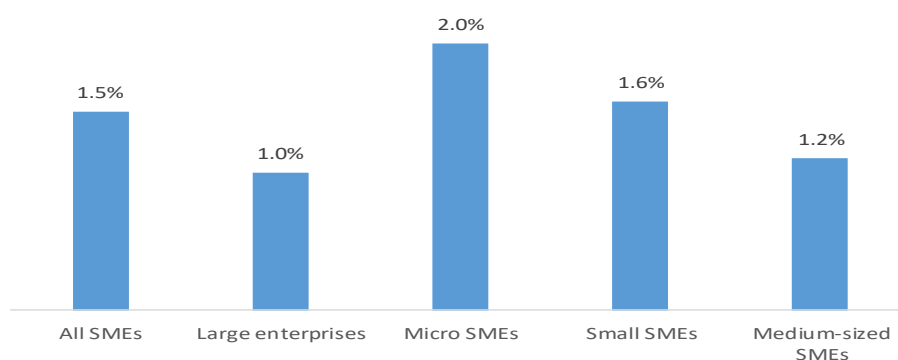
For example, although 17 industries³⁶ showed strong average annual employment growth of 3% or more in 2016 and 2017, these industries accounted for only 20% of total EU-28 SME employment.

Furthermore, although 6 industries³⁷ showed weak employment growth of less than 1% in 2016 and 2017, their share of total SME employment in the non-financial business sector was only 3.5%.

Apparent labour productivity, i.e. the ratio of value added to employment, grew somewhat more strongly in EU-28 SMEs in 2017 than in EU-28 large enterprises. In particular, EU-28 micro SMEs posted a very strong productivity performance, with an increase of 2.0% in apparent labour productivity (Figure 46).

³⁶ These 17 industries include 'architectural and engineering activities'; 'technical testing and analysis'; 'computer programming, consultancy and related activities'; 'employment activities'; 'information service activities'; 'legal and accounting activities'; 'motion picture, video and television programme production'; 'office administrative, office support and other business support activities'; 'other professional, scientific and technical activities'; 'programming and broadcasting activities'; 'publishing activities'; 'rental and leasing activities'; 'scientific research and development'; 'telecommunications'; 'travel agency, tour operator reservation service and related activities'; 'veterinary activities'. See Annex 14 for details.

³⁷ These six industries include 'civil engineering'; 'manufacture of machinery and equipment n.e.c.'; 'remediation activities and other waste management services'; 'sewerage, water collection, treatment and supply'; 'waste collection, treatment and disposal activities, materials recovery'.

Figure 46: Annual growth in apparent labour productivity in EU-28 NFBS in 2017

Source: Eurostat, National Statistical Offices, DIW Econ

3.2 Key takeaways from Chapter 3

The SME sector in the EU-28 continued to grow at a moderate pace in 2017. Value added generated by SMEs in the non-financial business sector increased by 3.5%, following growth of 1.5% in 2016, and SME employment grew by 2.0% in 2017 after an increase of 2.3% in 2016.

The weak value added growth of only 1.5% generated by EU-28 SMEs in 2016 masks stronger underlying economic fundamentals and is entirely due to the large exchange rate movements of the euro (€) vis-à-vis the pound sterling (£) over the period 2015 to 2017.

Within the SME sector, EU-28 micro SMEs made an exceptionally large contribution in 2017 to growth in SME value added and employment.

All EU-28 Member States, except the UK, recorded growth in SME value added in the non-financial business sector in 2017. The decline in UK SME value added reflects entirely exchange rate movements.

Additionally, all Member States, apart from Lithuania, generated increases in SME employment in the non-financial business sector in 2017.

The increase in SME value added and employment in the non-financial business sector was relatively well balanced across the main SME sectors.

4. Comparative analysis of the recent economic performance of SMEs in the EU-28, the USA, Japan and other selected countries

4.1 Developments in the EU-28 and selected other countries

To put the recent performance of EU-28 SMEs in perspective, this very short chapter compares the annual change (in percent) in 2015 and 2016 of the number of SMEs and SME value added and employment in Brazil, China, the EU-28, Japan, Russia and the USA.

Data for 2017 are not yet available for most of the comparator countries. Therefore the comparative analysis focuses on the years 2015 and 2016. Moreover, in the case of a few countries, data are missing for one or two SME performance indicators in 2015 and/or 2016.

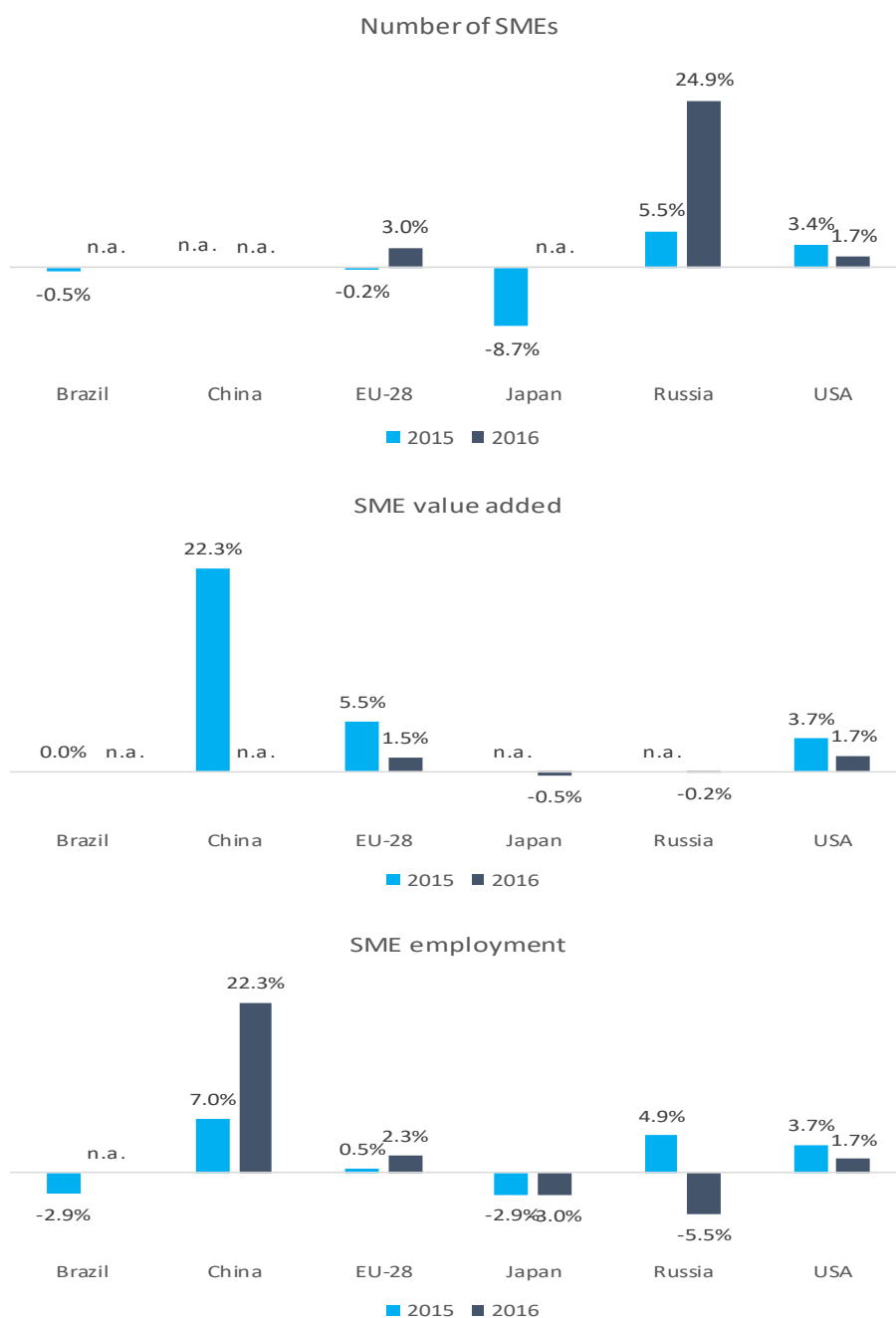
Overall, SMEs in Brazil, Japan and Russia fared much more poorly than EU-28 SMEs in 2015 and 2016. SME value added and employment declined or stagnated in these 3 countries except in Russia in 2016 when SME employment increased (Figure 47).

EU-28 SMEs also performed better on average over 2015 and 2016³⁸ than their US peers with regard to growth in value added. However, the opposite observation holds true in the case of employment (Figure 47).

Finally, SMEs in China substantially outperformed EU-28 and US SMEs.

³⁸ Due to the impact of the €/£ exchange rate movements of 2015 and 2016 on the level of EU-28 SME value added in 2015 and 2016, the average growth rate over these two years is used to benchmark the performance of EU-28 SMEs.

Figure 47: Annual change in 2015 and 2016 in the number of SMEs and SME value added and employment in selected countries



Source: Eurostat, National Statistical Offices, DIW Econ

4.2 Key takeaways from chapter 4

Overall, SMEs in Brazil, Japan and Russia fared much more poorly than EU-28 SMEs in 2015 and 2016.

EU-28 SMEs also performed better on average over 2015 and 2016 than their US peers with regard to growth in value added but not with regard to employment.

5. The outlook for 2018 and 2019

5.1 The forecasts for SME value added and employment in 2018 and 2019

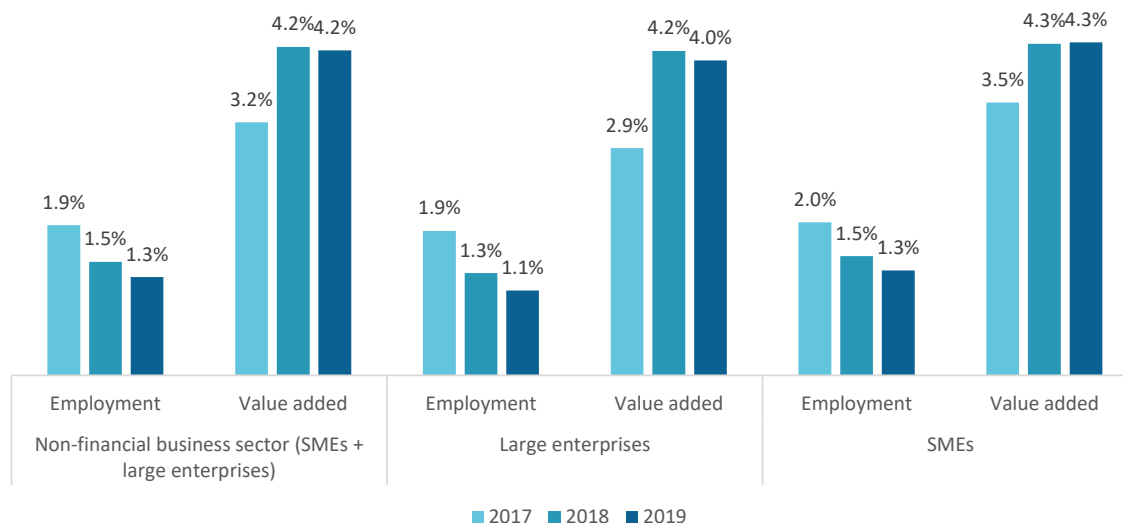
The forecast for SMEs is continued growth in 2018 and 2019.

SME value added in the EU-28 non-financial business sector is expected to increase by 4.3% in both 2018 and 2019, marginally higher than the growth in value added projected for large enterprises (Figure 48).

EU-28 SME employment growth is expected to be slightly more moderate in 2018 and 2019 than in 2017.

Employment growth is projected to be lower than value added growth as part of the growth in value added simply reflects slightly higher inflation and not an uptick in output, and enterprises aim to boost labour productivity. This is case for both SMEs and large enterprises.

Figure 48: Forecasts of annual growth in EU-28 SME employment and value added in 2018 and 2019

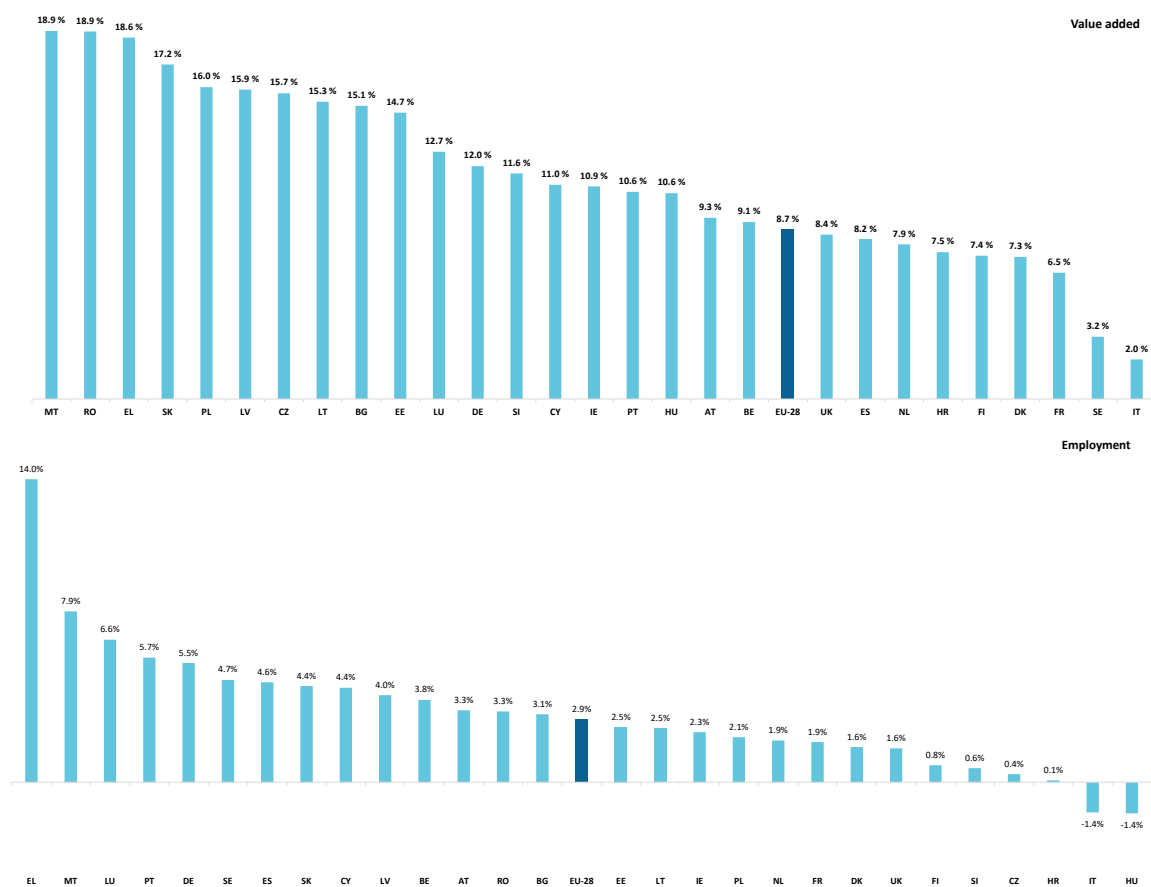


Source: DIW Econ

All EU-28 Member States are projected to post increases in SME value added in the non-financial business sector. In nine Member States (BG, CZ, EL, LT, LV, MT, PL, RO and SK), cumulative SME value added growth over 2017 and 2018 in the non-financial business sector is forecast to exceed 15% (Figure 49). In contrast, in the case of two Member States (IT and SE), the prediction is for cumulative SME value added growth of less than 5%.

In all Member States, cumulative SME employment growth over 2017 and 2018 in the non-financial business sector is predicted to be more moderate than value added growth, with cumulative employment growth projected to exceed 5% in five Member States (DE, EL, LU, MT and PT) and to decrease in two Member States (HU and IT).

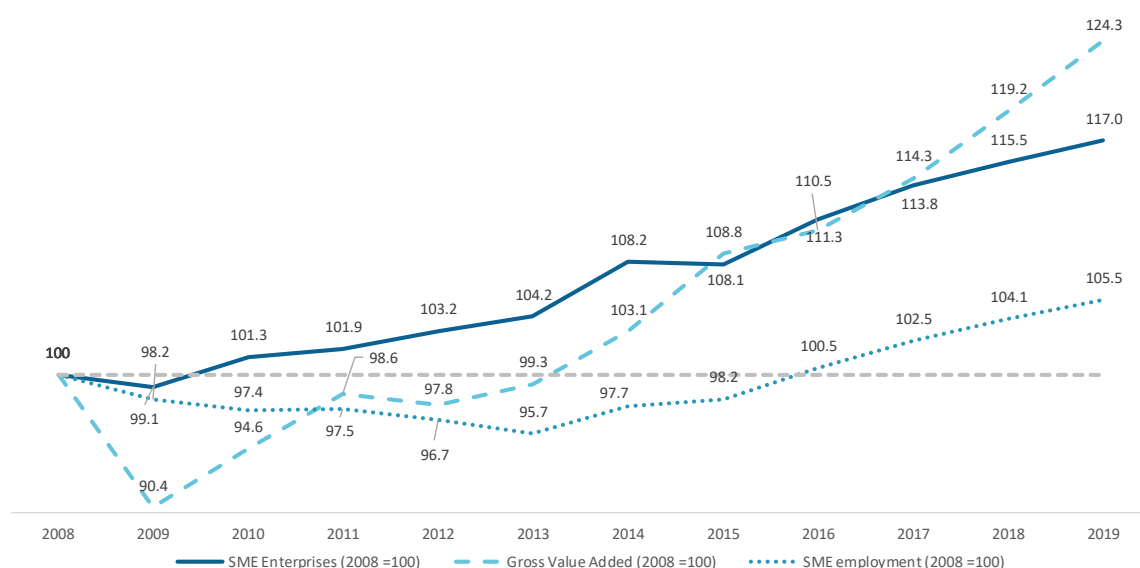
Figure 49: Forecast of cumulative change from 2017 to 2019 in SME value added and employment in the non-financial business sector in EU Member States



Source: DIW Econ

The forecast of continued growth for EU-28 SME value added and employment in the non-financial business sector implies that, by 2019, 10 years after the trough of the economic recession of 2008/2009, the value added generated by EU-28 SMEs in the non-financial business sector will be almost 40% higher than in 2009, with employment also higher, by 7% (Figure 50).

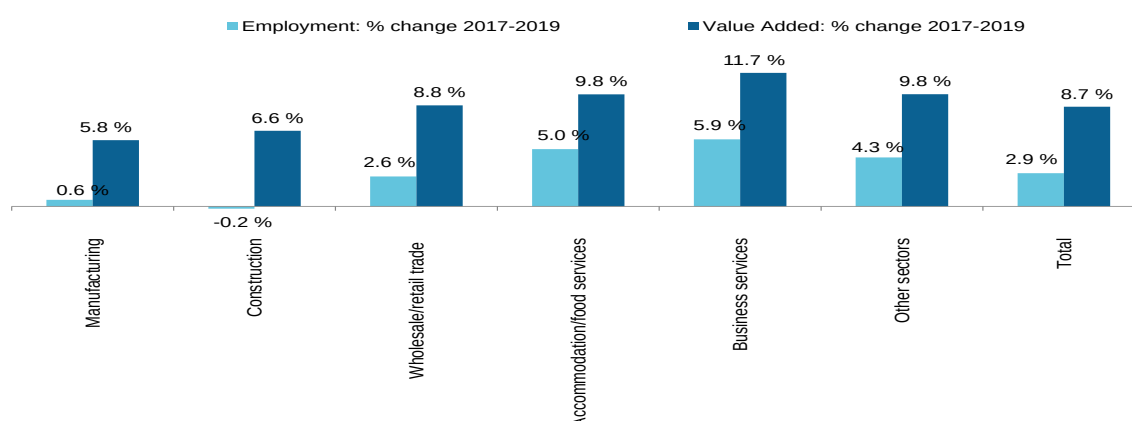
Figure 50: Level of SME value added and employment in Member States in 2019 relative to 2008



Source: Eurostat, National Statistical Offices, DIW Econ

At the EU-28 level, the strongest cumulative growth in value added and employment over the period 2018 to 2019 is projected for SMEs active in ‘business services’. Meanwhile, the forecast for SMEs in ‘construction’ and ‘manufacturing’ is more moderate growth in value added and very marginal changes in employment (Figure 51).

Figure 51: Sectoral breakdown of predicted growth from 2017 to 2019 in EU-28 SME value added and SME employment



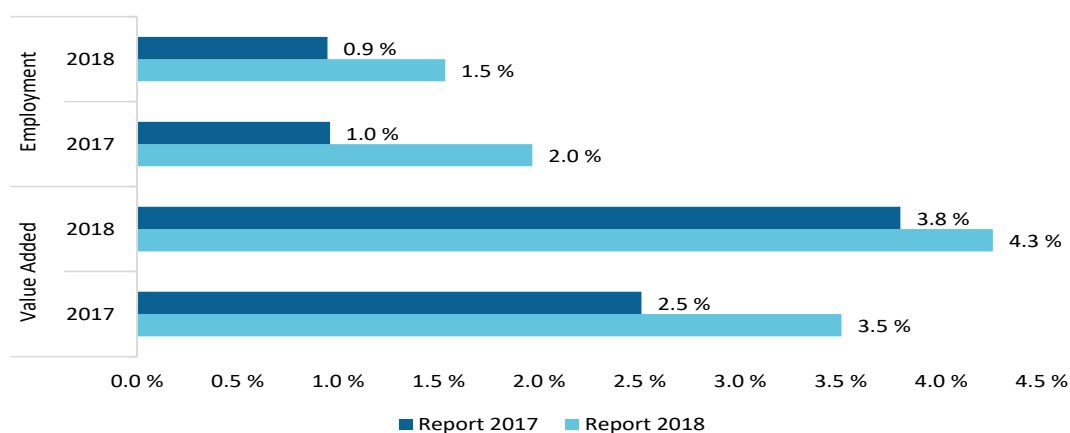
Source: Eurostat, National Statistical Offices, DIW Econ

5.2 Comparison of SME outlook in 2017 and 2018 SME Annual Reports

Relative to the forecasts shown for 2017 in the 2017 SME Annual Report, the nowcasts presented in the present report show stronger value added and employment growth by EU-28 SMEs in 2017. This better than previously projected performance reflects a generally stronger than previously expected EU-28 economy (Figure 52).

These better than previously expected general economic conditions have continued to have a positive impact on the performance of EU-28 SMEs in 2018, with stronger value added and employment growth predicted for 2018 than was forecast in the 2017 SME Annual Report.

Figure 52: Comparison of 2017 forecasts with 2018 nowcast and forecast of annual growth in EU-28 SME value added and employment in the non-financial business sector in the 2017 and 2018 SME Annual Reports



Source: DIW Econ

5.3 Key takeaways from chapter 5

The forecast for SMEs is continued growth in 2018 and 2019:

- SME value added in the EU-28 non-financial business sector is expected to grow by 4.3% in both 2018 and 2019.
- EU-28 SME employment is projected to increase by 1.5% in 2018 and 1.3% in 2019.

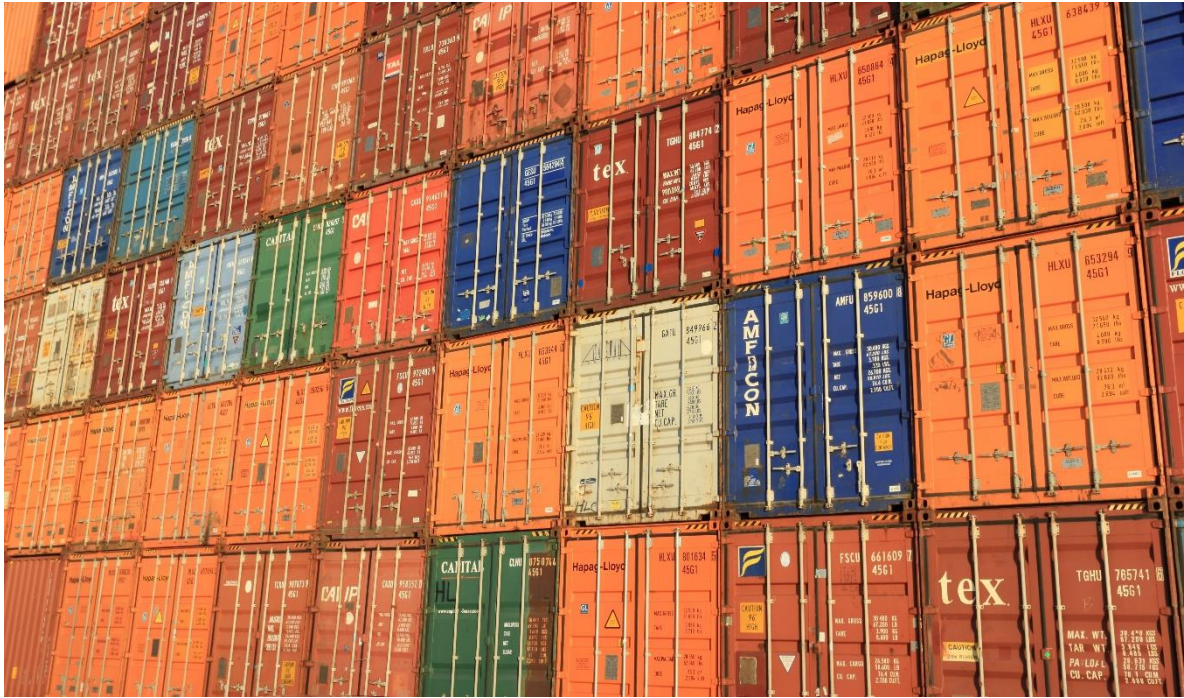


Photo from Pixabay

Part 3 The internationalisation of SMEs

Introduction to Part 3

As shown in section 2.1, global demand was for many years the key driver of the recovery of the EU-28 economy after the economic and financial crisis of 2008/2009. Yet a detailed analysis of various micro databases undertaken for this year's Annual Report shows that only a minority of EU SMEs export. The vast majority of SMEs which export do so consistently over time and only a small minority of exporting SMEs could be categorised as intermittent exporters.

Participation in the global economy could provide a substantial economic boost to SMEs. However, they face challenges in accessing international markets.

The tenth SBA principle addresses the internationalisation of SMEs by recommending that Member States should encourage SMEs to benefit from the growth of global markets and should support them in this pursuit.

The internationalisation of SMEs can cover a number of dimensions, which are not mutually exclusive:

- SMEs may explore the opportunities offered by foreign markets and familiarise themselves with the requirements that need to be met to enter foreign markets or may seek foreign suppliers
- SMEs may engage in exports or imports of goods and services, through e-commerce or more traditional means
- SMEs may be the recipients of foreign direct investment (inward FDI) or may invest abroad (outward FDI)
- whilst not directly engaged in cross-border activities, SMEs may be part of either a national value chain which has an international focus or be part of a global value chain
- SMEs may be engaged in cross-border R&D and innovation collaboration
- SMEs may licence or franchise their products or services

The academic literature shows that firms can clearly benefit from international expansion due to market opportunities (demand oriented) as well as resource-seeking and efficiency-seeking strategies (supply oriented) (e.g. Dunning, 2009; Johanson and Vahlne, 1977). However, the empirical evidence shows that only a small fraction of firms internationalise, i.e. participate in the global economy (Mayer and Ottaviano, 2007; Helpman, 2011; Melitz, 2003; Bernard and Jensen, 1999; Bernard et al. 1995). The economics literature explains this phenomenon as a consequence of firm heterogeneity and varying firm productivity levels, across and within specific industries, and suggests that only the most productive firms engage in international activities (Melitz, 2003; Helpman et al., 2004; Mayer and Ottaviano, 2007).

Since entry into foreign markets entails costs (Melitz, 2003) and is risky (Eden and Miller, 2004; Hymer, 1960), there are substantial barriers to firm internationalisation. These barriers are particularly high for SMEs because of their small size (Laufs and Schwens, 2014; Paul et al., 2017; Hollenstein, 2005; Breckova, 2018):

- Firstly, SMEs encounter resource constraints, such as lack of funding or lack of financial or personnel resources (Nakos and Brouthers, 2002; Brouthers and Nakos, 2004).
- Secondly, SMEs often lack experience and information on foreign countries and regions, cultures and institutions (Hollenstein, 2005; Buckley, 1989; Acs et al., 1997).

Information and communication technology (ICT) can facilitate the international expansion of SMEs (Hagsten and Kotnik, 2017; Lendle et al., 2016; Lohrke et al., 2006), as the use of ICT can help SMEs more easily overcome some of the foreign market entry hurdles (such as lack of information on foreign markets, customs and tax procedures, payments, etc.).

Besides exporting and importing goods and services, SMEs can engage in international activities in other ways. For example, firms with a technological advantage can choose to license their knowledge (e.g. patents) to foreign partners.

This third part of the SME Annual Report examines in greater detail the extent to which SMEs participate in the global economy, either directly or indirectly, by being part of an international value chain, as well as the challenges SMEs face, and the factors which explain why some SMEs internationalise, whereas others do not. It also discusses how governments can support SMEs in internationalising.

Chapter 6 describes broad trends in the internationalisation of SMEs in the EU-28, while chapter 8 focuses on the indirect internationalisation of SMEs.

Chapter 7 reviews the factors affecting SME internationalisation and highlights the key findings of a number of statistical analyses which aim to explain differences in the internationalisation of SMEs across EU Member States.

Chapter 8 assesses the impact on SMEs of the various Free Trade Agreements signed by the EU.

Chapter 9 provides an overview of inward and outward SME FDI.

Finally, chapter 10 discusses public policies supporting SME internationalisation and the lessons learned from them.

A *Special Background Document on the Internationalisation of SMEs* which accompanies this third part of the Annual Report contains an extensive review of studies focusing on the internationalisation of SMEs, a number of additional statistics on the issue of the internationalisation of SMEs, various case studies on SMEs which export either directly or via other platforms, and the detailed results of the empirical analysis presented in summary form in chapter 9.

6. Trends in SME internationalisation

6.1 Economic context

SMEs in the EU-28 faced highly different economic environments from 2009 to 2017. While domestic demand (in current prices)³⁹ increased by 21.1% in the EU-28, a number of Member States experienced much faster growth in in-country domestic demand than in out-of-country EU domestic demand.

For example, Table 13 shows that domestic demand in Estonia grew by 68.5% from 2009 to 2017, while domestic demand in other EU Member States increased by 21.2%. Thus, for SMEs in a number of Member States, the domestic market may have been more attractive than the intra-EU market. In contrast, for SMEs in economies with very weak domestic demand growth, or even decreases in domestic demand, the intra-EU market was very attractive.

More importantly, during the same period the world economy excluding the EU-28 grew by 44.8%⁴⁰, and extra-EU markets offered many export opportunities.

³⁹ Domestic demand is defined as the sum of a) current expenditures by households and governments and b) capital formation by households, governments and enterprises.

⁴⁰ Nominal GDP in US\$ (from the IMF April 2018 WEO database).

Table 13: Cumulative increase in domestic demand (in current prices) from 2009 to 2017

	Increase in domestic demand in home Member State	Increase in domestic demand in other EU Member States
EE	68.5%	21.2%
SE	56.7%	20.4%
LT	49.8%	21.2%
MT	46.0%	21.2%
RO	45.6%	21.0%
LV	42.8%	21.2%
LU	41.2%	21.2%
PL	39.6%	20.7%
UK	34.4%	19.0%
IE	34.8%	21.1%
DE	29.5%	19.3%
AT	28.0%	21.1%
BE	27.4%	21.1%
FI	26.1%	21.2%
SK	25.9%	21.2%
HU	25.9%	21.2%
CZ	24.0%	21.2%
BG	22.9%	21.2%
DK	21.7%	21.2%
FR	18.7%	21.7%
NL	13.9%	21.6%
SI	9.4%	21.3%
IT	5.1%	23.6%
HR	2.3%	21.3%
ES	3.8%	22.9%
PT	1.9%	21.5%
CY	1.6%	21.3%
EL	-31.1%	22.4%

Source: Eurostat

6.2 Background information on data source used in the chapter

The data presented in this chapter are drawn from the Eurostat database *Trade by Enterprise Characteristics* (TEC).^{41,42} Eurostat also publishes data on *Services Trade by Enterprise Characteristics* (STEC). However, because such service trade data are only available to 2014, while the goods trade data are available to 2016, the analysis focuses on the more up-to-date data on exports of goods by SMEs.

Together, the TEC and STEC data cover all the economic sectors in the business economy.^{43,44} It is important to note that in the TEC and STEC data, industries classified as goods-producing industries (following the NACE classification of industries) may export both goods and services. Similarly, industries classified as service-producing industries may export both services and goods.

⁴¹ Various adjustments are made in order to account for missing data. For instance, VAT returns are used to estimate intra-EU trade by the smallest traders which are not required to file an Intrastat declaration (Intrastat is the system for collecting data on intra-EU trade in goods). See Eurostat (2018) for full details on the adjustments conducted. As explained in Eurostat (2018), the full business registers are processed, but there are some differences in coverage across countries. (Eurostat (2018) International trade in goods – trade by enterprise characteristics (TEC)).

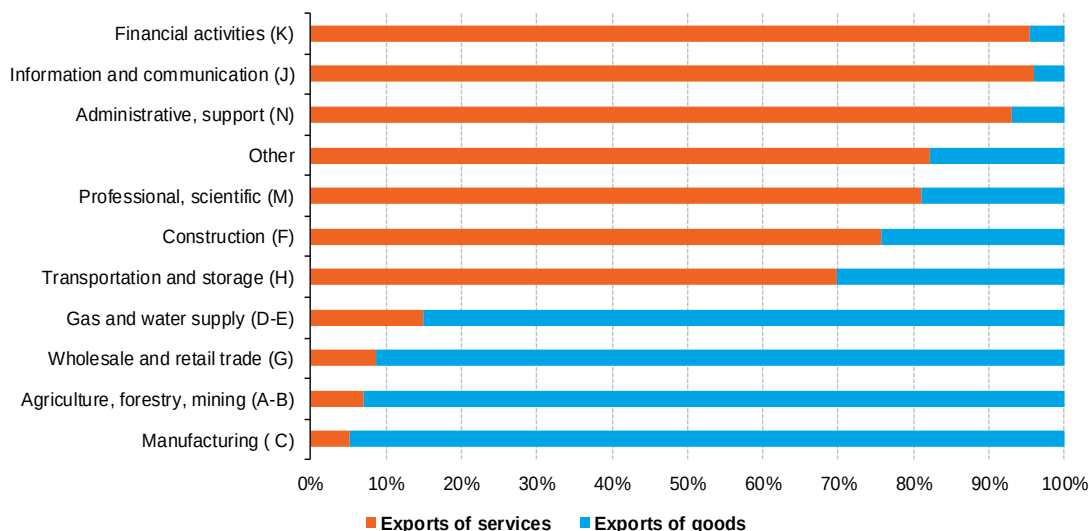
⁴² The term “traders” refers to firms which export or import.

⁴³ The STEC data include travel and certain financial services.

⁴⁴ The SME data presented in parts 1 and 2 of this report relate to the non-financial business sector only, i.e. do not cover financial services.

For example, detailed data from Estonia (Figure 53), the only Member State for which such a breakdown of type of exports by various industries is available, show that about 5% of the exports of the ‘manufacturing sector’ consist of services and about 20% of exports of the service sector ‘professional, scientific and technical activities’ consist of goods.

Figure 53: Goods and services exports by industry in Estonia, (% of total exports) – 2014



Source: Eurostat⁴⁵

6.3 Exports of goods

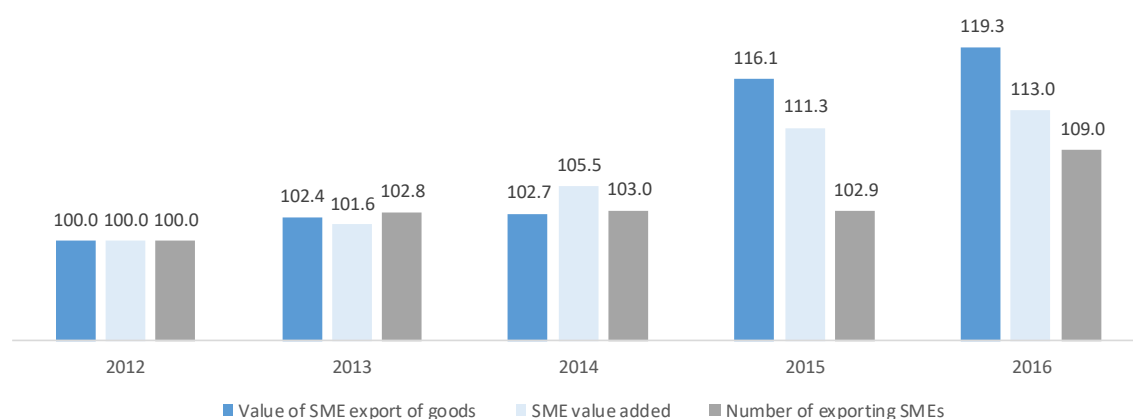
According to the latest TEC data published by Eurostat, the value (in current prices) of exports of goods by SMEs in the EU-28 stood at €1,757 billion or 12% of EU-28 GDP (in current prices). The value of such exports has increased by almost 20% since 2012, slightly faster than overall SME value added (Figure 54).

Also noteworthy is the fact that, from 2012 to 2016, the value of SME exports grew more than twice as fast as the number of exporting SMEs (19.3% versus 9%) (Figure 55).

Part of the increase in the value of SME exports shown may be due to better allocation in the statistics of exports across the various enterprise size classes. In particular, the value of exports of the ‘unknown size class’ has fallen somewhat. However, it is also likely that the strong growth in global demand highlighted earlier in the report contributed to the marked increase in SME exports.

⁴⁵ Eurostat (2018) STEC tables and graphs. Services trade by enterprise characteristics – STEC [online]

Figure 54: Value of EU-28 SME exports, SME value added and number of exporting SMEs - 2012 to 2016, 2012=100

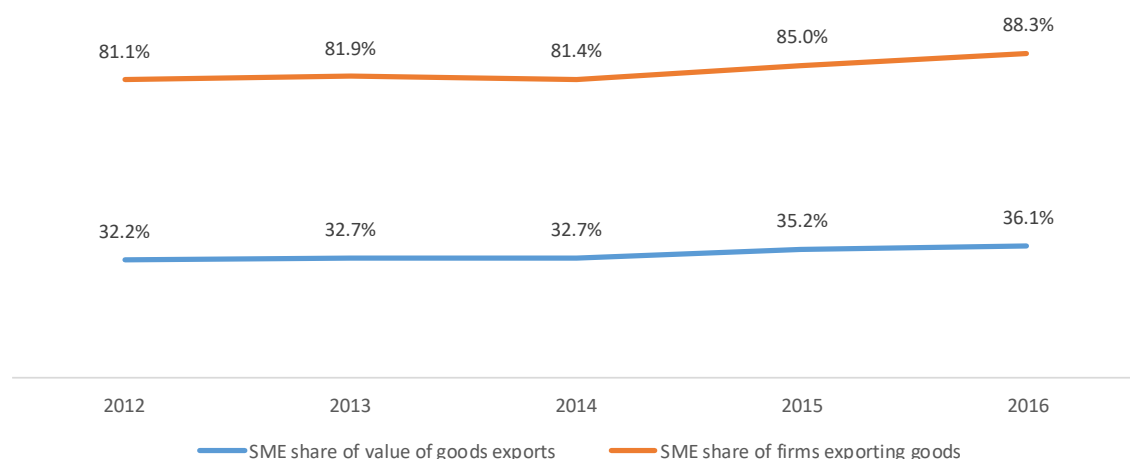


Note: The figure for 2016 is an estimate. Exports include both intra- and extra-EU exports.

Source: Eurostat

Overall, in 2016, EU-28 SMEs accounted for 36.1% of all goods exports by EU-28 enterprises and 88.3% of all EU-28 enterprises exporting goods (Figure 55). Both indicators show a small increase over the period 2012 to 2016 but it is impossible to determine whether this reflects a real development or an improvement in the quality of trade statistics.

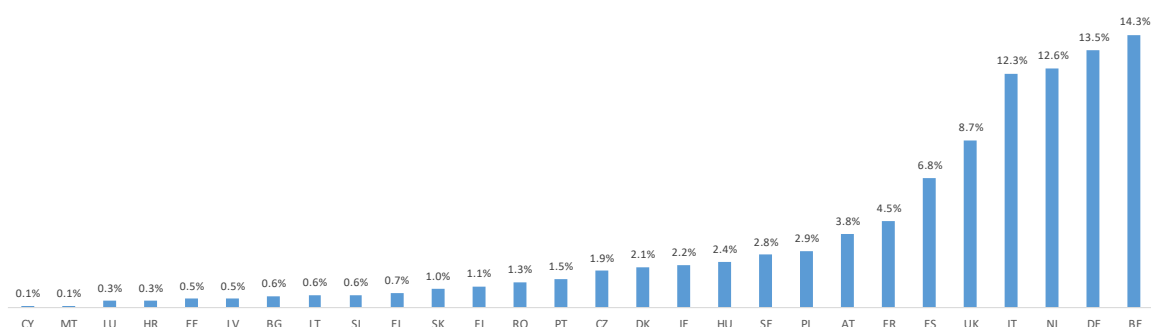
Figure 55: Share of SME exports in total EU-28 exports 2012 to 2016



Note: The figure for 2016 is an estimate. Exports include both intra- and extra-EU exports.

Source: Eurostat

The contribution of SMEs to the overall export performance of the EU-28 economy is highly concentrated, with 6 Member States (BE, DE, ES, IT, NL and UK) accounting for more than $\frac{2}{3}$ of total EU SME exports (in value) (Figure 56).

Figure 56: Share of SME exports of goods accounted for by Member States in 2015

Note: Exports include both intra- and extra-EU exports.

Source: Eurostat

The sectoral composition of the SME value added generated in the different top exporting Member States varies somewhat (Table 14) and no clear correlation exists between a country's industrial structure and the export performance of its SMEs.

Table 14: Sectoral share of SME value added in selected Member States, 2015

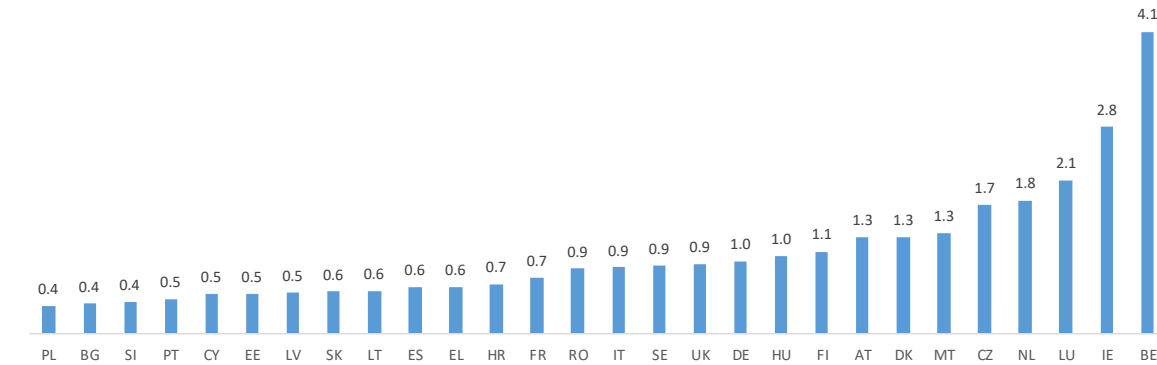
Sector	BE	DE	ES	FR	IT	NL	UK
Mining and quarrying	0%	0%	0%	0%	0%	1%	1%
Manufacturing	16%	20%	20%	17%	31%	17%	14%
Electricity, gas, steam and air conditioning supply	2%	1%	2%	1%	2%	1%	1%
Water supply, sewerage, waste management and remediation activities	1%	2%	1%	1%	2%	1%	1%
Construction	11%	10%	10%	12%	10%	9%	13%
Wholesale and retail trade	25%	22%	24%	22%	21%	27%	17%
Transportation and storage	7%	6%	9%	5%	6%	7%	5%
Accommodation and food services	4%	4%	8%	5%	6%	4%	4%
Information and communication	6%	6%	4%	6%	4%	7%	9%
Real estate activities	5%	7%	5%	6%	4%	6%	5%
Professional, scientific and technical services	15%	14%	11%	14%	11%	14%	19%
Administrative and support service activities	7%	7%	5%	9%	4%	7%	11%
Total	100%	100%	100%	100%	100%	100%	100%

Source: Eurostat

On average, across the EU-28, SMEs exported €1.2 million in goods per exporting SME. A more detailed analysis of the average SME export value shows that the EU-28 SME exporting population is very heterogeneous.

In some Member States, the average SME export value was much higher than the EU-28 average, and in some other Member States, the opposite situation is true (Figure 57). In fact, in BE, IE, and LU the average export value is equal to two to four times the EU-28 average value while in BG, CY, EE, LV, PL, PT and SI the average value is half or less than half of the average EU-28 value.

Figure 57: Ratio of Member State average export value per SME to EU-28 average export value per SME in 2015



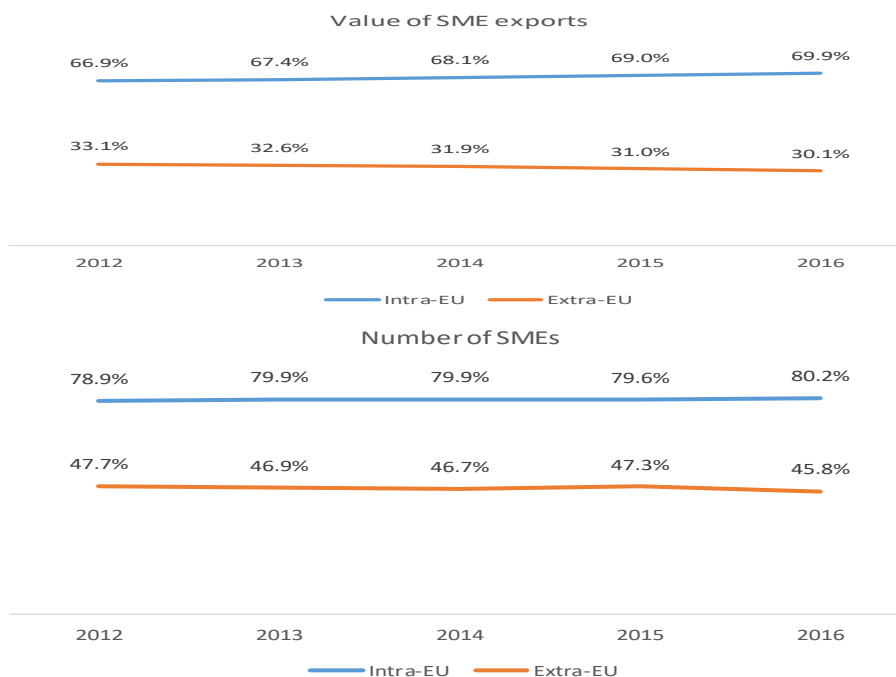
Note: Exports include both intra- and extra-EU exports.

Source: Eurostat

The EU-28 is by far the largest market for EU-28 SMEs as group. In 2016, SMEs sent almost 70% of all their exports to other Member States, with the rest of the world accounting for only 30% of all SME exports (Figure 58).

Moreover, in 2016, 4% of all exporting SMEs were engaged in intra-EU trade while somewhat less than 1/2 of exporting SMEs sold to markets outside the EU-28 (Figure 58). It should be noted that the sum of the shares of the SMEs exporting to markets inside the EU and outside the EU is greater than 100 as some SMEs may be engaged in both trading activities.

Figure 58: Relative importance of intra- and extra-EU markets

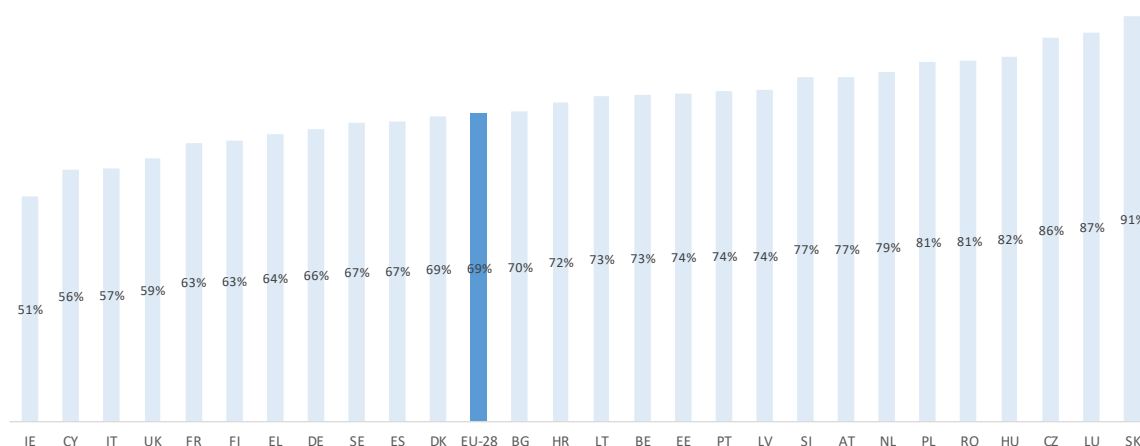


Source: Eurostat

Although the EU-28 market is the most important market for all SMEs, its relative importance varies greatly across Member States (Figure 59).

For SMEs in 6 Member States (CZ, HU, LU, PL, RO and SK), the EU-28 market accounted for more than 80% of their exports in 2016.

In contrast, SMEs from IE sent only 51% of their exports to markets in the EU-28 in 2016.

Figure 59: Share of SME exports sent to EU-28 markets in 2016

Note: Malta not included due to lack of data

Source: Eurostat

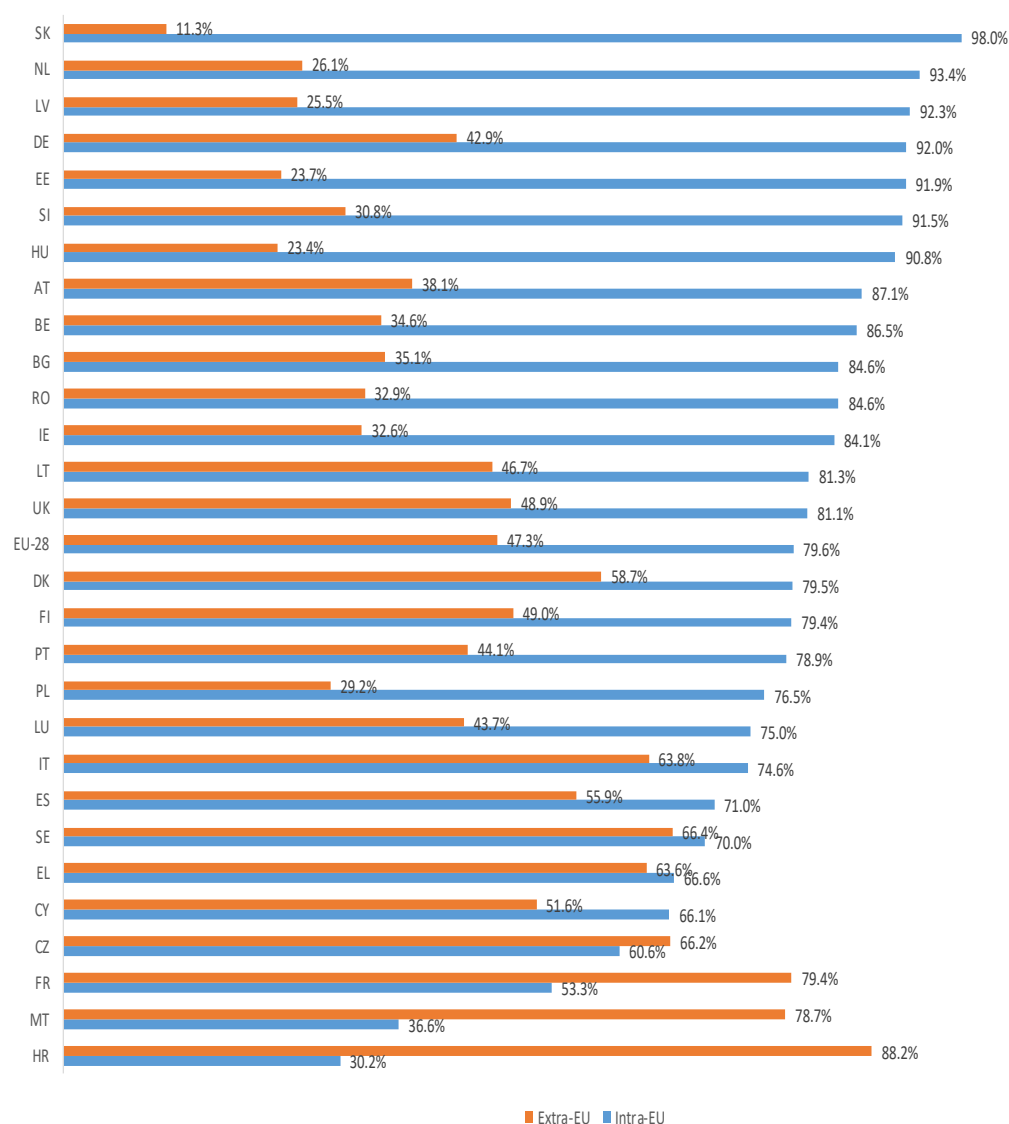
The relative importance of the intra- and extra-EU markets differs more markedly across Member States in the case of the number of exporting SMEs.

For example, in the case of HR and MT, less than half of the goods-exporting SMEs engage in intra-EU trade, while more 78% of SMEs in these countries sell to markets outside the EU (Figure 60).

In contrast, in the case of Member States DE, EE, HU, LV, NL, SI and SK, in which more than 90% of SMEs sell cross-border to markets in the EU-28, DE is the only Member State in which a significant proportion of SMEs also export outside the EU. In the other seven Member States, the proportion of SMEs undertaking extra-EU trade ranges from 11% to 31% (Figure 60).

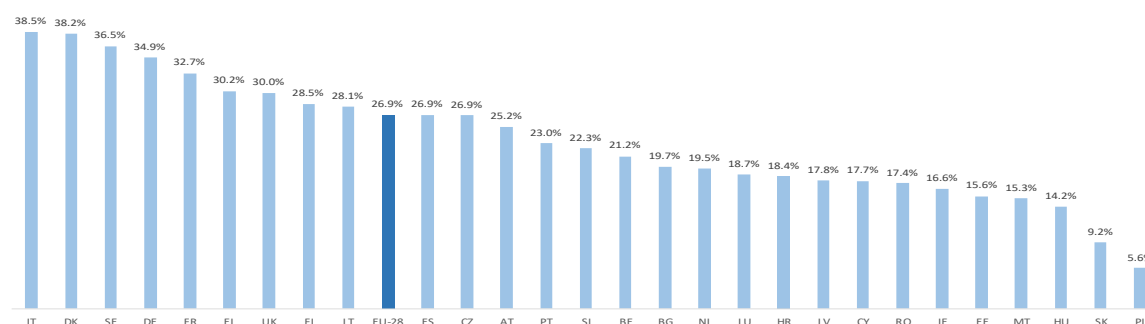
In fact, in DE, DK, IT and SE, more than $\frac{1}{3}$ of SMEs exported both intra- and extra-EU in 2015, while in BG, CY, EE, HR, HU, IE, LU, LV, MT, NL, PL, RO and SK, less than $\frac{1}{3}$ did so (Figure 61).

Figure 60: Relative importance of intra- and extra-EU market for SMEs at Member State level



Source: Eurostat

Figure 61: Proportion of SMEs trading both intra- and extra-EU (% of exporting SMEs)

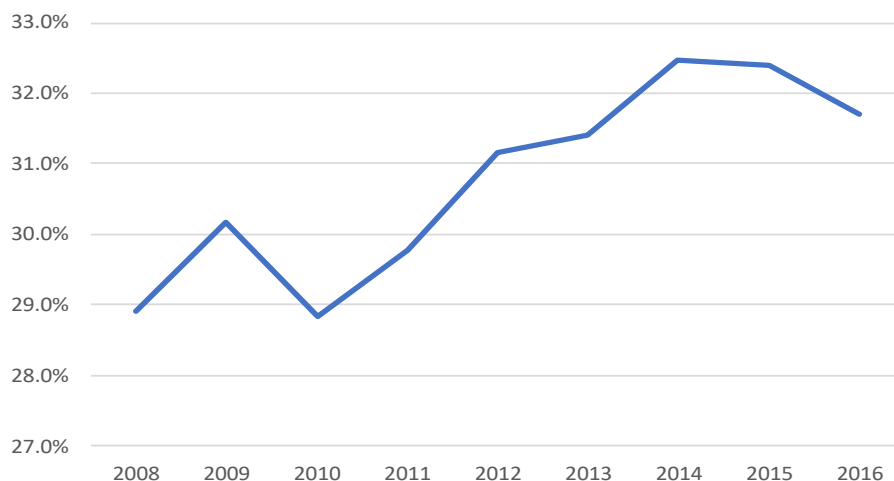


Source: Eurostat

6.4 Pre- and post-economic crisis exports of goods

Unfortunately, the current version of the TEC data provides information only from 2012 onwards. However earlier and more experimental TEC data provide data going back to 2008 for only a few countries, FI, PL, PT and RO. In the case of these four countries, SMEs have grown their exports more rapidly than large enterprises in the post crisis period, and as a result, the share of goods exported by SMEs increased by about 3 percentage points from 2010 to 2016 (Figure 62).

Figure 62: Aggregate share of SMEs in total value of goods exports 2008 to 2015 – FI, PL, PT and RO



Source: Eurostat and LE Europe

6.5 Key takeaways from chapter 6

In 2016, EU-28 SMEs accounted for 36.1% of all goods exports by EU-28 enterprises and 88.3% of all EU-28 enterprises exporting goods, and both indicators show a small increase over the period 2012 to 2016. Moreover, the value of such exports by SMEs has increased by almost 20% since 2012, slightly faster than overall SME value added.

The EU-28 is by far the largest market for EU-28 SMEs as group. In 2016, SMEs sent almost 70% of all their exports (in value) to other Member States, with the rest of the world accounting for only 30% of all SME exports.

Moreover, in 2016, ⅔ of all exporting SMEs were engaged in intra-EU trade while somewhat less than ½ of exporting SMEs sold to markets outside the EU-28, and slightly more than ¼ of exporting SMEs sold to both markets.

While SME export data going back to the pre- 2008/09 crisis period are not available, data from 2008 onwards for four countries (FI, PL, PT and RO) show that SMEs in these countries have grown their exports more rapidly than large enterprises, and as a result, the share of goods exported by SMEs increased by about 3 percentage points from 2010 to 2016.

7. Indirect internationalisation of SMEs

This chapter reviews how SMEs can benefit indirectly from growing global demand by participating in global value chains. Moreover, even if SMEs are not part of a global value chain, they will still benefit indirectly through the input-output multiplier effect arising from increases in foreign demand.

The first part of the chapter presents key findings from the limited literature available, analysing the extent to which SMEs participate indirectly in international trade.

The second part provides information on the input-output multiplier effect of increases in foreign demand for economic sectors in which SMEs account for a large share of value added and employment.

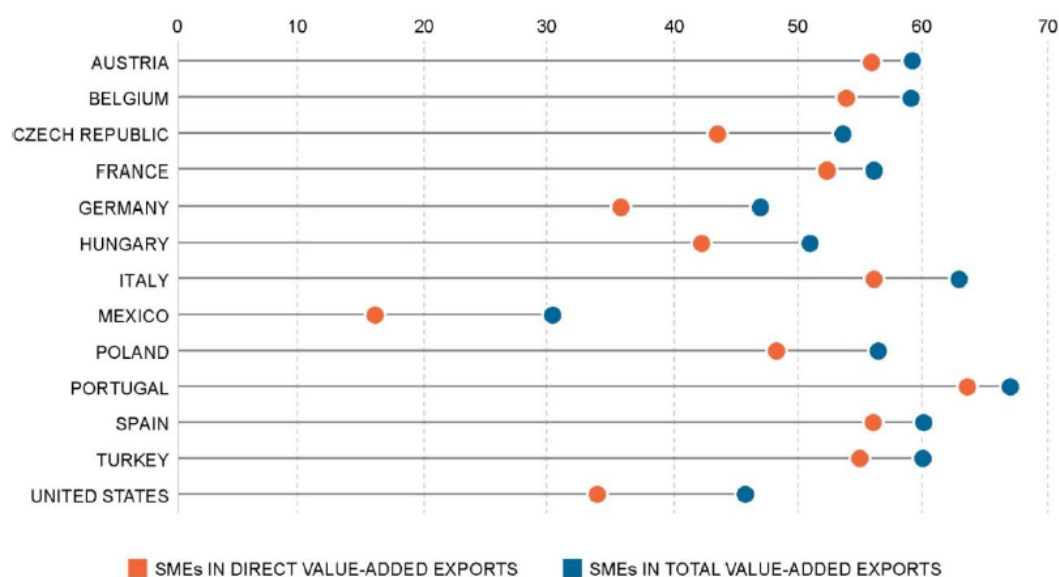
7.1 Findings from the literature

Previous research has shown that the majority of SMEs in the EU-28 do not export (see, for example, the results of the 2015 Eurobarometer survey which were presented in the introduction to the third part of this report).

However, these non-exporting SMEs may be participating in international trade through global value chains, as domestic suppliers of exporting firms. The aim of the present chapter is to understand the importance of this indirect exporting activity for SMEs.

Three existing studies consider indirect exports by SMEs in European countries. The OECD and World Bank (2015)⁴⁶ used the OECD-WTO Trade in Value Added (TiVA) Inter-Country Input-Output Table to derive TiVA indicators, along with national business statistics on SME size classes and sectors. The OECD and World Bank (2015) considered, among others, OECD countries within Europe. The data are from (Figure 63). Statistics Denmark (2017) made the same finding for DK, FI and SE based on 2013 data.

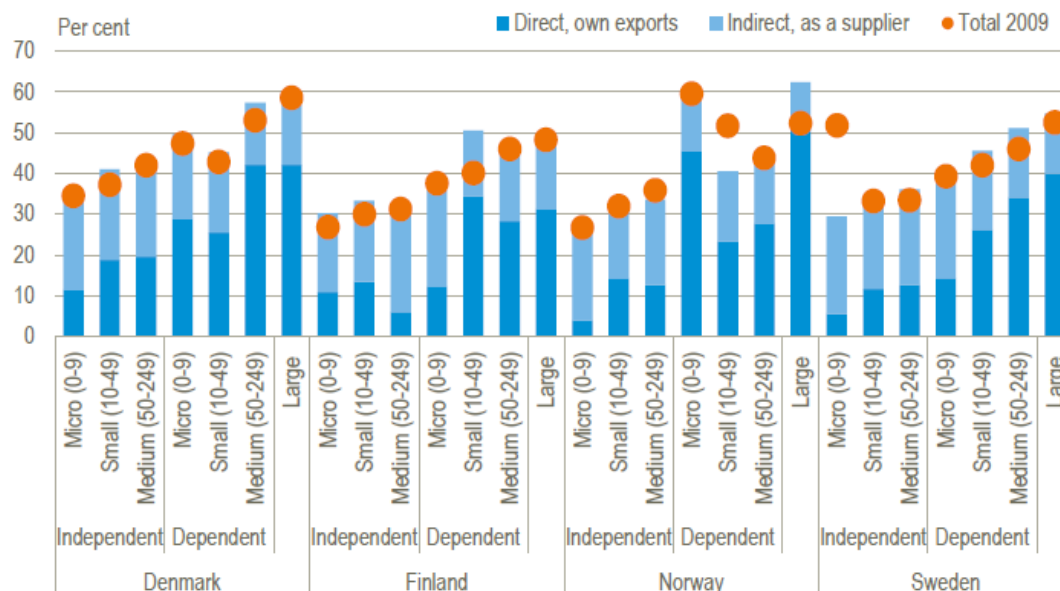
⁴⁶ OECD and World Bank Group (2015), Inclusive Global Value Chains Policy options in trade and complementary areas for GVC Integration by small and medium enterprises and low-income developing countries. Report prepared for submission to G20 Trade Ministers Meeting Istanbul, Turkey, 6 October 2015.

Figure 63: Share of SMEs in exports 2009: total economy, %

Source: OECD and World Bank (2015)

The data from DK, FI, NO and SE show that the importance of indirect exports for SMEs varies by firm size, with smaller firms tending to benefit more from foreign markets through indirect exports (Figure 64). In SE, in 2013, for example, independent micro firms exported 5% of value added directly, while exporting 24% indirectly (Statistics Denmark, 2017).

In the four Nordic countries, in 2013, the share of indirect exports in total value added exports of independent SMEs was higher than for dependent SMEs. (Statistics Denmark, 2017) (Figure 64). This finding can be at least partly explained by the fact that dependent SMEs are more likely to be integrated into global value chains.

Figure 64: Share of exported domestic value added in total domestic value added, 2013, %

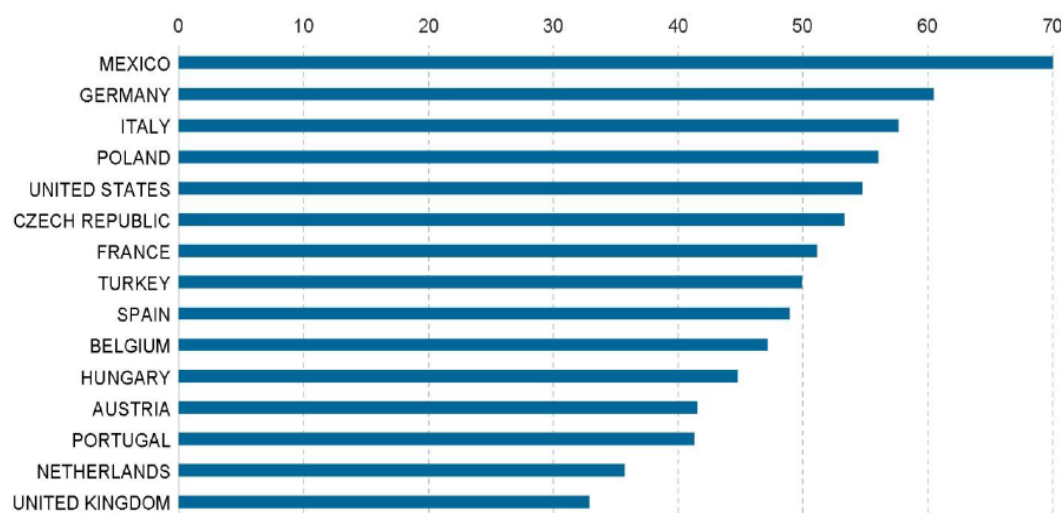
Note: "Total" refers to all exports (direct and indirect)

Source: Statistics Denmark (2017)

SME indirect exports tend to be sold to large firms in some EU Member States and to other SMEs in other EU Member States.

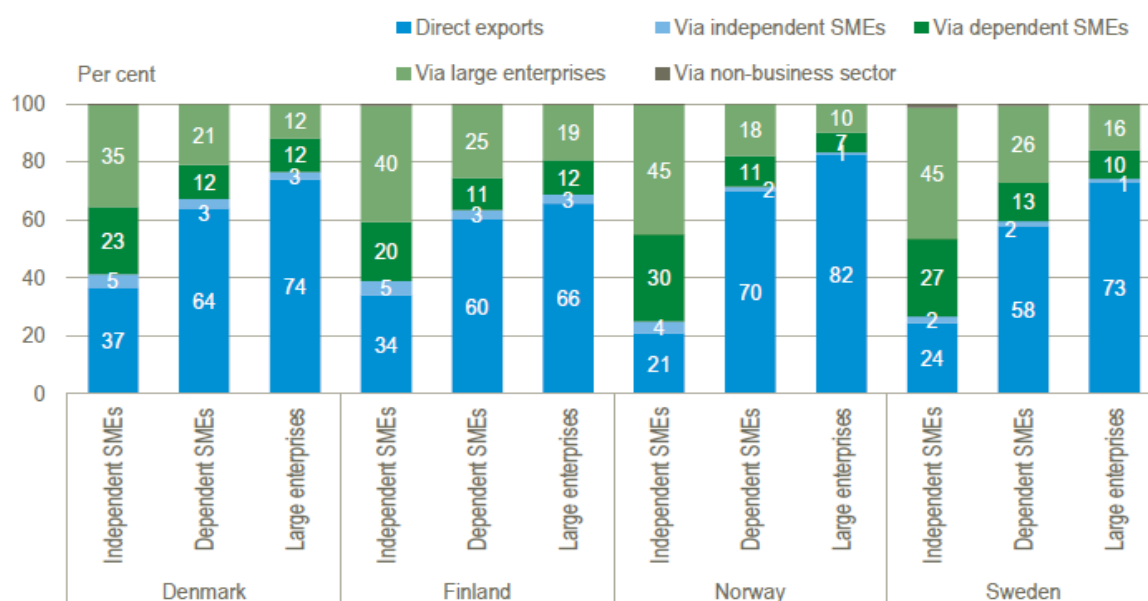
- The OECD and the World Bank (2015) found that in CZ, DE, FR, IT and PL more than 50% of SME upstream exports were sold to large firms (Figure 65).
- In contrast, in AT, BE, ES, HU, NL, PT and the UK, the majority of SME upstream exports were sold to other SMEs. In fact, in the UK, fewer than 35% of upstream exports were sold to large firms by SMEs (Figure 65).

Figure 65: SME upstream exports through large firms, share of total exports of value added by SMEs, 2009, %



Source: OECD and World Bank (2015)

Figure 66: Exported domestic value added, by firm type and channel to foreign markets, 2013



Note: Indirect exports via SMEs (dependent and independent),
Source: Statistics Denmark (2017)

The vast majority of indirect exports sold to SMEs are sold to dependent SMEs.

- For DK, FI and SE, Statistics Denmark (2017) break down the data on whether upstream exports are sold to large firms or SMEs by distinguishing between indirect exports sold to dependent SMEs and those sold to independent SMEs. These results show, strikingly, that approximately 80% of indirect exports sold to SMEs are sold to dependent SMEs in DK and FI, while this figure is even higher for SE (Figure 66). For independent SMEs, therefore, dependent SMEs are an important channel to reaching foreign demand.

SME indirect exports account for a significant share of total export of business services.

- Over 20% of value added exports of business services in BE, CZ and HU were indirect SME exports in 2009 (Figure 67).
- In nine other Member States (AT, DE, ES, FR, IT, NL, PL, PT and the UK), indirect exports by SMEs accounted for between 15% and 20% of value added exports of business services (Figure 67) (OECD and World Bank, 2015).

Figure 67: SME share of total domestic value added of exports, business services, 2009, %



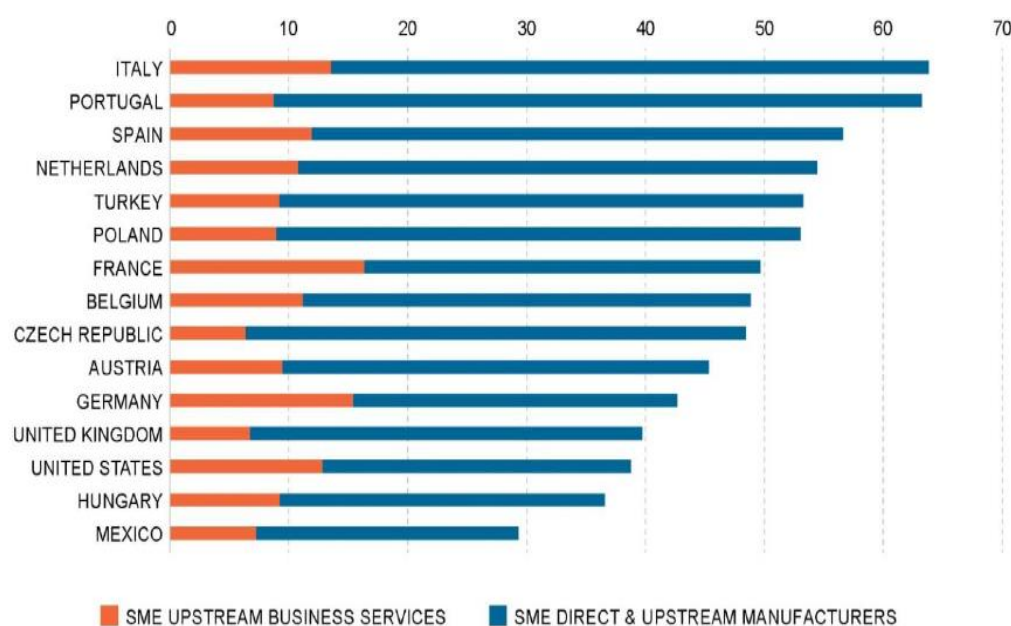
Note: 'SME direct' refers to direct exports by SMEs, 'SME service' refers to exports through other SMEs in the service sector and 'SME other industry upstream' refers to indirect exports of SMEs in other industries

Source: OECD and World Bank (2015)

In addition, SME service providers accounted for over 10% of all exported manufacturing value added through upstream service provision in several Member States. As a proportion of value added exports in manufacturing in 2009, SME provision of upstream business services was between 10% and 20% in BE, DE, ES, FR IT and NL (Figure 68) (OECD and World Bank, 2015).⁴⁷

⁴⁷ For CZ, HU, PT, PL and the UK, the figure was between 5% and 10%.

Figure 68: SME share of total domestic value added of exports, manufacturing, 2009



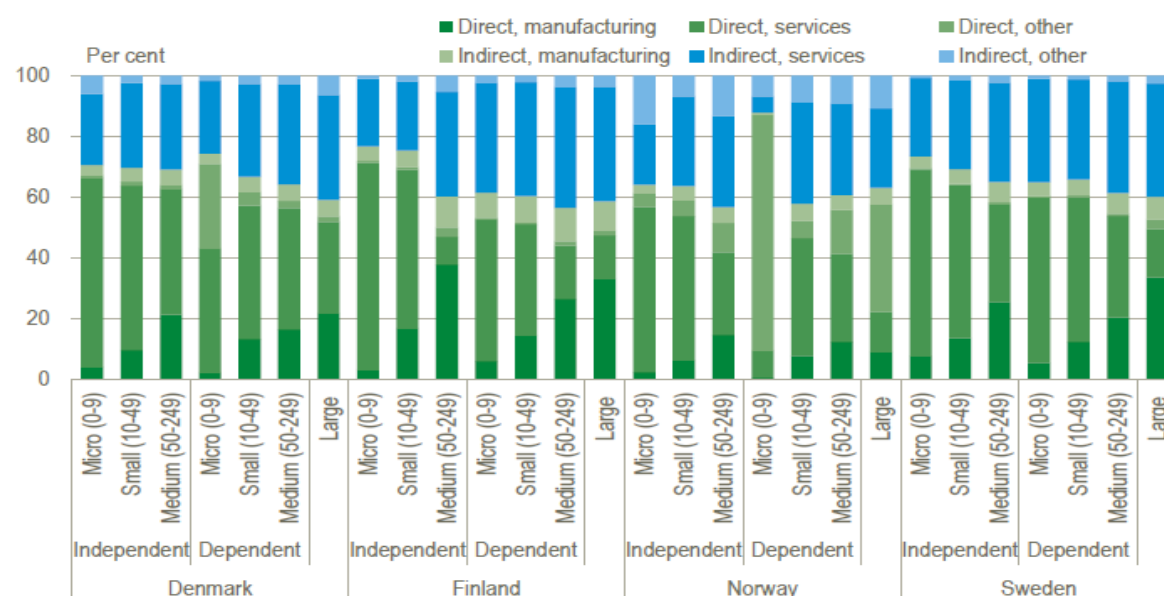
Source: OECD and World Bank (2015)

More recently, KfW Research (2016) found that 18% of all manufacturing turnover in DE in 2014, generated domestically or abroad, was accounted for by indirect exports by SMEs.

However, only 2.7% of all services turnover in DE in 2014 was accounted for by indirect exports by SMEs (although it should be noted that the focus of this study was on SMEs with between 20 and 499 employees).

Service sector value added content of SME indirect exports is relatively high compared to manufacturing sector value added content. In DK, FI and SE, across SME size and ownership types (independent/dependent), services - as opposed to manufacturing - accounted generally for two thirds or more of indirect export value added in 2013 (Figure 69) (Statistics Denmark, 2017).

Figure 69: SME share of total domestic value added of exports from Scandinavia, manufacturing, 2009



Source: Statistics Denmark (2017)

7.2 How do SMEs active in industries characterised by low export intensity benefit from growth in international trade?

The previous section highlighted how SMEs can participate in the global economy by being part of a global value chain, i.e. export their goods and services indirectly by selling their products to other enterprises which are themselves trading internationally.

Another channel through which SMEs operating in low export intensity industries benefit from the growth in global demand is the multiplier effect. Any exporting enterprise will require additional materials and services when new orders come from abroad. In turn, these exporting enterprises will issue new orders for additional materials and services. These new orders may benefit enterprises in low export intensity sectors either directly or indirectly when enterprises receiving the new orders from the exporting firms themselves require additional materials and services.

In addition, employment in the exporting enterprises, and in all the enterprises benefiting directly or indirectly from the additional activity at the exporting firms, will be higher than it would have been in the absence of the new export order. As a result, earning power increases in the economy as a whole, resulting in further increases in demand in many industries.

The combined effect of all these changes is summarised by the multiplier in Table 16 which shows, for each of the low export industries, the overall impact of an increase in demand addressed to one of the high export intensity industries. The multiplier is measured as the impact of an increase of €1 million in the demand for each of the high export intensity industries and can be scaled for any size increase in demand by simply multiplying the increase in demand using the multiplier.

The data reported in Table 16 show that even low export intensity industries benefit to some extent from increases in exports by enterprises in high export intensity industries. Among these low export intensity industries, the sectors 'construction', 'electricity, gas, steam and air conditioning supply', 'land transport and transport via pipelines', 'real estate activities', 'retail trade, except of motor vehicles and motorcycles' and 'repair and installation of machinery and equipment' are those sectors which most benefit indirectly from an increase in foreign demand addressed to various export intensive industries.

Many of these sectors are characterised by a large share of SME value added and employment in total sector value added and employment. As shown in Table 15, in all but one of these 5 sectors, SMEs account for more than half of the value added generated by the sector and 60% or more of the sector's employment. It is therefore very likely that the indirect impact of the increase in exports by enterprises in the high export intensity industries on the each of the low export intensity industries will benefit SMEs in these latter industries.

Table 15: SMEs' share of sectoral value added and employment

	SMEs' share of sectoral value added	SMEs' share of sectoral employment
Repair and installation of machinery and equipment	63%	71%
Electricity, gas, steam and air conditioning supply	27%	24%
Construction	81%	88%
Retail trade except of motor vehicles and motorcycles	51%	60%
Land transport and transport via pipelines	57%	70%

Source: Eurostat

Table 16: Multiplier impact of increases in demand addressed to high export intensity industries on value added of very low export intensity industries - increase in value added (in EUR) in each low export intensity industry resulting from a EUR 1 million increase in exports by a high export intensity industry

	High export intensity industries								
	Manufacture of basic pharmaceutical products and pharmaceutical preparations	Manufacture of electrical equipment	Manufacture of machinery and equipment n.e.c.	Water transport	Manufacture of chemicals and chemical products	Air transport	Manufacture of motor vehicles, trailers and semi-trailers	Manufacture of computer, electronic and optical products	Manufacture of other transport equipment
Very low export intensity industries									
Electricity, gas, steam and air conditioning supply	7,393	8,810	10,069	4,962	14,639	5,574	8,431	3,534	6,026
Land transport and transport via pipelines	5,882	8,048	8,821	13,371	9,192	8,765	8,295	3,677	5,510
Real estate activities	5,496	6,568	7,566	7,411	4,631	6,860	6,479	3,545	4,940
Retail trade, except of motor vehicles and motorcycles	5,130	6,028	5,575	2,582	5,470	3,136	7,056	3,438	4,222
Construction	3,817	4,443	5,223	6,270	4,107	5,297	3,944	2,082	4,154
Employment activities	3,626	4,417	5,414	4,700	2,532	3,590	4,434	2,361	5,054
Telecommunications	2,379	2,283	2,613	2,850	1,875	2,876	1,946	1,693	1,983
Wholesale and retail trade and repair of motor vehicles and motorcycles	2,104	2,921	4,579	2,928	2,098	3,206	11,898	1,493	3,370
Postal and courier activities	2,014	1,925	2,060	1,449	1,501	1,511	1,380	1,020	960
Repair and installation of machinery and equipment	1,983	5,199	6,689	6,794	3,185	11,558	5,239	2,102	12,815
Accommodation and food service activities	1,627	1,753	2,018	3,014	1,356	5,929	1,378	1,150	1,559
Publishing activities	1,478	993	1,102	968	879	1,119	973	641	824

	High export intensity industries								
Very low export intensity industries	Manufacture of basic pharmaceutical products and pharmaceutical preparations	Manufacture of electrical equipment	Manufacture of machinery and equipment n.e.c.	Water transport	Manufacture of chemicals and chemical products	Air transport	Manufacture of motor vehicles, trailers and semi-trailers	Manufacture of computer, electronic and optical products	Manufacture of other transport equipment
Printing and reproduction of recorded media	1,439	905	977	824	956	976	879	530	661
Motion picture, video and television programme production, sound recording and music publishing activities; Programming and broadcasting activities	1236	711	752	755	682	876	650	467	686
Travel agency, tour operator and other reservation service and related activities	735	645	770	6511	527	12222	611	352	765
Water collection, treatment and supply	320	298	328	242	465	223	283	144	229

Note: The multiplier is the impact of an increase of €1 million demand addressed to a high export intensity industry. The analysis was done using the Eurostat EU-28 input-output tables⁴⁸.

Source: LE Europe, Eurostat

⁴⁸ See Eurostat (2008) Eurostat Manual of Supply, Use and Input-Output Tables for a good overview of input-output tables and multipliers.

7.3 Key takeaways from Chapter 7

Even if SMEs themselves are not exporting, they can participate indirectly in the global economy by being upstream suppliers of exporting firms. This indirect contribution of SMEs to the overall export performance of Member States is very important. For example, a recent OECD and World Bank report found that SMEs in nine EU Member States accounted for more than 50% of value added exports in 2009 (the most recent year for which such data are available) when indirect exports are taken into consideration.

Moreover, even if SMEs do not export and are not part of a global value chain, they benefit indirectly from increases in foreign demand met by domestic enterprises, as domestic economic activity and spending on goods and services is boosted when exporting enterprises increase production and sales.

8. What are the factors which drive or impede the internationalisation of SMEs

This chapter first presents the results of a survey on the reasons why so many SMEs do not export. This survey was addressed to SME associations and export promotion agencies and organisations.

The second section provides an overview of the key findings of a statistical analysis of the characteristics of exporters. The analysis uses information from a number of micro databases of national statistical agencies and the micro databases of the Survey on Access to Finance (SAFE), the 2014 Community Innovation Survey (CIS), and the Flash Eurobarometer 2015 on the internationalisation of SMEs. Both the SAFE and the CIS provide some information on the involvement of SMEs in exports.

The third section summarises the key points emerging from eight cases studies on SMEs which are exporting and five case studies on the potential of online platforms as a route to foreign markets for SMEs.

8.1 Results of the survey of SME associations and export promotion agencies and organisations

As background information for the discussion of the internationalisation of SMEs and the issues faced by SMEs, a short online survey of SME associations and export promotion agencies and organisations was run in June-July 2018. Twenty four trade promotion agencies and 16 SME associations fully or partially completed the survey in that time period.

The survey focused on the reasons why SMEs do not export and distinguished between:

- reasons related to knowledge about foreign markets
- reasons related to actual or perceived external barriers to SME exports
- reasons related to barriers which are internal to the SME

8.1.1 *Reasons related to knowledge about foreign markets*

In terms of reasons related to knowledge about foreign markets, the majority of respondents are of the opinion that 'lack of knowledge about foreign markets', 'lack of awareness of the opportunities such markets offer', and 'lack of understanding of economic developments outside the home country' are important or very important reasons why SMEs do not export or do not even contemplate exporting (Table 17).

None of the stakeholder groups believe that 'lack of interest in exporting due to the fact the domestic market offers enough opportunities' is an important or very important factor in explaining the lack of exporting activities by SMEs.

8.1.2 Reasons related to actual or perceived external barriers to SME exports

In terms of external barriers faced by SMEs when wishing to start exporting, the following factors are viewed as important or very important by the majority of stakeholders in explaining why some SMEs do not export (Table 17):

- 'having a broad understanding of the rules to be followed in foreign markets but finding that the administrative procedures are too complicated'
- 'not knowing the rules which have to be followed'
- 'dealing with foreign taxation issues is too complicated'
- 'resolving cross-border disputes and complaints is viewed as too expensive'
- 'identifying business partners abroad is viewed as too difficult'.

In sharp contrast, only a minority of stakeholders are of the opinion that 'cost of delivery to a foreign market' or 'lack of rule of law' or 'corruption' are major factors holding back SMEs from exporting.

Table 17: Reasons why SMEs do not export – reasons related to knowledge about foreign markets and reasons related to actual or perceived external barriers to SME exports

Reason(s) why SMEs do not export			
Reasons related to knowledge about foreign markets		Reasons related to actual or perceived external barriers to SME exports	
Reason	Average percentage of respondents who rated the reason as 'important' or 'very important'	Reason	Average percentage of respondents who rated the reason as 'important' or 'very important'
Do not know where to find information about foreign markets	57.8%	Have a broad understanding of the rules to be followed in foreign markets but find that the administrative procedures are too complicated	68.3%
Not aware of the potential opportunities offered by foreign markets	55.0%	Do not know the rules which have to be followed	63.9%
Do not have a good understanding of general economic developments outside of their home country	54.1%	Dealing with foreign taxation issues is too complicated	63.2%
Not interested in foreign markets because the home market offers sufficient opportunities	25.0%	Resolving cross-border disputes and complaints is too expensive	57.9%
		Identifying business partners abroad is too difficult	52.8%
		Delivery costs are too high	27.9%
		Lack of rule of law	19.1%
		Corruption	17.8%

Source: LE Europe

8.1.3 Reasons related to barriers which are internal to the SME

The majority of stakeholders believe that 'not having specialised staff to deal with exports', 'large investment required to serve foreign markets' and 'lack of language skills to deal with foreign countries' are important or very important factors explaining why many SMEs do not export (Table 18).

In contrast, only a small proportion of survey respondents believe that ‘perceived lack of product or service competitiveness in foreign markets’, ‘lack of an appreciation of the need to export as the domestic market offers sufficient opportunities’, ‘lack of interest in expanding the business activities’ or ‘perception that the product or service is specific to the home country and is not exportable’ are important or very important factors.

Table 18: Reasons why SMEs do not export – reasons related to internal barriers

Reason(s) why SMEs do not export			
Reasons related to internal barriers			
Reason	Average percentage of respondents who rated the reason as ‘important’ or ‘very important’	Reason	Average percentage of respondents who rated the reason as ‘important’ or ‘very important’
Do not have specialised staff to deal with exports	63%	Product or service would not be competitive in foreign markets	28%
Investment required to serve foreign markets is too high	59%	Do not see the need to export as their domestic market offers sufficient opportunities	18%
Lack the language skills to deal with foreign countries	55%	Not interested in expanding their business activities	17%
		Product or service is specific to home country and is not exportable	15%

Source: LE Europe

8.2 Key findings from the statistical analysis of various micro databases

The key findings are presented below and additional details on the results of the statistical analysis are provided in special chapters in the Background Document accompanying the Annual Report. These findings are grouped by key factors which may impact on the likelihood that an SME will export and/or the importance of its export activities.

The proportion of exporting SMEs varies somewhat across the various databases, ranging from 42% to 54%. However, in all cases they show that a large proportion of SMEs do not export at all. Most of the SMEs are regular exporters, i.e. they export over a period of more than one year.⁴⁹

Does belonging to a group matter?

Having a foreign parent increases the likelihood that an SME will export. This is especially the case for young firms.

Does age matter?

Older firms are more likely to export, with age being more important for SMEs which are branches and subsidiaries than for independent SMEs.

Does size matter?

SMEs with higher turnover are more likely to export and are more export intensive, especially independent SMEs.

⁴⁹ As the Eurobarometer survey covered only one year, it is not possible to ascertain from this survey whether SMEs export regularly. In the SAFE survey, % of exporting SMEs are regular exporters.

Does the sector in which SMEs are active matter?

SMEs operating in industry are more likely to export and to export a larger share of their output than firms operating in trade, construction, or services.

Moreover, SMEs that produce goods only and goods and services are more likely to export than those which produce only services.

SMEs which sell to individual consumers only, and individual consumers and companies or other organisations, are less likely to export than those which sell to companies or other organisations only.

Does innovation matter?

The introduction of a new or significantly improved product to the market or a new or significantly improved production process are both associated with a higher likelihood of exporting, especially in the case of SMEs which have undertaken product and process innovations.

This observation applies to all SMEs but is more important for independent SMEs.

Does cooperation matter?

Most SMEs which participate in innovation cooperation do export.

SMEs cooperating within their group mainly tend to export to the EU and other European countries, especially if the cooperation is domestic or European-based.

A large proportion of SMEs co-operating with suppliers export, mainly to the EU and other European countries.

Does growth ambition matter?

Firms which expect to grow in the next two or three years are more likely to export than firms which expect their turnover to remain constant. The latter, in turn, are more likely to export than firms which expect their turnover to decrease.

Which problems faced by exporters matter?

SMEs which consider 'finding customers in general' as an important problem are more likely to export, but are less export intensive than SMEs which do not report this problem.

SMEs which, in general, consider 'competition' as an important problem are less export intensive.

Among independent SMEs, 'lack of specialised staff to deal with exports', and 'specificity of products to the domestic market' are the problems that most reduce the probability of exporting. Along with 'not knowing the rules that have to be followed', these factors are the ones with the most significant negative impacts for SMEs which are not part of a group.

8.3 Main takeaways from case studies

Eight case studies were undertaken of exporting SMEs, operating in a variety of sectors, from Bulgaria, Denmark, Finland, France, the Netherlands, Slovenia, Sweden and the United Kingdom, and also five case studies of online platforms and some SMEs using such platforms, in order to gain a deeper understanding of the challenges SMEs face, either when entering export markets or exporting as part of their ongoing activities. Details of these case studies are provided in the Background Document.

While each of the case studies highlights issues and challenges which are specific to the individual SME, a number of common observations emerge from some or all of the case studies:

1. A number of case studies highlight the importance of finance/funding in general to develop their activities and hence their ability to export.
2. A number of case studies also highlight the importance of overall public support and assistance for the development of their SME. Again, this is not specific to exporting, but being a strongly performing SME seems to be a precondition of entering a foreign market.
3. With regard to exports, the case studies highlight the importance of programmes which help SMEs to gain access to foreign markets and to find the right partners (through information, visits, networking, etc.).
4. A number of case studies also highlight the fact that the managers of SMEs are generally very time constrained and that any assistance or programme which reduces the time cost of entering a new market is useful.
5. Finally, the online platform case studies show very clearly how such platforms can help SMEs to a) find customers throughout the world at a relatively low cost, and b) depending on the services provided by the platform, to overcome a number of the issues and complexities faced by any SME entering a foreign market.

8.4 Key takeaways from chapter 8

SMEs choose not export for a variety of reasons, some of which are external to the enterprise and some of which are internal.

Among the most important external reasons are 'lack of knowledge about foreign markets', 'lack of awareness of the opportunities such markets offer', 'lack of understanding of economic developments outside the home country', 'lack of understanding of regulatory and legal environment of foreign markets', 'perceived costs of resolving cross-border disputes and complaints' and 'difficulties in finding business partners'. The key internal barriers are 'lack of staff specialised in dealing with export issues and language skills' and the 'size of the investment required to serve foreign markets'.

The proportion of exporting SMEs varies somewhat across the various databases, ranging from 42% to 54%. However, in all cases, they show that a large proportion of SMEs do not export at all. Most of the SMEs are regular exporters.

According to the statistical analysis, the key factors which increase the likelihood of an SME exporting are: belonging to a group, being older, being large (in terms of turnover) and / or having the ambition to grow, being active in the goods sector, selling to other businesses or organisations, and being innovative.

9. How do the free trade agreements signed by the European Union impact on SMEs?

This chapter briefly describes the potential impacts of Free Trade Agreements on exporting firms and examines SME export patterns to countries with which the EU has signed a Free Trade Agreement.

9.1 Potential impacts of Free Trade Agreements

Within its trade policy, the European Commission pursues the negotiation and implementation of free trade agreements (FTAs) with various world countries and regions. By eliminating protective tariffs abroad or by reducing the costs of non-tariff measures, FTAs are effective policy tools, which help SMEs to enter international markets.

The published impact assessment reports (conducted prior to signing FTAs) show among other things, the potential effects of the FTAs on SMEs. The assessment of the impact on SMEs of a new FTA proposed by the European Commission is a required element of a wider impact assessment and provides mostly a qualitative assessment.

No study exists which quantifies the benefits to EU SMEs of the whole scope of existing FTAs; a lack of relevant data is among the reasons for this. Such an empirical task goes beyond the scope of the current report as well. Nonetheless, some descriptive statistics are presented, which are used to assess approximatively the impact of the existing FTAs on European SMEs. This analysis may stimulate further research on this issue.

FTAs can positively affect SMEs both directly and indirectly. Exporters and importers benefit directly from the removal of tariff barriers (tariffs and quotas). Moreover, easier licensing and certification rules, as well as the simplification of specific customs procedures (e.g. advance rulings, customs valuation, rules on split containers, approved economic operator status, etc.), which are usually achieved via FTAs, reduce the burden of non-tariff barriers to trade (NTBs), and consequently should increase the ability of SMEs to export.

Protection of IP rights, which is an important issue in any FTA negotiated by the European Commission, is also relevant for European SMEs deciding whether or not to enter foreign markets. In particular, SMEs engaged in trade of products protected by a Geographical Indication (GI) and/or Protected Designation of Origin (PDO) rely on protection by the relevant provisions stipulated in FTAs. As a result, IP protection should provide encouragement to SMEs to export. FTAs create further benefits from simplification effects, which are particularly advantageous for SMEs because they reduce the fixed costs of exporting.

The reduction of tariffs and the removal of quotas and NTBs facilitates trade, and therefore creates more economic growth, leading to a rise in job creation opportunities and an increase in welfare gains.

However, the level of awareness among SMEs and their access to information about trade opportunities may be insufficient. To overcome such challenges, the implementation of appropriate information and coordination structures for lawmakers and the business community fosters the availability of support to potential export candidates and also to better information on foreign markets (e.g. on product requirements on the other markets etc.).

9.2 SMEs and Free Trade Agreements

SMEs may also fear increased competition for their products and services in their domestic markets or increased production costs related to complying with new rules and regulations associated with enforcement of FTAs between their countries and the EU. However, only an extensive statistical analysis would provide clarification as to whether such fears are justified and to what extent the benefits outweigh the costs arising from a single FTA. Such an analysis is not available at the present time.

International organisations, such as Eurostat and the OECD, have recently started to compile information about bilateral trade flows disaggregated by enterprise size classes. Unfortunately, these data are still very fragmentary and cover only a very short time period.

The most recent available data represent less than half of EU Member States and cover only two years (2014 and 2015), so it is not possible to identify any trends with any degree of confidence. Nevertheless, an analysis comparing trade figures of regions which enjoy free trade regimes with trade statistics for the rest of the world (RoW), can provide some preliminary findings about the effects of FTAs, including the impact on SMEs.

The major indicators of interest are summarised in Table 19. What we discuss here are the FTAs that cover about a fifth of total EU exports; they are represented in the white coloured rows of Table 22. The list of FTA regions presented is, however, not exclusive. There are other world regions/countries, such as the Western Balkans and South Korea, which have FTAs with the EU; however, current data availability does not allow an SME-specific analysis in these cases.

On average, SMEs are responsible for 35% of total direct exports to FTA partners. This share is more than 10 percentage points higher than the SME share of exports to the RoW (the last row of Table 19). Consequently, FTAs may have facilitated trade in some way that has enabled the share of total exports by SMEs to increase.

Between 2014 and 2015, exports by SMEs to the represented FTA partners showed overall higher growth than SME exports to non-FTA countries. In addition to a comparison with the RoW, comparative indicators of SME exports to the regions neighbouring the FTA partners are offered in Table 19 (grey rows), as we are trying to avoid inference bias⁵⁰. In nominal volumes, SME exports to CH, IS and NO grew by 8%, and SME exports to TR grew by 11%, whereas SME exports to the rest of non-EU Europe fell by 1%⁵¹. Similarly, in 2015, SME exports to the FTA partners of

⁵⁰ Due to the lack of historic data on SME exports, it is impossible to completely rule out bias. It is therefore not clear whether the SMEs were already performing better while exporting to the FTA partners even before signing the FTA agreements.

⁵¹ This is even excluding a sharp decrease in trade with Ukraine and Russia between 2014 and 2015 because of trade sanctions against Russia and the economic downturn in Ukraine in that period.

Northern Africa, namely, DZ, EG, MA and TN⁵², were 15% higher than in the year before, whereas in the rest of Africa this indicator grew by only 11%⁵³.

Even better developments can be observed for SME exports to FTA partners in Central and South America as well as to Caribbean countries. Exports by SMEs to Mexico and Chile grew solidly by 20% and 25%, respectively. SMEs also report healthy export growth to other countries of South America, but at a lower rate of 12%.

Overall, the number of SMEs exporting to all FTA partners listed in Table 19 grew by 4% between 2014 and 2015, whereas it did not change or even decreased for neighbouring regions.

These data observations suggest that FTAs signed by the EU may play a significant role in the expansion of export activities of EU SMEs. At this point in time, unfortunately, it is not possible to conduct a similar comparison of import flows from FTA partners vs. import flows from the RoW because of lack of data.

In addition to the points presented above, the dynamics of exports by economic sector may allow some inferences to be made regarding the impact of FTAs on SMEs. Indeed, the potential for SMEs to benefit from FTAs differs between sectors.

The impact of any FTA on SMEs is often considered as a cross-cutting issue: SMEs are particularly affected if the economic sector in which they operate is affected. As an example, SMEs are highly represented in the sector of *wholesale and retail trade, repair of motor vehicles and motorcycles*: in 2017, EU SMEs accounted for more than 86% of total value added at factor cost created by this sector. As FTAs facilitate trade and the sector as a whole shows positive development, there may therefore be great potential for SMEs in this sector to benefit directly⁵⁴. For example, a 24% year-on-year growth between 2015 and 2014 in this sector in exports to Central American and Caribbean countries would be likely to result in positive growth of exporting SMEs in this sector. However, separating SMEs from sectoral trade is not possible at the moment due to lack of data.

The indirect participation of SMEs in trade (supply of goods and services to domestic firms that export) as well as their participation in global value chains (GVCs⁵⁵) have also received the attention of researchers and are considered to be positively affected by FTAs; the relevant impacts are, however, hard to measure. Besides, there is abundant evidence in the literature about the positive impact of open trade on innovation and the indirect positive impact of innovation on domestic SMEs which do not export.

When comparing small and large enterprises entering foreign markets, studies show that small firms initially tend to have a lower chance of surviving as exporters. Nevertheless, they grow more quickly than large firms if they do survive.

SMEs tend to respond faster and more flexibly to new market conditions than large firms, thereby playing an important role in the creation of new exports (WTO,

⁵² DZ, EG, MA and TN stand respectively for Algeria, Egypt, Morocco and Tunisia.

⁵³ The rest of Africa here also covers the countries of ESA (East and South Africa), such as Madagascar, Mauritius, the Seychelles, and Zimbabwe, with which the EU signed the Economic Partnership Agreement, provisionally brought into force in 2012. This number may be much lower with non-FTA Africa.

⁵⁴ On the other hand, as the sectors of *machine building* and *production of chemicals* often report benefits from FTAs in terms of increased productivity, modernisation and competitiveness, SMEs are often not directly affected as their representation in these sectors is very small.

⁵⁵ GVCs refer to trade of goods and services along the production and distribution networks that are fragmented across countries.

2016⁵⁶). Although SMEs are less active in undertaking R&D, their innovation strategies tend to consist of minor adaptations of existing products, innovation in designs, modes of delivering services or management and marketing practices (Fernández-Ribas, 2010⁵⁷).

As freer international trade may be particularly beneficial to SMEs which are currently exporting or are deterred from engaging in international trade, the FTAs negotiated nowadays by the European Commission include a specific SME chapter. As part of the agreement, both the EC and the country with which the FTA is concluded commit to increase market access information through a dedicated website and to establish dedicated SME contact points to manage the issues raised in the SME chapter and to deal with issues relevant to smaller companies in other areas of the agreement.⁵⁸

9.3 Key takeaways from Chapter 9

The bilateral trade data on trade between the EU and non-EU countries do not provide information on the evolution of exports by enterprise size class post-implementation of the FTAs signed by the European Union. However, an analysis of aggregate exports from the EU to the FTA signatory countries shows that these exports have grown faster than to countries from the same region which have not signed an FTA with the European Union. It is therefore very likely that SMEs have benefited from the FTAs signed by the European Union.

Moreover, the FTAs which are currently being negotiated by the European Commission include a special FTA chapter whose provisions aim to ensure that SMEs will benefit from the new opportunities opened up by the FTAs.

⁵⁶ The World Trade Organization (2016). World trade report: Levelling the trading field for SMEs.

⁵⁷ Fernández-Ribas, Andrea (2010). International patent strategies of small and large firms: An empirical study of nanotechnology. Review of Policy Research. Volume 27, Issue 4, 457-473.

⁵⁸ See, for example, SME chapter of EU-Japan FTA available at:
http://trade.ec.europa.eu/doclib/docs/2018/august/tradoc_157228.pdf#page=503

Table 19: Involvement of European SMEs in exports - comparative indicators*

Region	Share of the region in total extra-EU exports, % in 2015	Share of SMEs in exports with the region, % in 2015	Total exports, % change 2015 /2014	Exports by large enterprises % change 2015 /2014	Exports by SME, % change 2015 /2014	Number of exporting SMEs, % change 2015 /2014
Iceland, Norway, Switzerland ¹	8.77%	34%	6%	5%	8%	3%
Turkey ²	3.28%	30%	7%	5%	11%	3%
Other European non-EU countries**	17.11%	36%	-4%	-6%	-1%	0%
Algeria, Egypt, Morocco, Tunisia ³	2.33%	45%	7%	1%	15%	4%
Other African Countries***	4.89%	42%	-1%	-7%	11%	-2%
Mexico ⁴	1.60%	32%	17%	15%	20%	7%
Central America and Caribbean ⁵	2.27%	37%	21%	18%	25%	5%
Chile ⁶	0.39%	35%	16%	11%	25%	6%
Other countries of South America****	2.87%	33%	-4%	-10%	12%	-4%
Israel ⁷	0.65%	31%	8%	3%	15%	5%
All extra-EU trade, except the FTAs named above	80.71%	24%	5%	3%	13%	n.a.

* Due to data limitations, European exports cover only 13 European countries, namely Austria, Belgium, Czech Republic, German, Latvia, Lithuania, Netherlands, Poland, Portugal, Romania, Slovenia, Spain and United Kingdom.

** The countries of the Western Balkans are included here. Although these countries enjoy free trade with the EU, there is no available data on SME involvement in trade with these countries. Russia and Ukraine have not been included in order to avoid misleading data. A sharp decrease in trade volume with these countries is due to the trade sanctions towards Russia, the economic recession in Ukraine and the loss of data quality due to the annexation of the Crimea peninsula and the war conflict in the eastern territories of Ukraine.

*** Countries of the Southern African Development Community (SADC) also enjoy free trade with the EU via the Economic Partnership Agreement. As the agreement was only signed in June 2016, these countries are not excluded from the rest of Africa here (the countries are Angola, Botswana, Lesotho, Mozambique, Namibia, South Africa, and Swaziland). Expanding trade relations between the EU and SADC should be expected in the years to come.

**** Peru, Colombia and Ecuador are included here although the FTA has been provisionally applied since 2013. Unfortunately, it is not possible to separate the data for these countries.

¹ Iceland, Norway and Switzerland signed an agreement on the European Economic Area with the EU, in force since 1994.

² EU-Turkey Customs Union agreement has been in force since 1996.

³ These four Northern African countries signed Association Agreements (AAs) with the EU, which remove trade restrictions (EU-Algeria AA came into force in 2005; EU-Egypt, in 2004; EU-Morocco, in 1998; and EU-Tunisia, in 2001).

⁴ Free trade is provided via the Economic Partnership, Political Coordination and Cooperation Agreement between the EU and Mexico. It entered into force in 2000.

⁵ Two agreements are in force:

(1) EU-Central America Association Agreement, provisionally applied since 2013 (includes Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama; Belize does not take part in this agreement, it is in CARIFORUM)

(2) CARIFORUM-EU Economic Partnership Agreement, provisionally applied since 2008 (covers Belize, Guyana, Surinam, all Caribbean countries except Cuba and Haiti).

⁶ EU-Chile Association Agreement and Additional Protocol came into force on 1 March 2005.

⁷ EU-Israel Association Agreement came into force in 2000.

Source: DIW Econ

10. Foreign direct investment and SMEs

The present chapter examines the factors which explain why and when SMEs undertake FDI, using the microdata from the Eurobarometer 421 survey of 2015, and then reviews recent trends in aggregate SME FDI.

10.1 The factors explaining FDI by SMEs

The microdata used was collected as part of Flash Eurobarometer 421 on the internationalisation of SMEs, and the analysis focuses on the SMEs which have made investments abroad and the attributes of these SMEs. The survey covered approximately 500 firms in each of the 28 EU Member States.

The key findings are as follows. Firstly, only a small number of SMEs (4%) undertake FDI in the EU, although there is variation across Member States. SMEs employing 50-249 staff, with turnover exceeding €10m, with growth of more than 25% between 2008 and 2014 were more likely to undertake FDI than the average SME. Firms that are part of an international group were also more likely to undertake FDI, perhaps due to access to resources provided by other companies in the group.

While the above firm characteristics are all significantly more likely to result in an SME deciding to invest abroad, the results should be interpreted in the context of low levels of FDI activity by SMEs overall.

These findings result from both a descriptive and an econometric analysis. The main econometric results are robust with regard to weighted and unweighted data, cross-country differences of investing firms and consideration of EU or non-EU FDI destinations.

The remainder of this section presents in detail the analysis carried out.

10.1.1 Key characteristics of SMEs undertaking FDI

Table 20 shows the percentage of surveyed SMEs that have undertaken FDI, overall and by firm characteristics. In addition, if the percentage of SMEs that have undertaken FDI in any sub-sample (by firm characteristic) is statistically different from the percentage in the overall survey sample, it is coloured orange (blue) if the firm characteristic is more (less) associated with SME FDI than average. The results are given at the EU level and for individual Member States.

Overall, few of the SMEs surveyed had undertaken FDI. In the EU, on average, only 4% had made any FDI. However, the prevalence of FDI activity by SMEs was relatively more common in some countries, such as Luxembourg (10%), Malta (11%), Denmark and Austria (8% each).

Larger SMEs have a greater association with FDI activity than other SMEs. Medium-sized firms, employing 50-249 staff, are associated with FDI to a greater degree than average at the EU level and in several Member States. For example, 15% of medium-sized firms in the EU had made some form of FDI, as opposed to 4% of all SMEs surveyed. Similarly, firms with higher turnover (annually greater than €2m) are more likely to be associated with foreign direct investments.

Fast growing firms, namely, SMEs that have grown by 25% or more since 2008, are also associated with FDI to a greater extent than average.

In addition, firms that are part of an international group are more associated with FDI than other firms. 11% of SMEs that are part of an international group have made foreign direct investments, while, as noted previously, this figure is 4% across all surveyed SMEs.

There is some evidence of a relationship between FDI and sector groups at the level of individual Member States but not in the EU overall. In particular, manufacturing SMEs have a greater association with FDI in a number of countries (Denmark, Germany, Ireland and others).

No relationship was identified between firm age and FDI, with the exception of firms born between 2009 and 2014 (and surveyed in 2015) in Denmark and Poland, which are more associated with FDI.

Finally, firms with experience of other forms of internationalisation are more strongly associated with FDI than average.

Table 20 Characteristics of firms undertaking FDI - conditional distributions of SMEs undertaking FDI in terms of firm characteristics, EU-28 and individual States (%)

	Overall	Company size			Sectors grouped (NACE)				Turnover in 2014				Ownership type		
		1-9	10-49	50-249	Manu- facturing (C)	Retail (G)	Services (H/I/J/L/M/ N/R/Q/S)	Industry (B/D/E/F)	€100,000 or less	€100,000 to €500,000	€500,000 to €2 mil.	More than €2 mil.	Independ.- enterprise	Nat. group	Internat. group
EU	4%	3%	7%	15%	7%	4%	4%	2%	1%	3%	3%	7%	3%	3%	11%
AT	8%	8%	9%	16%	11%	9%	8%	-	-	10%	8%	8%	8%	3%	3%
BE	8%	8%	2%	17%	12%	8%	7%	6%	10%	10%	2%	12%	2%	6%	19%
BG	0%	-	2%	4%	0%	0%	0%	-	-	-	-	3%	0%	-	1%
CZ	5%	5%	3%	9%	0%	7%	7%	0%	0%	0%	6%	10%	4%	-	12%
CY	5%	5%	11%	26%	0%	5%	1%	13%	15%	4%	0%	1%	6%	2%	1%
DE	6%	6%	9%	13%	13%	6%	6%	5%	-	-	6%	7%	6%	13%	16%
DK	8%	7%	13%	25%	16%	8%	7%	6%	11%	3%	6%	12%	8%	7%	10%
EE	2%	1%	4%	7%	2%	1%	1%	3%	1%	0%	4%	7%	1%	11%	1%
EL	2%	2%	2%	6%	2%	3%	-	6%	5%	1%	0%	9%	2%	1%	45%
ES	3%	2%	4%	21%	2%	3%	2%	1%	0%	1%	0%	5%	3%	1%	1%
FI	4%	3%	7%	17%	3%	3%	8%	0%	-	31%	3%	3%	3%	9%	7%
FR	2%	1%	6%	16%	7%	0%	2%	-	-	2%	0%	6%	2%	0%	3%
HR	2%	1%	6%	25%	5%	1%	4%	4%	1%	2%	1%	2%	1%	0%	15%
IE	3%	2%	6%	24%	10%	2%	2%	4%	2%	2%	1%	17%	2%	18%	12%
IT	1%	1%	3%	17%	5%	0%	1%	0%	1%	-	3%	5%	1%	1%	1%
LV	3%	3%	7%	8%	8%	3%	3%	3%	-	6%	3%	4%	3%	2%	2%
LT	3%	3%	3%	10%	1%	3%	5%	3%	-	1%	4%	7%	2%	7%	10%
LU	10%	10%	5%	27%	3%	6%	15%	1%	11%	0%	16%	11%	5%	1%	38%
HU	4%	4%	5%	2%	1%	1%	14%	0%	0%	5%	3%	1%	4%	0%	9%
MT	11%	11%	7%	11%	59%	7%	11%	2%	0%	10%	0%	31%	6%	24%	22%
NL	2%	1%	7%	16%	10%	2%	1%	2%	-	4%	0%	5%	2%	0%	3%
PL	3%	3%	4%	5%	3%	5%	2%	3%	-	5%	8%	4%	3%	1%	18%
PT	5%	5%	7%	12%	6%	4%	14%	13%	-	27%	5%	3%	5%	5%	10%
RO	2%	2%	3%	-	-	1%	4%	6%	4%	2%	1%	1%	1%	11%	7%
SI	6%	6%	5%	6%	1%	8%	5%	4%	0%	-	6%	10%	5%	1%	21%
SK	4%	3%	4%	7%	5%	2%	8%	2%	3%	0%	3%	12%	4%	4%	11%
SE	11%	11%	16%	21%	25%	8%	15%	6%	6%	-	12%	11%	7%	11%	26%

	Overall	Company size			Sectors grouped (NACE)				Turnover in 2014				Ownership type		
		1-9	10-49	50-249	Manu- facturing (C)	Retail (G)	Services (H/I/J/L/M/ N/R/Q/S)	Industry (B/D/E/F)	€100,000 or less	€100,000 to €500,000	€500,000 to €2 mil.	More than €2 mil.	Independ.- enterprise	Nat. group	Internat. group
UK	2%	2%	6%	14%	9%	3%	1%	2%	1%	2%	0%	7%	2%	-	10%

	Overall	Company birth year (surveyed in 2015)			Change in turnover between 2008 and 2014					Overall international business activity				
		Before 2008	Between 2009 and 2014	2015	Increase >25%	Increase 5% to 25%	Same	Decrease 5% to 25%	Decrease >25%	Export	Import	R&D abroad	Worked as sub- contractor	Used sub- contractor
EU	4%	3%	7%	15%	7%	4%	3%	4%	2%	9%	7%	14%	13%	15%
AT	8%	8%	9%	16%	14%	2%	11%	9%	3%	12%	10%	28%	18%	22%
BE	8%	8%	2%	17%	9%	10%	5%	5%	10%	15%	11%	21%	20%	21%
BG	0%	-	2%	4%	0%	0%	0%	-	-	2%	3%	0%	2%	2%
CZ	5%	5%	3%	9%	6%	7%	0%	-	-	9%	7%	18%	10%	9%
CY	5%	5%	11%	26%	19%	1%	2%	1%	4%	12%	5%	18%	10%	11%
DE	6%	6%	9%	13%	5%	4%	8%	17%	10%	10%	10%	27%	19%	19%
DK	8%	7%	13%	25%	18%	7%	2%	2%	1%	13%	13%	21%	17%	16%
EE	2%	1%	4%	7%	4%	1%	0%	1%	4%	4%	4%	4%	12%	13%
EL	2%	2%	2%	6%	6%	1%	0%	2%	2%	1%	3%	13%	0%	7%
ES	3%	2%	4%	21%	5%	6%	0%	0%	2%	4%	4%	1%	11%	8%
FI	4%	3%	7%	17%	6%	1%	0%	1%	16%	5%	6%	7%	16%	10%
FR	2%	1%	6%	16%	1%	1%	1%	4%	-	11%	4%	5%	9%	6%
HR	2%	1%	6%	25%	2%	0%	0%	0%	3%	3%	3%	12%	15%	22%
IE	3%	2%	6%	24%	10%	2%	4%	-	4%	11%	5%	11%	11%	18%
IT	1%	1%	3%	17%	9%	1%	1%	0%	1%	8%	4%	5%	3%	36%
LV	3%	3%	7%	8%	2%	1%	2%	10%	-	4%	4%	4%	7%	8%
LT	3%	3%	3%	10%	7%	2%	0%	-	-	4%	3%	1%	15%	15%
LU	10%	10%	5%	27%	2%	23%	19%	1%	13%	11%	5%	44%	16%	15%
HU	4%	4%	5%	2%	6%	3%	5%	-	5%	6%	3%	15%	4%	9%
MT	11%	11%	7%	11%	34%	8%	5%	0%	0%	34%	16%	85%	34%	40%
NL	2%	1%	7%	16%	1%	4%	1%	3%	4%	5%	5%	8%	9%	11%

	Overall	Company birth year (surveyed in 2015)			Change in turnover between 2008 and 2014					Overall international business activity				
		Before 2008	Between 2009 and 2014	2015	Increase >25%	Increase 5% to 25%	Same	Decrease 5% to 25%	Decrease >25%	Export	Import	R&D abroad	Worked as sub- contractor	Used sub- contractor
PL	3%	3%	4%	5%	2%	0%	0%	14%	0%	8%	7%	9%	8%	17%
PT	5%	5%	7%	12%	4%	10%	0%	4%	3%	11%	7%	5%	18%	13%
RO	2%	2%	3%	-	5%	3%	6%	1%	3%	7%	3%	15%	6%	10%
SI	6%	6%	5%	6%	10%	1%	6%	5%	0%	8%	8%	32%	15%	21%
SK	4%	4%	5%		7%	3%	6%	5%	3%	8%	7%		13%	14%
SE	11%	11%	16%	21%	16%	7%	17%	1%	13%	22%	18%	30%	31%	20%
UK	2%				11%	1%	0%	7%	-	11%	6%	13%	4%	14%

Source: Flash Eurobarometer 421

10.2 Key findings of an econometric analysis of the determinants of FDI by SMEs

The estimation results reported in Annex 16 show that larger SMEs were between 22.4% (in the case of small firms) and 53.6% (in the case of medium-sized firms) more likely to undertake FDI than the base category of SME. For medium-sized firms therefore, it would be expected that for every 100 SMEs not undertaking FDI, there would be an additional 5.4 SMEs that are undertaking FDI.

Other key findings include the following:

- Firm age did not influence the likelihood of an SME undertaking FDI.
- The only sector group with a low likelihood of undertaking FDI was the 'Industry' sector group. Firms involved in activities such as mining and construction were 32.1% less likely to invest abroad than SMEs in the base category.
- Firms with an annual turnover of between €0.5m and €2m were 31.8% less likely than the base category of SME to undertake FDI, and this effect was significant at the 1% level. Other relatively low turnover firms (firms with turnover of between €50,000 and €0.5m) were also less likely than the base category of SME to undertake FDI but these effects were only significant at the 10% level. Firms turning over more than €2m were more likely to undertake FDI, with firms with revenues of over €10m, in particular, being over two and a half times more likely to undertake FDI than the base category of SME.
- High growth firms were also more likely to undertake FDI. Firms which grew 25% or more between 2008 and 2014 were 62.8% more likely than the base category of SME to invest abroad.
- Finally, firms that are part of an international group were more likely to undertake FDI, perhaps due to access to resources provided by other companies in the group.
- The empirical results are generally the same for intra-EU and extra-EU FDI. Only the largest category of SMEs (medium-sized firms and firms with turnover of more than €10m) are more likely to invest outside the EU, possibly indicating the need for greater resources when investing outside the Single Market.

The robustness of the main results was tested in two ways.

- Firstly, home country conditions may influence the ease with which firms are able to invest abroad. To check whether differences in home country characteristics influence the likelihood of a firm undertaking FDI, country dummies were included in the model. The results show that the importance of the identified firm characteristics in the decision to invest abroad remain robust to the inclusion of country dummies and are reported in Annex 16.
- Secondly, the analysis was carried out on unweighted data and it may be that the weighted data yield different results that may more accurately reflect SME FDI choices in the EU as a whole. To test for this possibility, the approach followed was to include sampling weights and interaction terms between the weights and the independent variables in the regressions to detect possible misspecification. The results, reported in Annex 16, indicate that findings are not sensitive to weighting.

10.3 Trends in SME FDI

This section presents trends by type of SME FDI, namely Merger and Acquisition (M&A) and greenfield investment.

10.3.1 Cross-border SME M&A

The present section considers cross-border M&A involving EU-28 SMEs as one or both counterparties to M&A transactions. Data on the volume and value of deals within the EU and also for when one of the counterparties is from outside the EU are described for the period 2008-17. Differences in the volume of deals across Member States are also provided.⁵⁹

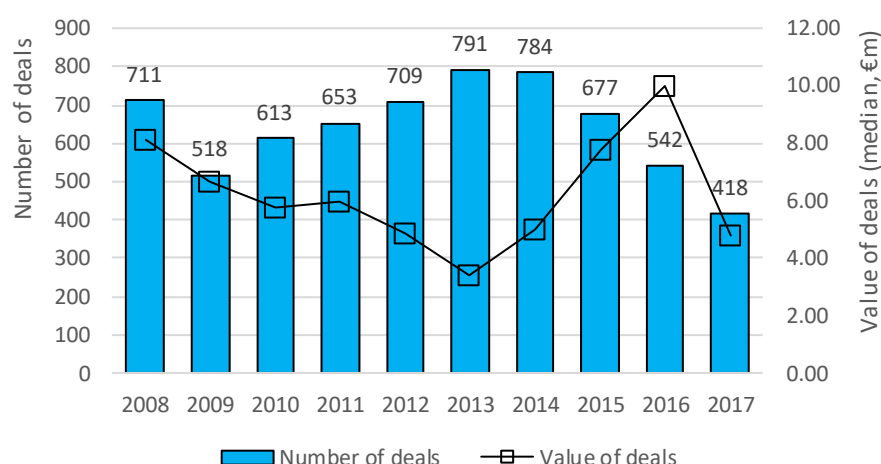
⁵⁹ Differences in the value of deals across Member States are not presented due to insufficient data.

The Bureau van Dijk Zephyr database was used to source information on M&A activity. If firm A was owned by firm B, firm A's and firm B's employment, turnover and assets were considered in determining whether firm A was an SME; if firm A was the acquiring firm in a transaction, the country of origin of the investment was reported as the country in which firm B was headquartered.

Of 44,000 M&A deals screened initially as involving a firm located in the EU-28 over the period 2008-2017, approximately 16,000 were used for the analysis below. 23,000 M&A deals involved large firms only. 1,500 M&A deals involved non-EU counterparties only, when the ownership structure of firms was totally explicit in the data. Missing information on the country in which firms were located or a lack of employment or financial data to determine whether one of the counterparties to a transaction was an SME, accounted for 3,500 observations.⁶⁰ Deal values were only available for 3,000 of the 16,000 observations. In the light of the missing data, the descriptive statistics presented should be interpreted with some caution.⁶¹

Within the EU, cross-border M&A activity involving SMEs has been relatively robust over time (Figure 70). On average, 642 intra-EU transactions took place per year between 2008 and 2017. The peak level of activity was in 2013 (791 deals). However, activity fell below its 2009 level in 2017. The average value of a cross-border SME M&A deal within the EU was €6m.

Figure 70: Cross-border SME M&A, intra-EU



Source: BvD Zephyr

An annual average of 725 'inward' deals (that is, investments into EU SMEs made by non-EU counterparties) and 68 'outward' deals (that is, investments made by EU SMEs into non-EU counterparties) were observed over 2008-17. The number of inward deals far outstrips the number of outward deals, as shown by Figure 71 and Figure 72.

Inward M&A deal volumes have seen peaks and troughs, increasing by more than 70% from 2009 to 2013 and falling by more than 60% between 2013 and 2016 (Figure 71).

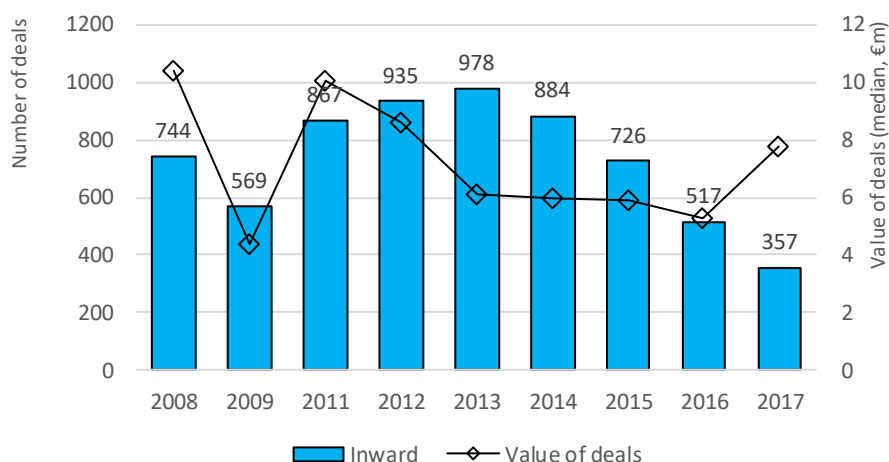
Since 2011, outward deal volumes have been relatively stable, ranging from 59 transactions in 2011 to 88 transactions in 2015 (Figure 72).

⁶⁰ In order to include as many M&A deals in the analysis as possible, the estimation of whether a firm was an SME was on the basis of available employment or financial data if one or more of the employment, turnover and assets variables was missing.

⁶¹ If too few observations were available, some data were not presented (for example, the value of deals by Member State). In addition, the median average was reported to limit the influence of very large deals (for example, of low employment / turnover SMEs rich in assets) whose values are more likely to be reported.

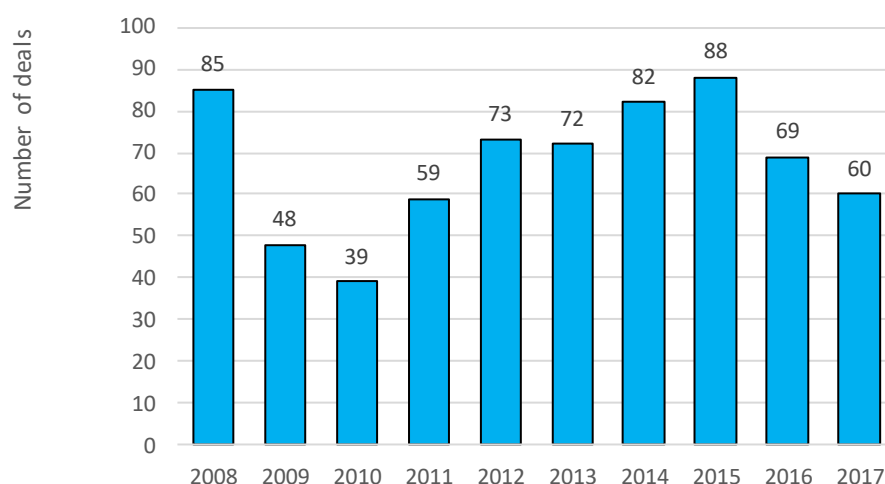
Deal values were €7.8m and €4.6m on average for inward and outward transactions, respectively. Please note that a time series for the value of deals is not given due to lack of data in individual years.

Figure 71: Cross-border M&A involving EU SMEs and non-EU counterparties, inward investment



Source: BvD Zephyr

Figure 72: Cross border M&A involving EU SMEs and non-EU counterparties, outward investment



Source: BvD Zephyr

At Member State level, over the three- year period 2015-17, Spain, the UK, Germany, Poland, and France were the most active cross-border SME M&A hubs with over 200 transactions in each country (Table 21).

While cross-border SME M&A activity in Poland originated largely from within the EU, the other four countries had a large number of transactions involving non-EU counterparties. The US was the source country for almost half of all extra-EU investment into Spain, Germany and France, and almost 60% of all extra-EU investment into the UK. The other key source country was Switzerland, accounting for approximately a quarter of all extra-EU investment into Germany and France. At EU-28 level, 40% of investments came from the US and 15% came from Switzerland.

Table 21: Number of cross-border SME M&A by host Member State, 2015-17

	Intra-EU	Extra-EU	Total
ES	367	378	745
UK	160	348	508
DE	121	123	244
PL	145	59	204
FR	81	120	201
NL	107	68	175
CZ	106	50	156
SE	78	72	150
EE	37	97	134
FI	54	62	116
IT	53	34	87
DK	56	29	85
BE	52	25	77
BG	33	37	70
AT	27	18	45
RO	23	10	33
PT	20	11	31
IE	16	13	29
LU	15	12	27
HU	17	8	25
LV	19	5	24
SI	11	8	19
SK	13	4	17
LT	11	2	13
HR	8	4	12
CY	5		5
MT	2	3	5

Note: No data on deals into Greece

Source: BvD Zephyr

The UK, followed by Germany, France, Sweden, Luxembourg and the Netherlands were the countries making the most investments in other Member States, as well as outside the EU, in the form of SME M&A (Table 22).

Outside the EU, over half of Sweden's investments entered Norway, while more than 40% of UK investment went to the US. Other Member States' extra-EU investments were not focused on particular destinations.

Table 22: Number of cross-border SME M&A by source Member State, 2015-17

	Intra-EU	Extra-EU	Total
UK	232	63	295
DE	215	29	244
FR	172	18	190
SE	147	33	180
LU	145	14	159
NL	148	10	158
BE	78	8	86
IT	58	5	63
FI	54	4	58
AT	45	9	54
ES	45	6	51
IE	50		50
DK	47	2	49
CY	45	3	48
PL	27	4	31
SK	27		27
PT	21	2	23
CZ	16	1	17
LT	14		14
MT	13	1	14
EE	12	1	13
HU	8	1	9
BG	5		5
LV	4	1	5
RO	4		4
HR	2	1	3
EL	2		2
SI	1	1	2

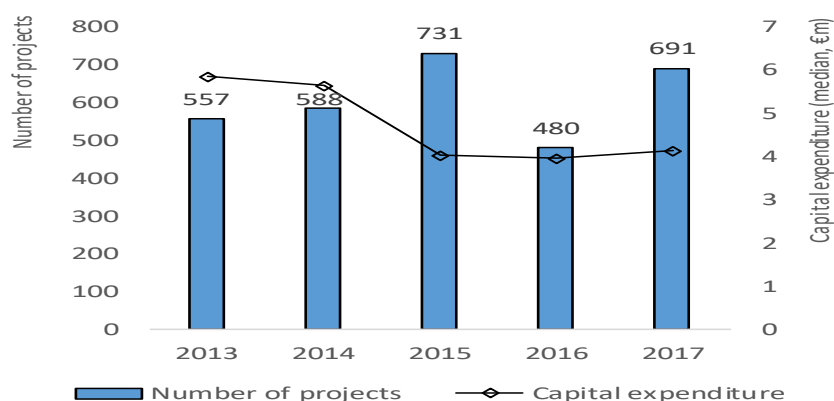
Source: BvD Zephyr

10.4 Greenfield SME FDI

This section considers greenfield FDI involving EU-28 SMEs investing in the EU-28 and elsewhere, as well as non-EU-28 SMEs investing in the EU-28. As with M&A, data on the volume and value of projects over time are described. Differences in the volume of projects across Member States are also provided. The Bureau van Dijk Orbis database was used to source information on greenfield FDI.

Greenfield FDI undertaken by SMEs within the EU reached, on average, 609 investment projects between the years 2013 and 2017 (Figure 73). The highest number of new intra-EU investments (731) was observed in 2015. After a significant drop in 2016 (only 480 projects reported), the total of greenfield FDI undertaken by SMEs in the EU-28 in 2017 increased by 43%, up to 691 investments. The median capital expenditure associated with the new FDI within the EU was €4.5m.

Figure 73: SME greenfield FDI, intra-EU

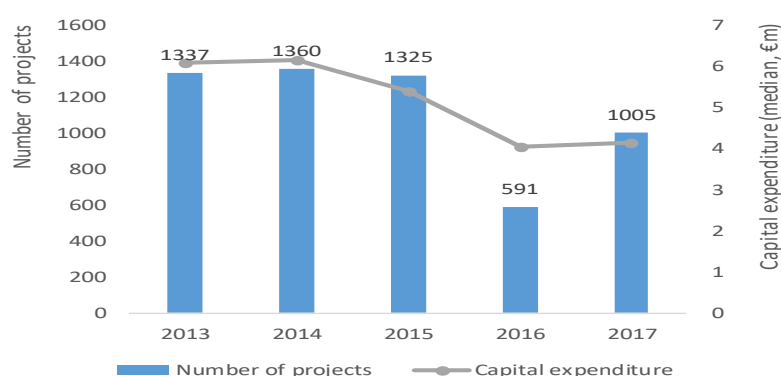


Source: BvD Orbis

An average of 1,224 'inward' greenfield FDI (new investments in the EU made by non-EU SMEs) were reported per year for 2013-2017 (Figure 74). The average number of 'inward' greenfield FDI (new investments outside the EU made by EU SMEs) significantly exceeded outward greenfield FDI, which averaged 769 projects in the same period (Figure 75).

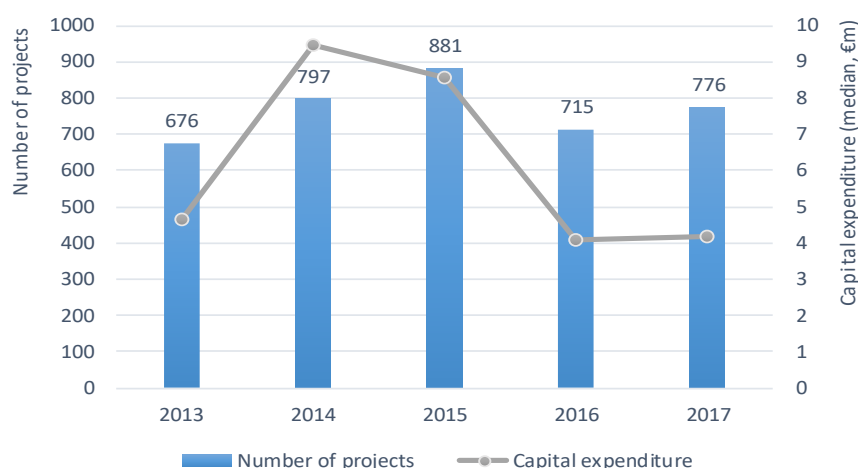
Figure 74 presents the number and median value of new FDI in the EU originating from non-EU countries between 2013 and 2017. The total volume of inward greenfield projects was relatively stable. The average number of projects undertaken was 1,224 as previously mentioned. The peak of median capital expenditure, reaching €9.5m, was observed in 2014. Since then, the median project value of greenfield FDI of non-EU SMEs in the EU has declined by 63%.

Figure 74: Greenfield SME FDI, investment into the EU by non-EU SMEs



Source: BvD Orbis

Until the end of 2015, the volume of inward projects grew steadily from 676 in 2013 to 881 in 2015 (Figure 75). However, in 2016, the number of outward greenfield projects fell significantly to 715 deals and recovered to 776 deals in 2017. The average value of new deals in the years 2013 to 2017 was equal to almost €25m, with a much lower median of €4.6m. This finding indicates that the capital investment associated with the largest new projects was considerably higher than for majority of the projects.

Figure 75: SME greenfield FDI, outward EU

Source: BvD Orbis

Table 23 shows that the United Kingdom, Germany, France, the Netherlands, Luxembourg, Italy and Spain are the Member States which recorded the highest total volume of new investments, made both inside and outside the EU, between 2015 and 2017. Interestingly, Germany was the country which funded the highest number of projects in other Member States, whereas the UK is notable for the highest volume of new investments made outside the EU. The non-EU country which received the highest number of greenfield FDI projects from EU-28 SMEs was the US.

Table 23: Greenfield SME FDI by source country, number of projects, 2015-17

	Intra-EU	Extra-EU	Total
UK	290	772	1062
DE	373	520	893
FR	191	330	521
NL	162	188	350
LU	169	174	343
IT	82	205	287
ES	84	184	268
SE	65	77	142
IE	61	78	139
CY	63	74	137
DK	70	51	121
AT	62	25	87
FI	33	53	86
BE	43	37	80
EE	14	19	33
PL	27	4	31
CZ	17	6	23
PT	7	9	16
EL	6	8	14
MT	8	4	12
HU	6	4	10
SI	3	6	9
HR	5	2	7
LV	4	3	7
LT	5	2	7
SK	0	4	4
BG	2	1	3
RO	3	0	3

Source: BvD Orbis

The Member States which experienced the highest levels of new investment from intra- and extra-EU SMEs were the United Kingdom, Germany, France, the Netherlands, Luxembourg, Italy and Spain (Table 24). Germany was again the lead recipient of greenfield FDI from SMEs in the EU, reporting 303 investments from other Member States.

The highest volume of greenfield investment projects coming from non-EU countries was in the United Kingdom. The non-EU country with the highest volume of FDI in the EU was the USA.

Table 24 SME greenfield FDI by destination Member State, number of projects, 2015-17

	Intra-EU	Extra-EU	Total
UK	266	724	990
DE	303	434	737
FR	215	195	410
NL	182	145	327
LU	78	201	279
IT	129	68	197
ES	89	74	163
SE	74	54	128
IE	57	71	128
CY	70	49	119
DK	54	28	82
AT	23	56	79
FI	47	23	70
BE	36	28	64
EE	35	21	56
PL	40	10	50
CZ	18	25	43
PT	23	20	43
EL	9	21	30
MT	14	12	26
HU	12	11	23
SI	16	6	22
HR	7	8	15
LV	6	8	14
LT	10	4	14
SK	8	5	13
BG	4	6	10
RO	2	1	3

Source: BvD Orbis

10.5 Key takeaways from Chapter 10

Only 4% of EU-28 SMEs undertake FDI in the EU, with medium-sized SMEs which have experienced strong growth in turnover and which belong to an international group being more likely to undertake FDI.

Due to data limitations, while it is not possible to estimate a precise proportion of SMEs undertaking either inward or outward M&A or greenfield FDI, the M&A and greenfield data reviewed in the present chapter suggest that the proportion is likely to be very low.

11. How can public policy support the internationalisation of SMEs?

11.1 How can public authorities support the internationalisation of SMEs?

The previous chapters have shown that many SMEs do not export and that those which do export, while benefiting from such activities, face a number of challenges and issues, especially if they are new to exporting or are considering a new market.

At the same time, the report highlights the fact that global demand is a major source of growth for all EU-28 enterprises and that it does not appear, in general, that SMEs deliberately choose not export, or that they simply lack business dynamism.

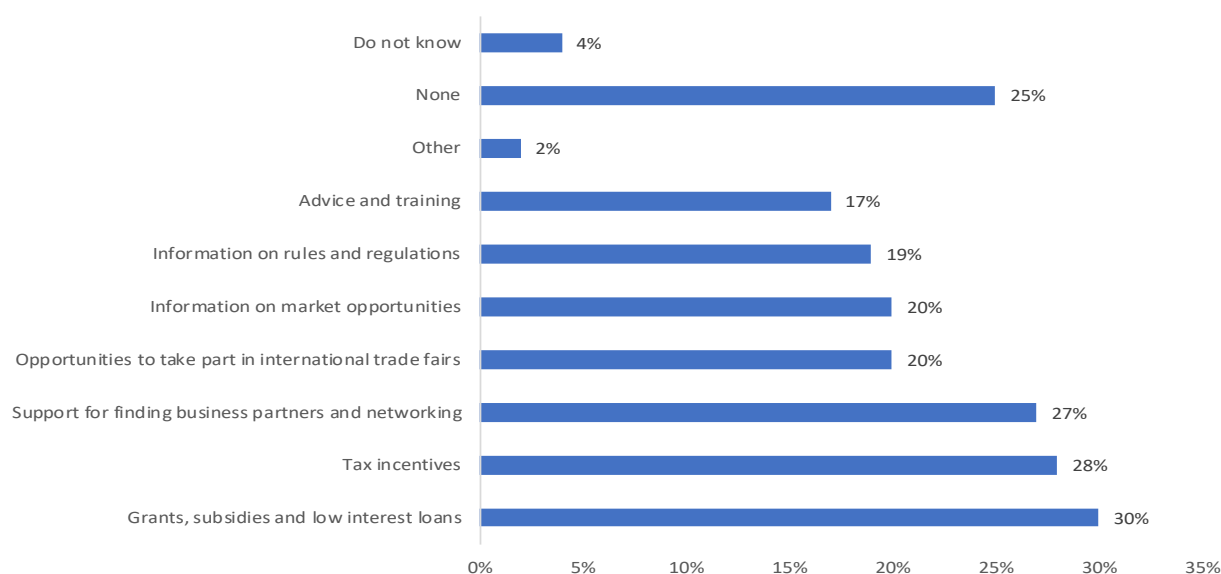
Clearly, for the many SMEs which operate in the more domestic demand focused industries, exporting may not be a priority. But even in such cases, SMEs can participate in the global economy through being part of global value chains or, in some cases, by reaching out to customers outside their home market through the many online platforms which have emerged over the past 10 to 15 years.

The challenge for policymakers is to identify the measures and programmes which would be most efficient in supporting exporting and new to exporting SMEs.

The 2015 Flash Eurobarometer on the internationalisation of SMEs highlighted, among the various possible support measures selected by SMEs which participated in the survey, that the most frequently selected measures were financial assistance through 'grants, subsidies and low interest loans', 'tax incentives' and 'support for finding business partners and networking' (Figure 76).

Slightly less frequently selected were a group of measures which would help SMEs to gain a better understanding of foreign markets and environments, such as 'opportunities to take part in international trade fairs', 'information on market opportunities', and 'information on rules and regulations'.

Figure 76: Selection by SMEs of measures which would most help their company to engage in business abroad



Note: Multiple selections were possible

Source: Flash Eurobarometer 421: Internationalisation of SMEs

The responses to the Flash Eurobarometer 421 survey are consistent with the findings from the case studies. Moreover, the statistical analysis of the microdata of the Flash Eurobarometer⁶² show that:

- Among independent firms, 'lack of specialised staff to deal with exports', and 'specificity of products to the domestic market' are the problems that most reduce the probability of exporting.
- Together with 'not knowing the rules that have to be followed', these three factors are also those which most negatively impact SMEs which are part of a group.
- SMEs which sell to individual consumers only are less likely than SMEs selling to companies only to consider 'information on market opportunities' and 'support for networking' as useful.
- SMEs that are part of a national or international group are less likely than independent SMEs to find 'grants, subsidies or low interest loans' most helpful.
- SMEs that are part of an international group are also more likely than independent firms to require none of the proposed measures.
- SMEs which identified a 'lack of knowledge of procedures, foreign countries and partners' as a problem tend to favour information and networking related measures.
- Likewise, 'lack of foreign language skills' is positively related to identifying 'advice or training' as a helpful measure.
- Similarly, SMEs reporting the 'cost of exporting or entering a new export market' as a problem tend to indicate that 'grants, subsidies or low interest loans' are useful.
- Moreover, in several cases, SMEs tended to select measures which are related to cross-border activities that they have conducted in the past three years. For instance, firms that have engaged in R&D with a partner based abroad are more likely to find 'networking support' and 'grants, subsidies and low interest loans' as helpful. Similarly, firms that have invested abroad are more likely to find 'grants, subsidies or low interest loans' useful.

⁶² See companion Background Document for the details of the statistical analysis.

A major conclusion from the statistical analysis and the case studies is that the ‘one size fits all’ approach does not work and that export support programmes need to be tailored to the specific needs of the various types of SME. Current practice by the EU-28 and Member States seems to reflect this observation.

Besides encouraging Member States via the ‘Internationalisation SBA principle’ to support their SMEs in exploring export opportunities and in furthering their actual export activities, the EU has also implemented a wide range of programmes which directly or indirectly provide non-financial and financial support to SMEs interested in exporting for the first time or in growing their exports. These programmes are delivered either by Member States or partner organisations. A compendium of such programmes has recently been published by the European Commission.⁶³ A good example is the Enterprise Europe Network which operates through partners in more than 60 countries and includes help for European SMEs to develop their business in new markets, and to source or licence new technologies, etc. The Enterprise Europe Network offer business matchmaking and technology brokerage services in order to establish business deals between European SMEs and international companies. The Network helps generating and disseminating business cooperation and technology offers or requests through a virtual market place (the so-called “Partnership Opportunity Database”).

At Member State level, many public and private organisations are running programmes to support exporting and new to exporting SMEs. As part of the survey of SME associations and export promotion agencies, each stakeholder was asked to identify five such programmes which they felt were working well.⁶⁴

Overall, 96 programmes, some of which receive EU funding, were identified by survey respondents. These programmes can be grouped using the following classification (Figure 77):

- Financial assistance (e.g. grants, credit) (FIN)
- Training (TR)
- Advice (e.g. on legal and administrative procedures) (ADV)
- Knowledge acquisition, market intelligence, information on market opportunities, bespoke information about specific markets (MKT)
- Cross-border networking, helping businesses connect with international counterparts as well as with customers (e.g. through participation in international fairs) (NET)
- General/multipurpose (GEN)
- Other (OTH)

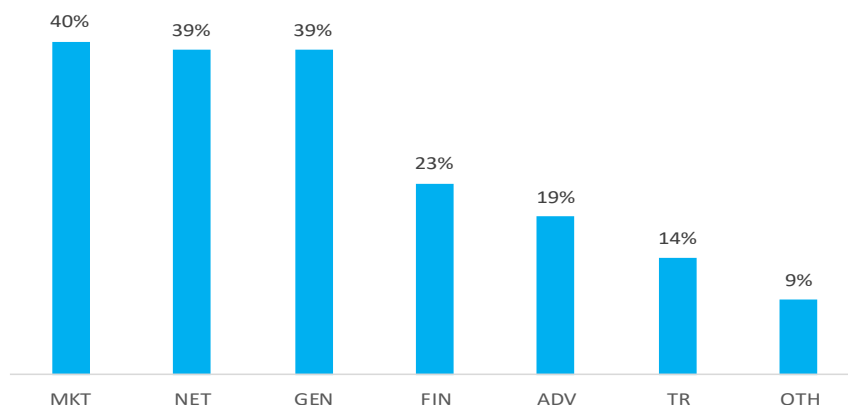
When the provision of financial assistance was specifically geared towards funding one of the above activities, it was classified as the programme being funded, rather than as financial assistance. Several programmes fell into more than category, either because their description related to several of the above categories, or because they were described as performing a variety of services. These were classified into each relevant category as well as the general/multipurpose category.

When the same programme was mentioned by more than one respondent, it was only counted once (note, however, that generic programmes which can differ from country to country, e.g. cluster policy support initiatives, were counted for each respondent).

⁶³ European Commission (2017) Overview of EU Instruments Contributing to the Internationalisation of European Businesses.

⁶⁴ The full list of these support programmes is provided as an Annex to the special Background Document.

Figure 77: Export support programmes targeted towards specific activities – percentage of total number of programmes



Note: A total of 105 programmes were mentioned by respondents but only 96 were classified, as several programmes had been mentioned more than once by different respondents.

Source: LE Europe survey of SME associations and export promotion agencies and organisations

11.2 Key takeaways from Chapter 11

Both the data discussed in the present chapter and in chapter 8 show that a host of different factors impact on the decision by an SME to enter the global market or, if already active in a foreign country, to branch out into a new market, and that actual needs vary as well. In a broad sense, the different needs can be regrouped under just a few headings, namely 'provision of information on foreign markets, their legal and regulatory environment, etc.', 'connecting with new partners', 'mentoring, training, etc.', 'providing financial support'.

The European Union and Member States already run a wide range of programmes which directly or indirectly address the needs of would-be or actual SME exporters.

However, what appears to be missing at the present time are programmes reaching out to SMEs which are currently not considering or not interested in expanding beyond their domestic market. The aim of such programmes would be to overcome this lack of interest and eventually increase the share of SMEs which are exporting.

ANNEX 1: THE SME PERFORMANCE REVIEW

The SME Performance Review is one of the main tools used by the European Commission to monitor and assess countries' progress in implementing the Small Business Act (SBA) on a yearly basis.

The SBA strives to foster SME development and remove obstacles to SME growth. It does not constitute a legal requirement but instead is a series of guidance measures that can be adapted to suit each country's specific needs. This guidance is underpinned by ten core principles:

1. Entrepreneurship: Creating an environment in which entrepreneurs and family businesses can thrive and entrepreneurship is rewarded.
2. 'Second Chance': Ensuring that honest entrepreneurs who have experienced bankruptcy are promptly given a second opportunity to succeed.
3. 'Think Small First': Designing rules modelled on the "Think Small First" principle.
4. 'Responsive Administration': Making public administrations responsive to the needs of SMEs.
5. State Aid & Public Procurement: Adapting public policy tools to suit SME needs, facilitating SMEs' participation in public procurement and ensuring better access to State Aid for SMEs.
6. Access to Finance: Facilitating SMEs' access to finance and developing a legal and business environment conducive to the specific requirements of SMEs, including timely payments in commercial transactions.
7. Single Market: Helping SMEs to benefit more from the opportunities offered by the Single Market.
8. Skills & Innovation: Promoting the enhancement of skills in the SME workforce and all forms of innovation.
9. Environment: Enabling SMEs to transform environmental challenges into economic opportunities while acting sustainably.
10. Internationalisation: Encouraging SMEs to benefit from the growth of global markets and supporting them in this pursuit.

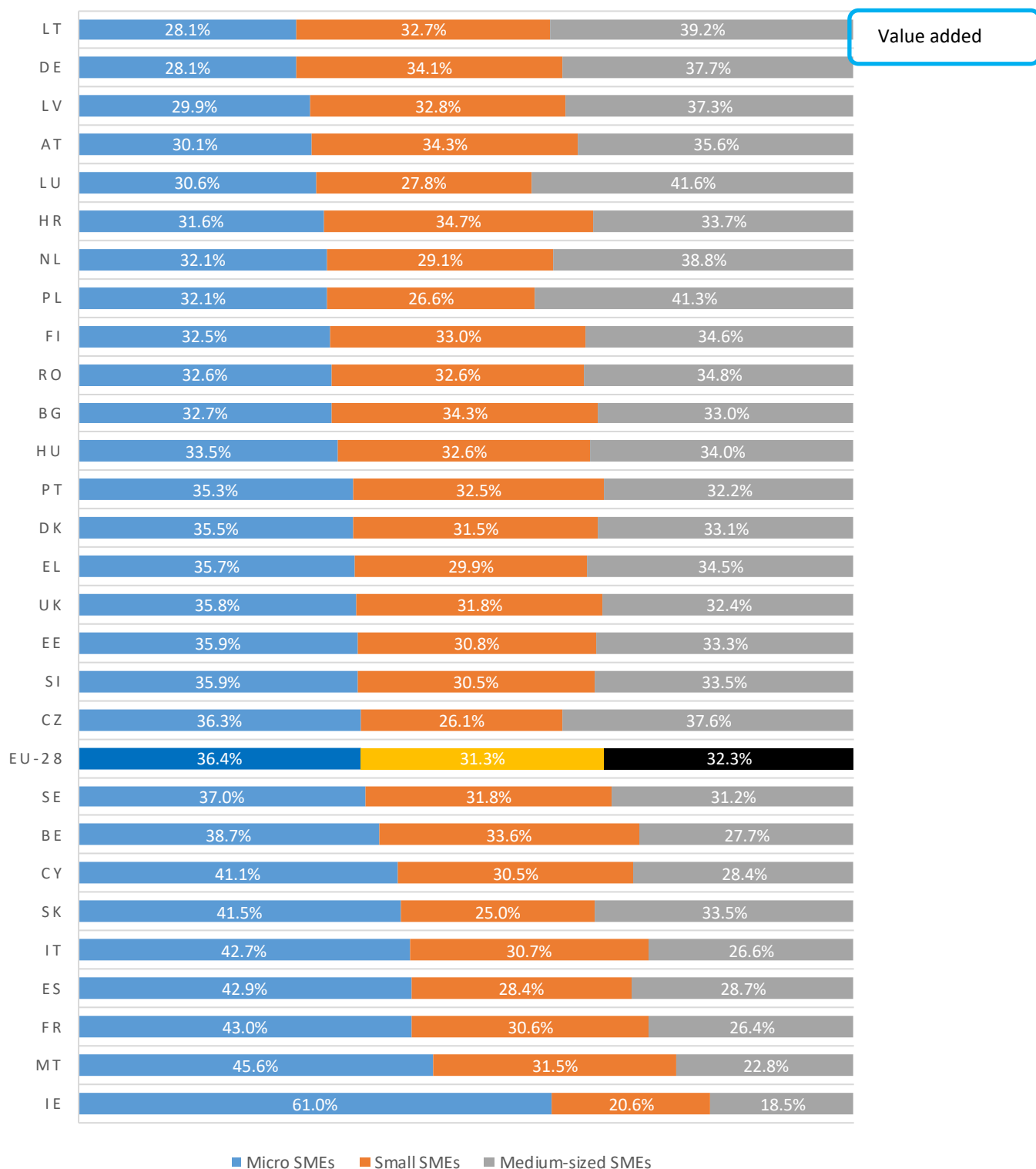
The Performance Review provides extensive information on the implementation of the measures from the SBA Action Plan and the performance of SMEs in EU Member States.

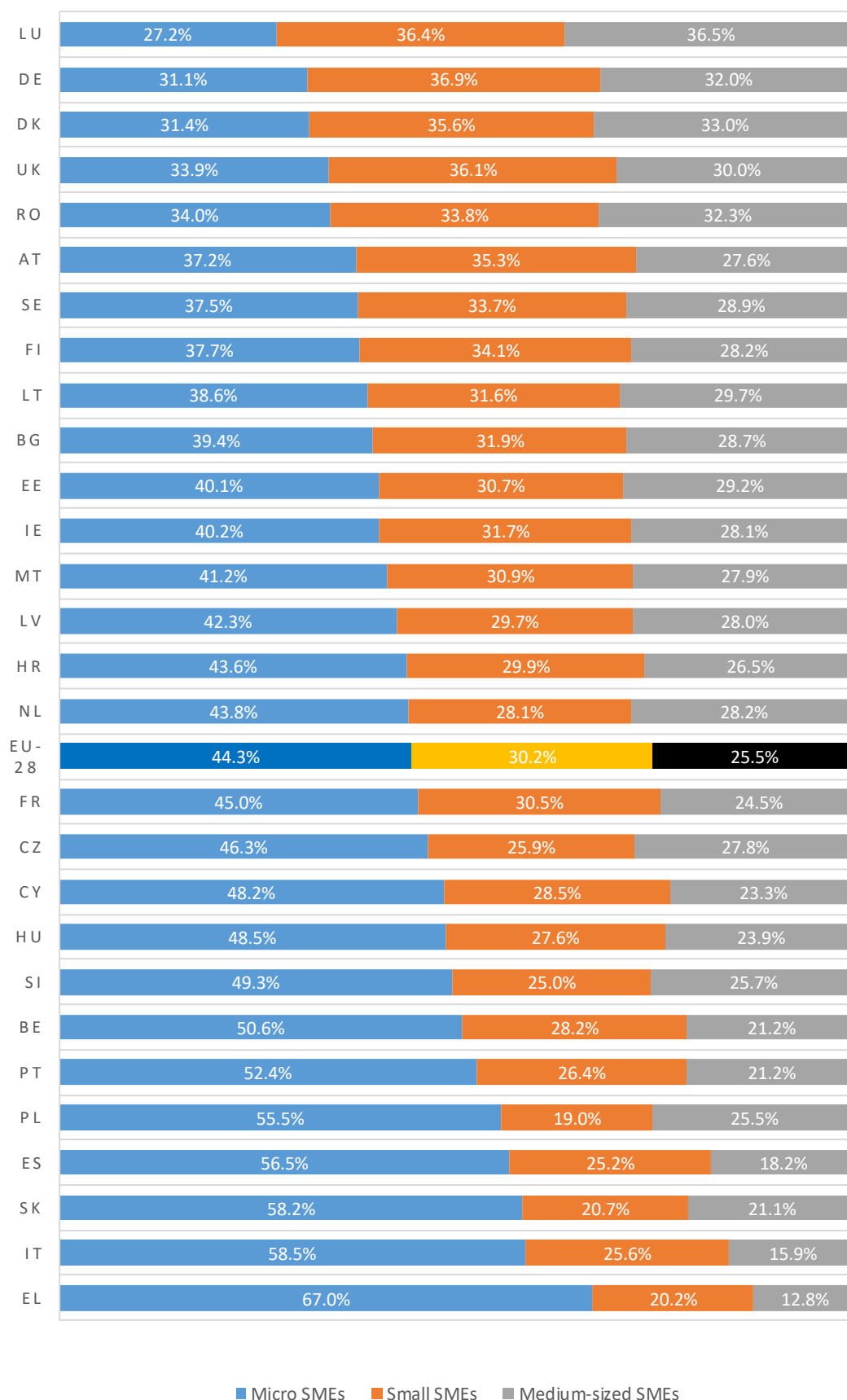
ANNEX 2: NUMBER OF SMES PER 1000 INHABITANTS (OF 15 YEARS OR MORE)

Member State	All SMEs	Micro SMEs	Small SMEs	Medium-sized SMEs
AT	44	39	5	1
BE	66	62	3	0
BG	55	51	4	1
CY	71	67	4	1
CZ	115	111	4	1
DE	34	28	5	1
DK	43	39	4	1
EE	67	61	5	1
EL	90	88	2	0
ES	67	64	3	0
EU-28	57	53	3	1
FI	51	47	4	1
FR	54	52	2	0
HR	42	39	3	1
HU	67	63	3	1
IE	68	62	4	1
IT	71	68	3	0
LT	76	70	4	1
LU	69	61	7	1
LV	69	64	4	1
MT	73	68	5	1
NL	80	77	3	1
PL	53	50	2	0
PT	98	93	4	1
RO	29	26	3	1
SE	88	83	4	1
SI	81	77	3	1
SK	94	91	3	0
UK	40	36	3	1

Source: Eurostat, National Statistical Offices, DIW Econ

ANNEX 3: SHARE OF MICRO, SMALL AND MEDIUM-SIZED SMEs IN TOTAL SME VALUE ADDED AND EMPLOYMENT IN THE NON-FINANCIAL BUSINESS SECTOR IN MEMBER STATES IN 2017





Employment

Source: Eurostat, National Statistical Offices, DIW Econ

ANNEX 4: LIST OF INDUSTRIES AT NACE 2 LEVEL IN NON-FINANCIAL AND NON-MINING BUSINESS SECTOR

C10	Manufacture of food products
C11	Manufacture of beverages
C12	Manufacture of tobacco products
C13	Manufacture of textiles
C14	Manufacture of wearing apparel
C15	Manufacture of leather and related products
C16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
C17	Manufacture of paper and paper products
C18	Printing and reproduction of recorded media
C19	Manufacture of coke and refined petroleum products
C20	Manufacture of chemicals and chemical products
C21	Manufacture of basic pharmaceutical products and pharmaceutical preparations
C22	Manufacture of rubber and plastic products
C23	Manufacture of other non-metallic mineral products
C24	Manufacture of basic metals
C25	Manufacture of fabricated metal products, except machinery and equipment
C26	Manufacture of computer, electronic and optical products
C27	Manufacture of electrical equipment
C28	Manufacture of machinery and equipment n.e.c.
C29	Manufacture of motor vehicles, trailers and semi-trailers
C30	Manufacture of other transport equipment
C31	Manufacture of furniture
C32	Other manufacturing
C33	Repair and installation of machinery and equipment
D35	Electricity, gas, steam and air conditioning supply
E36	Water collection, treatment and supply
E37	Sewerage
E38	Waste collection, treatment and disposal activities; materials recovery
E39	Remediation activities and other waste management services
F41	Construction of buildings
F42	Civil engineering
F43	Specialised construction activities
G45	Wholesale and retail trade and repair of motor vehicles and motorcycles
G46	Wholesale trade, except of motor vehicles and motorcycles
G47	Retail trade, except of motor vehicles and motorcycles
H49	Land transport and transport via pipelines
H50	Water transport
H51	Air transport
H52	Warehousing and support activities for transportation
H53	Postal and courier activities
I55	Accommodation
I56	Food and beverage service activities
J58	Publishing activities
J59	Motion picture, video and television programme production, sound recording and music publishing activities
J60	Programming and broadcasting activities
J61	Telecommunications
J62	Computer programming, consultancy and related activities
J63	Information service activities
L68	Real estate activities
M69	Legal and accounting activities
M70	Activities of head offices; management consultancy activities
M71	Architectural and engineering activities; technical testing and analysis
M72	Scientific research and development
M73	Advertising and market research
M74	Other professional, scientific and technical activities
M75	Veterinary activities
N77	Rental and leasing activities
N78	Employment activities
N79	Travel agency, tour operator and other reservation service and related activities
N80	Security and investigation activities
N81	Services to buildings and landscape activities
N82	Office administrative, office support and other business support activities

ANNEX 5: CONTRIBUTION OF SMEs TO INDUSTRY

VALUE ADDED AND TOTAL SME VALUE ADDED IN EU-28 IN 2017

Industry	Share of SMEs in:	
	industry value added	total SME value added in NFBS
Remediation activities and other waste management services, E39	96.6%	0.1%
Veterinary activities, M75	91.8%	0.2%
Specialised construction activities, F43	89.8%	7.1%
Other professional, scientific and technical activities, M74	88.3%	1.1%
Real estate activities, L68	83.0%	5.7%
Printing and reproduction of recorded media, C18	82.9%	0.7%
Motion picture, video and television programme production, J59	81.4%	0.7%
Activities of head offices; management consultancy activities, M70	80.6%	3.6%
Construction of buildings, F41	77.5%	2.9%
Wholesale and retail trade and repair of motor vehicles and motorcycles, G45	76.8%	3.1%
Accommodation, I55	75.7%	1.6%
Advertising and market research, M73	75.6%	1.2%
Food and beverage service activities, I56	75.1%	3.1%
Legal and accounting activities, M69	74.8%	3.9%
Manufacture of wood and of products of wood and cork, except furniture, C16	74.8%	0.6%
Manufacture of fabricated metal products, except machinery and equipment, C25	74.5%	3.2%
Manufacture of textiles, C13	74.4%	0.4%
Wholesale trade, except of motor vehicles and motorcycles, G46	73.9%	12.0%
Architectural and engineering activities; technical testing and analysis, M71	73.0%	3.3%
Rental and leasing activities, N77	72.3%	2.1%
Manufacture of furniture, C31	70.9%	0.6%
Office administrative, office support and other business support activities, N82	67.6%	1.7%
Manufacture of wearing apparel, C14	67.3%	0.3%
Manufacture of leather and related products, C15	64.5%	0.2%
Repair and installation of machinery and equipment, C33	63.2%	1.0%
Travel agency, tour operator reservation service and related activities, N79	61.2%	0.6%
Information service activities, J63	58.0%	0.5%
Land transport and transport via pipelines, H49	57.9%	3.5%
Civil engineering, F42	57.3%	1.2%
Services to buildings and landscape activities, N81	57.2%	1.5%
Computer programming, consultancy and related activities, J62	56.5%	3.6%
Waste collection, treatment and disposal activities; materials recovery, E38	55.3%	0.7%
Manufacture of rubber and plastic products, C22	55.0%	1.3%
Water transport, H50	52.5%	0.4%
Retail trade, except of motor vehicles and motorcycles, G47	52.4%	6.7%
Manufacture of other non-metallic mineral products, C23	50.9%	0.8%
Manufacture of food products, C10	49.0%	2.3%
Sewerage, E37	48.1%	0.2%
Scientific research and development, M72	47.7%	0.4%
Publishing activities, J58	47.4%	0.9%
Other manufacturing, C32	47.3%	0.7%
Manufacture of machinery and equipment n.e.c., C28	45.0%	2.3%
Warehousing and support activities for transportation, H52	43.6%	2.1%
Manufacture of paper and paper products, C17	42.7%	0.5%
Security and investigation activities, N80	40.8%	0.4%
Employment activities, N78	38.2%	1.4%
Manufacture of beverages, C11	35.9%	0.4%
Manufacture of computer, electronic and optical products, C26	34.7%	0.8%
Manufacture of electrical equipment, C27	32.5%	0.7%
Manufacture of chemicals and chemical products, C20	31.5%	1.1%
Water collection, treatment and supply, E36	30.0%	0.3%
Manufacture of basic metals, C24	27.3%	0.4%

Electricity, gas, steam and air conditioning supply, D35	27.1%	1.5%
Air transport, H51	22.7%	0.2%
Programming and broadcasting activities, J60	17.3%	0.1%
Postal and courier activities, H53	15.7%	0.2%
Telecommunications, J61	15.0%	0.6%
Manufacture of other transport equipment, C30	13.7%	0.2%
Manufacture of tobacco products, C12	13.4%	0.0%
Manufacture of basic pharmaceutical products and pharmaceutical preparations, C21	11.1%	0.3%
Manufacture of coke and refined petroleum products, C19	10.0%	0.1%
Manufacture of motor vehicles, trailers and semi-trailers, C29	9.9%	0.5%

Notes: NACE 2 industry classification shown after industry description. NFBS = non-financial business sector

Source: Eurostat, National Statistical Offices, DIW Econ

ANNEX 6: CONTRIBUTION OF SMEs TO INDUSTRY EMPLOYMENT AND TOTAL SME EMPLOYMENT IN EU-28 IN 2017

	Share of SMEs in:	
	industry employment	total SME employment in NFBS
Veterinary activities, M75	94.3%	0.3%
Other professional, scientific and technical activities, M74	94.0%	1.2%
Specialised construction activities, F43	93.3%	7.8%
Remediation activities and other waste management services, E39	88.9%	0.0%
Construction of buildings, F41	88.1%	3.0%
Real estate activities, L68	87.3%	2.5%
Printing and reproduction of recorded media, C18	86.7%	0.7%
Wholesale and retail trade and repair of motor vehicles and motorcycles, G45	86.4%	3.6%
Manufacture of wood and of products of wood and cork, except furniture; C16	84.1%	0.9%
Legal and accounting activities, M69	84.1%	3.5%
Food and beverage service activities, I56	82.9%	7.9%
Manufacture of fabricated metal products, except machinery and equipment, C25	81.4%	3.2%
Accommodation, I55	80.6%	2.3%
Advertising and market research, M73	80.4%	1.0%
Architectural and engineering activities; technical testing and analysis, M71	80.4%	2.9%
Wholesale trade, except of motor vehicles and motorcycles, G46	80.0%	9.0%
Activities of head offices; management consultancy activities, M70	79.2%	2.4%
Motion picture, video and television programme production, J59	78.5%	0.4%
Manufacture of textiles, C13	78.3%	0.5%
Manufacture of wearing apparel, C14	78.3%	0.8%
Rental and leasing activities, N77	78.0%	0.6%
Manufacture of leather and related products, C15	77.5%	0.4%
Travel agency, tour operator reservation service and related activities, N79	75.3%	0.4%
Manufacture of furniture, C31	74.2%	0.8%
Information service activities, J63	73.3%	0.5%
Other manufacturing, C32	73.3%	0.7%
Repair and installation of machinery and equipment, C33	71.4%	1.0%
Land transport and transport via pipelines, H49	69.5%	4.3%
Computer programming, consultancy and related activities, J62	66.6%	2.5%
Sewerage, E37	65.6%	0.1%
Office administrative, office support and other business support activities, N82	64.9%	1.8%
Manufacture of rubber and plastic products, C22	63.0%	1.1%
Manufacture of food products, C10	62.4%	2.8%
Publishing activities, J58	62.2%	0.6%
Manufacture of other non-metallic mineral products, C23	61.5%	0.8%
Civil engineering, F42	60.6%	1.0%
Retail trade, except of motor vehicles and motorcycles, G47	60.2%	12.3%
Waste collection, treatment and disposal activities; materials recovery, E38	57.5%	0.6%
Manufacture of paper and paper products, C17	56.7%	0.4%
Manufacture of beverages, C11	54.7%	0.3%
Manufacture of machinery and equipment n.e.c., C28	52.8%	1.7%
Scientific research and development, M72	52.5%	0.4%
Services to buildings and landscape activities, N81	52.3%	2.7%
Water transport, H50	51.0%	0.1%
Warehousing and support activities for transportation, H52	48.5%	1.5%
Manufacture of computer, electronic and optical products, C26	45.6%	0.5%
Manufacture of chemicals and chemical products, C20	44.9%	0.6%

Manufacture of electrical equipment, C27	41.3%	0.6%
Security and investigation activities, N80	40.8%	0.6%
Water collection, treatment and supply, E36	36.1%	0.1%
Manufacture of basic metals, C24	33.9%	0.3%
Employment activities, N78	32.0%	1.8%
Programming and broadcasting activities, J60	31.4%	0.1%
Electricity, gas, steam and air conditioning supply, D35	25.4%	0.3%
Telecommunications, J61	24.2%	0.3%
Manufacture of other transport equipment, C30	22.9%	0.2%
Manufacture of basic pharmaceutical products and pharmaceutical preparations, C21	21.2%	0.1%
Postal and courier activities, H53	17.3%	0.3%
Manufacture of tobacco products, C12	16.9%	0.0%
Manufacture of motor vehicles, trailers and semi-trailers, C29	16.2%	0.4%
Manufacture of coke and refined petroleum products, C19	14.7%	0.0%
Air transport, H51	10.9%	0.0%

Source: Eurostat, National Statistical Offices, DIW Econ

ANNEX 7: DEFINITION OF DIFFERENT INDUSTRY GROUPINGS

Knowledge intensive services

The group of knowledge intensive services (KIS) is classified according to Eurostat and regroups the following service industries (NACE 2 classification):

High tech services:

- J59 Motion picture, video and television programme production, sound recording and music publishing activities
- J60 Programming and broadcasting services
- J61 Telecommunications
- J62 Computer programming, consultancy and related activities
- J63 Information service activities
- M72 Scientific research and development

Market services:

- H50 water transport
- H51 Air transport
- M69 legal and accounting activities
- M70 Activities of head offices, management consultancy activities
- M71 Architectural and engineering activities; technical testing and analysis
- M73 Advertising and market research
- M74 Other professional, scientific and professional services
- N78 Employment activities
- N80 Security and investigation activities

Other KIS

- J58 Publishing activities
- M75 Veterinary activities

Low (less) knowledge intensive services

Market services

- G45 Wholesale and retail trade and repair of motor vehicles and motorcycles
- G46 Wholesale trade except of motor vehicles and motorcycles
- G47 Retail trade, except of motor vehicles and motorcycles
- H49 Land transport and transport via pipelines
- H52 Warehousing and support activities for transportation
- I55 Accommodation
- I56 Food and beverage service activities
- L68 Real estate activities
- N77 Rental and leasing activities
- N79 Travel agency, tour operator reservation service
- N81 Services to buildings and landscape activities
- N82 Office administrative, office support and other business support activities

Other

- H53 Postal and courier activities

High tech industries

- C21 manufacture of basic pharmaceutical products and pharmaceutical preparations
- C26 manufacture of computer, electronic and optical products

Medium high tech industries

- C20 manufacture of chemicals and chemical products
- C27 manufacture of electrical equipment
- C28 manufacture of machinery and equipment n.e.c.

- C29 manufacture of motor vehicles, trailers and semi-trailers
- C30 manufacture of other transport equipment

Medium low tech industries

- C19 manufacture of coke and refined petroleum products
- C22 manufacture of rubber and plastic products
- C23 manufacture of other non-metallic mineral products
- C24 manufacture of basic metals
- C25 manufacture of fabricated metal products, except machinery and equipment
- C33 repair and installation of machinery and equipment

Low tech industries

- C10 manufacture of food products
- C11 manufacture of beverages
- C12 manufacture of tobacco products
- C13 manufacture of textiles
- C14 manufacture of wearing apparel
- C15 manufacture of leather and related products
- C16 manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
- C17 manufacture of paper and paper products
- C18 printing and reproduction of recorded media

ANNEX 8: EXPORT INTENSITY DEFINITIONS

The classification of export intensity levels is determined using the EU-28 input-output tables published by Eurostat. Export intensity is defined as the share of exports over total sales and was calculated for each industry. The export intensity scale is defined in the table below.

Table 25: Definition of export intensity

Sector identifier by export intensity	Definition of sector
1	Very low (exports over total sales between 0% and 5%)
2	Low (exports over total sales between 5% and 10%)
3	Medium (exports over total sales between 10% and 20%)
4	High (exports over total sales between 20% and 40%)
5	Very high (exports over total sales above 40%)

The table below shows the specific export intensity of each sector.

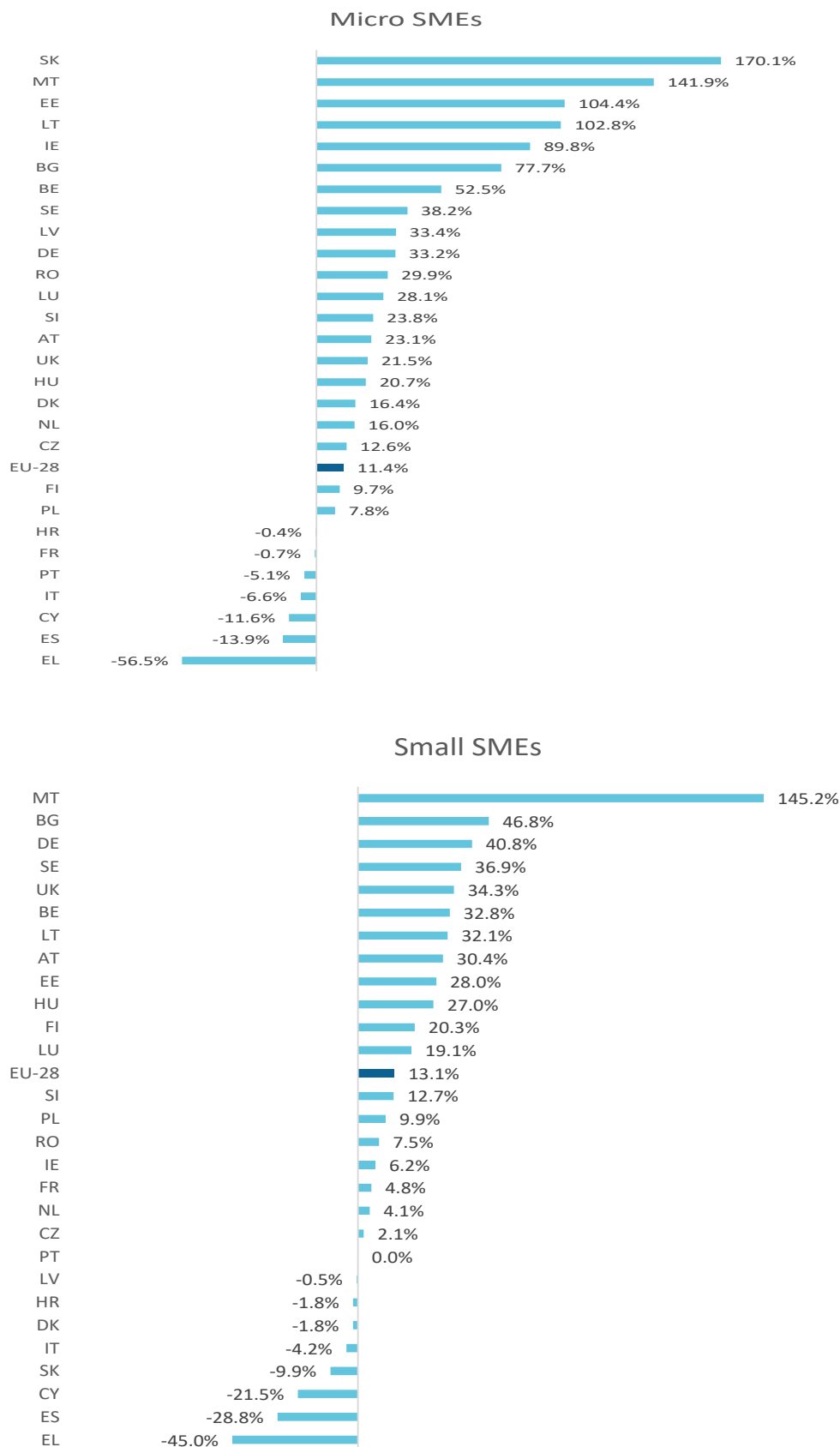
Table 26: Sector-specific export intensity levels

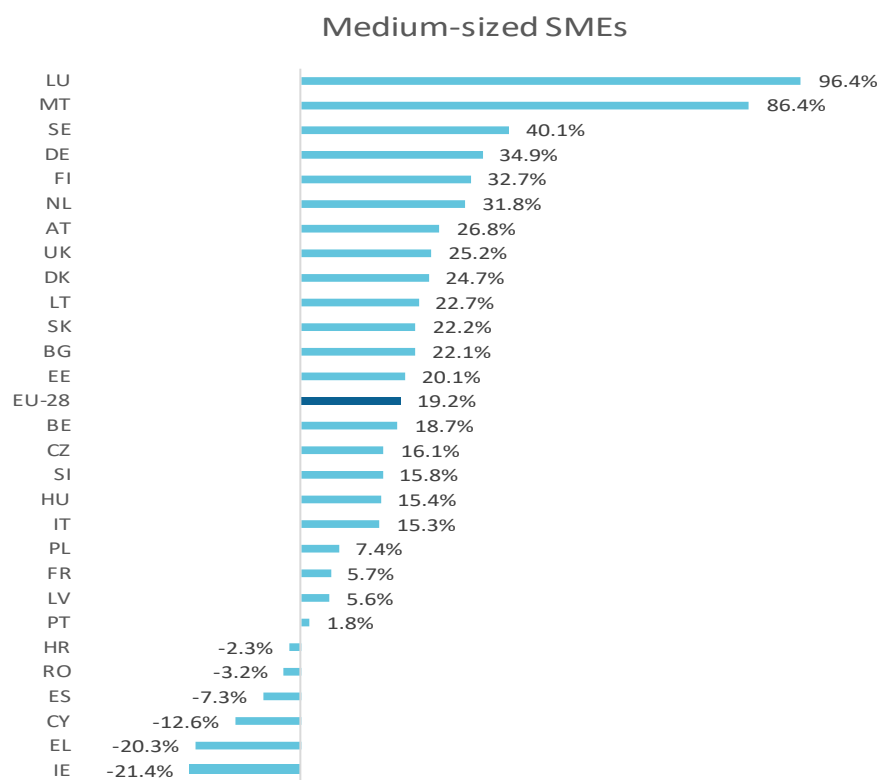
Industry	Sector intensity
Mining	2
Manuf. of food products; Manuf. of beverages; Manuf. of tobacco products	2
Manuf. of textiles; Manuf. of wearing apparel; Manuf. of leather & related products	3
Manuf. wood & cork, exc. furniture; straw & plaiting	2
Manuf. of paper & paper products	3
Printing & reproduction of recorded media	1
Manuf. of coke & refined petroleum products	3
Manuf. of chemicals & chemical products	4
Manuf. of basic pharmaceutical products & preparations	4
Manuf. of rubber & plastic products	3
Manuf. of other non-metallic mineral products	2
Manuf. of basic metals	3
Manuf. of fabricated metal products., exc. machinery & equip.	2
Manuf. of computer, electronic & optical products	4
Manuf. of electrical equipment	4
Manuf. of machinery & equipment n.e.c.	4
Manuf. of motor vehicles, trailers & semitrailers	4
Manuf. of other transport equipment	5
Manuf. of furniture; Other manufacturing	3
Repair & installation of machinery & equipment	1
Electricity, gas, steam & air conditioning supply	1
Water collection, treatment & supply	1
Sewerage; Waste collection, treatment & disposal, and materials recovery; Remediation activities & other waste management	2

Construction	1
Wholesale/retail trade & repair of vehicles	1
Wholesale trade, excluding motor vehicles & motorcycles	2
Retail trade, excluding motor vehicles & motorcycles	1
Land transport & transport via pipelines	1
Water transport	4
Air transport	4
Warehousing & support activities for transportation	2
Postal & courier activities	1
Accommodation and food services	1
Publishing activities	1
Motion picture, video & TV programme production, recording & music publishing; Programming & broadcasting activities	1
Telecommunications	1
Computer programming, consultancy & related; Information service activities	2
Real estate activities	1
Legal & accounting; Activities of head offices; consultancy	2
Architectural & engineering; tech testing & analysis	2
Scientific research & development	3
Advertising & market research	2
Other professional, scientific & tech activities; Veterinary activities	3
Rental & leasing activities	2
Employment activities	1
Travel agency, tour operator & reservations.	1
Security & investigation activities; Services to buildings & landscape activities; Office administrative, office support & other business support	2

Source: LE Europe based on Eurostat EU27 input-output table

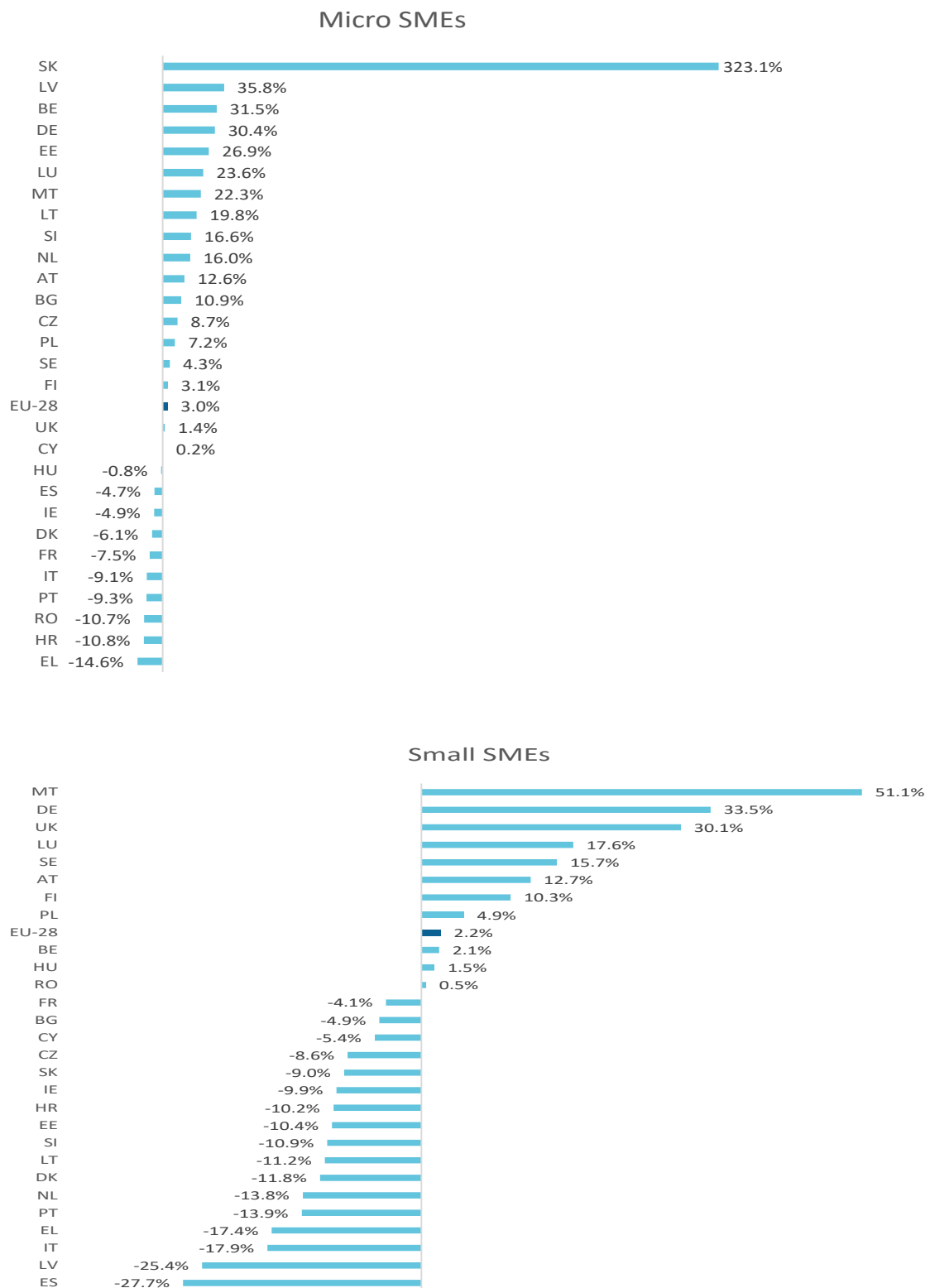
ANNEX 9: CUMULATIVE CHANGE FROM 2008 TO 2017 IN THE VALUE ADDED GENERATED BY DIFFERENT SME SIZE CLASSES



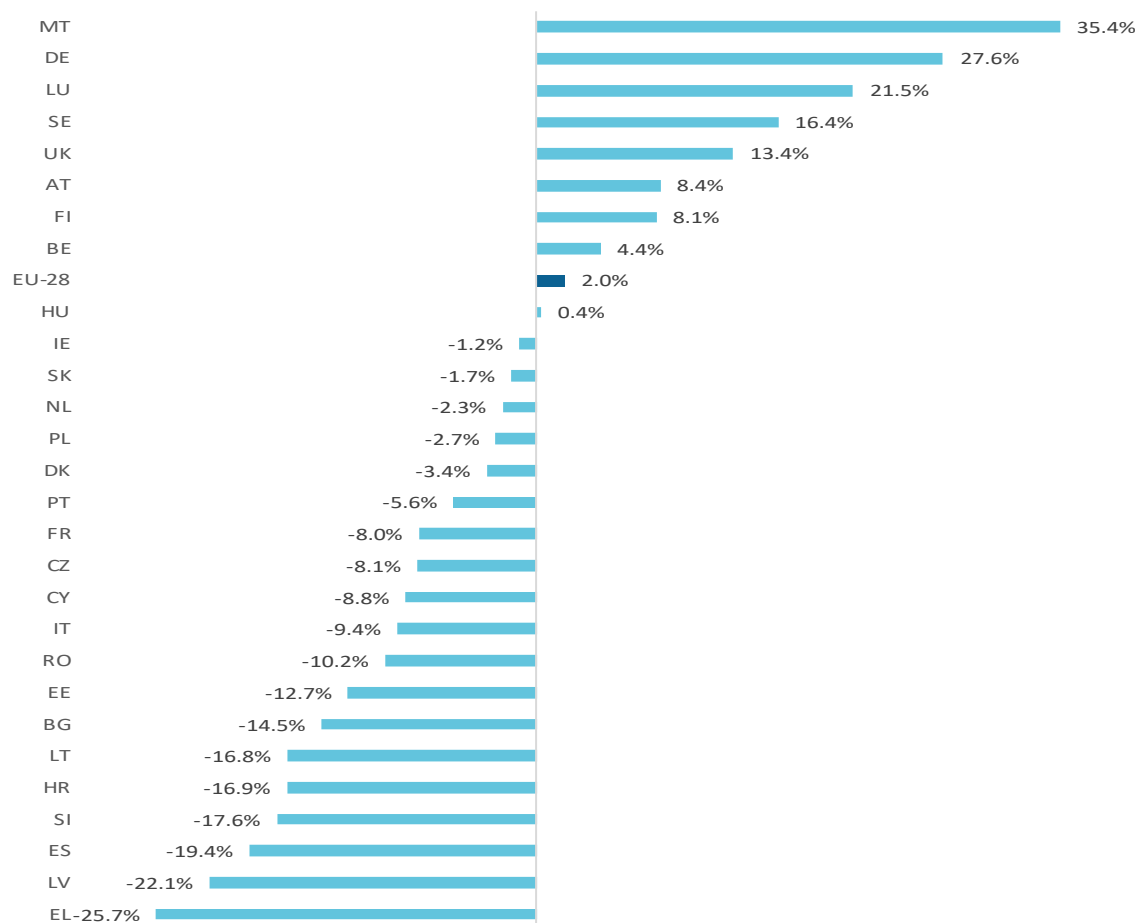


Source: Eurostat, National Statistical Offices, DIW Econ

ANNEX 10: CUMULATIVE CHANGE FROM 2008 TO 2017 IN THE EMPLOYMENT GENERATED BY DIFFERENT SME SIZE CLASSES



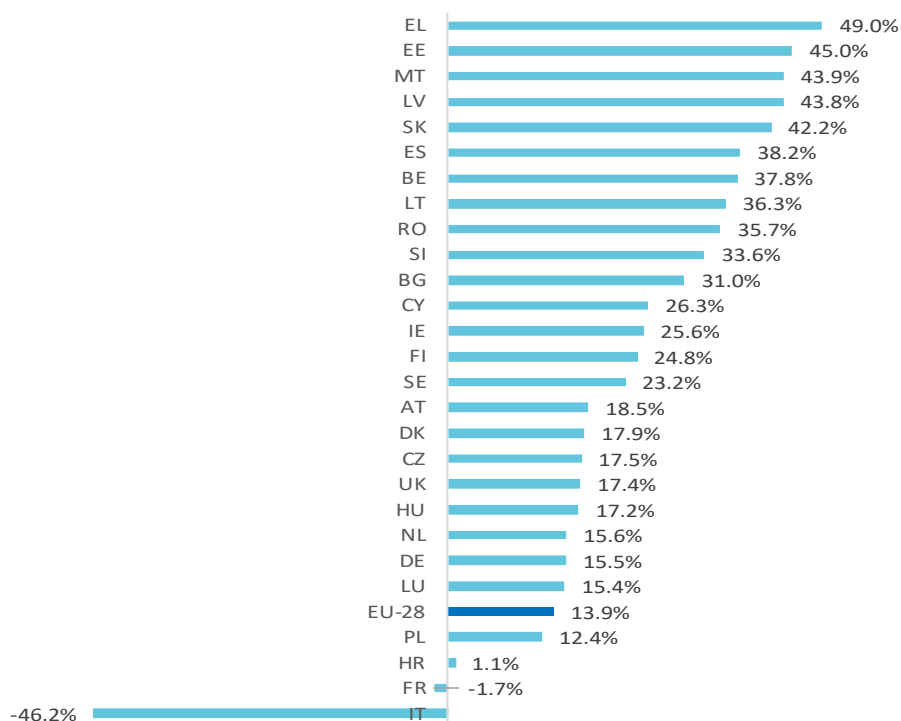
Medium-sized SMEs



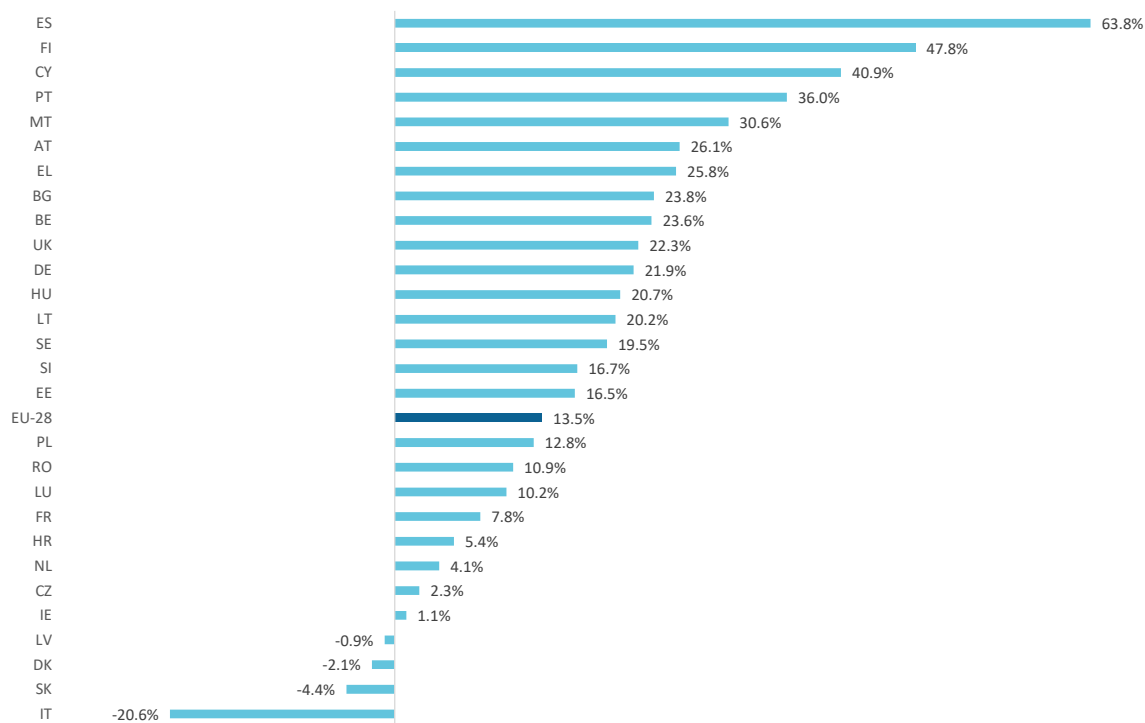
Source: Eurostat, National Statistical Offices, DIW Econ

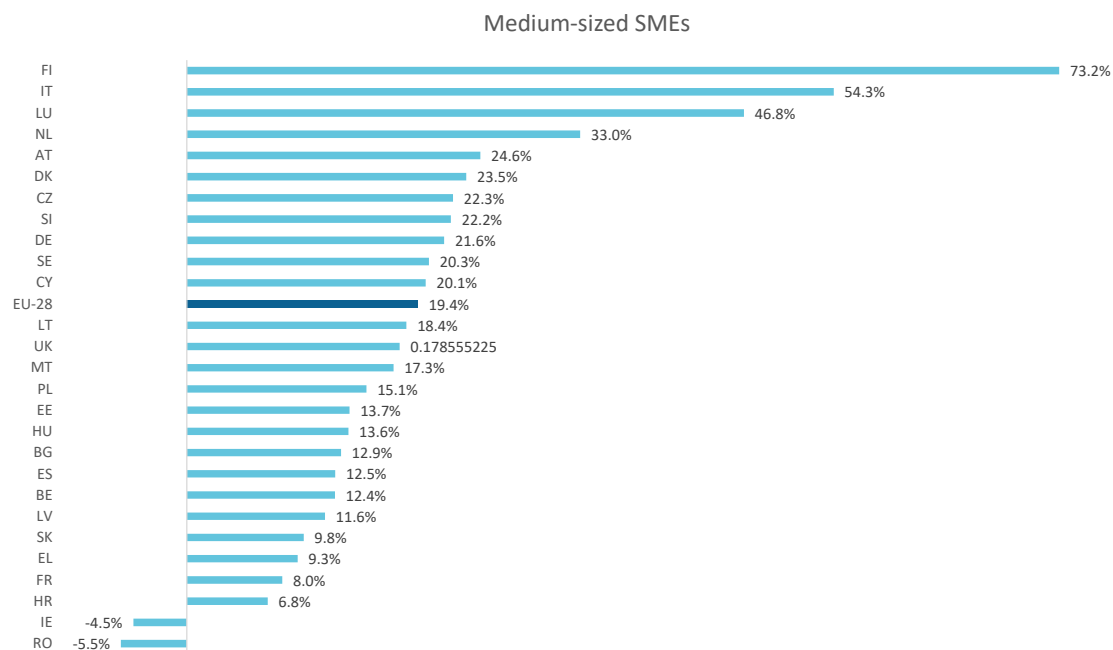
ANNEX 11: CONTRIBUTION OF DIFFERENT SME SIZE CLASSES TO CHANGE IN NFBS VALUE ADDED FROM 2008 TO 2017

Micro SMEs



Small SMEs

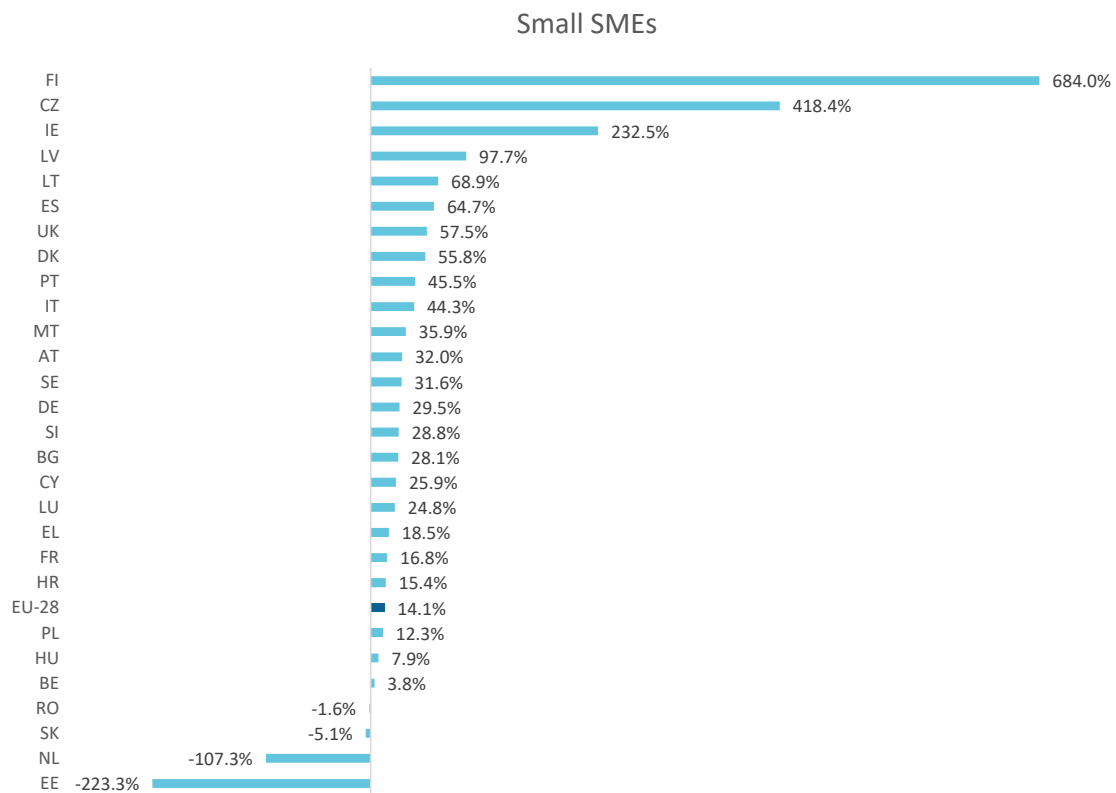
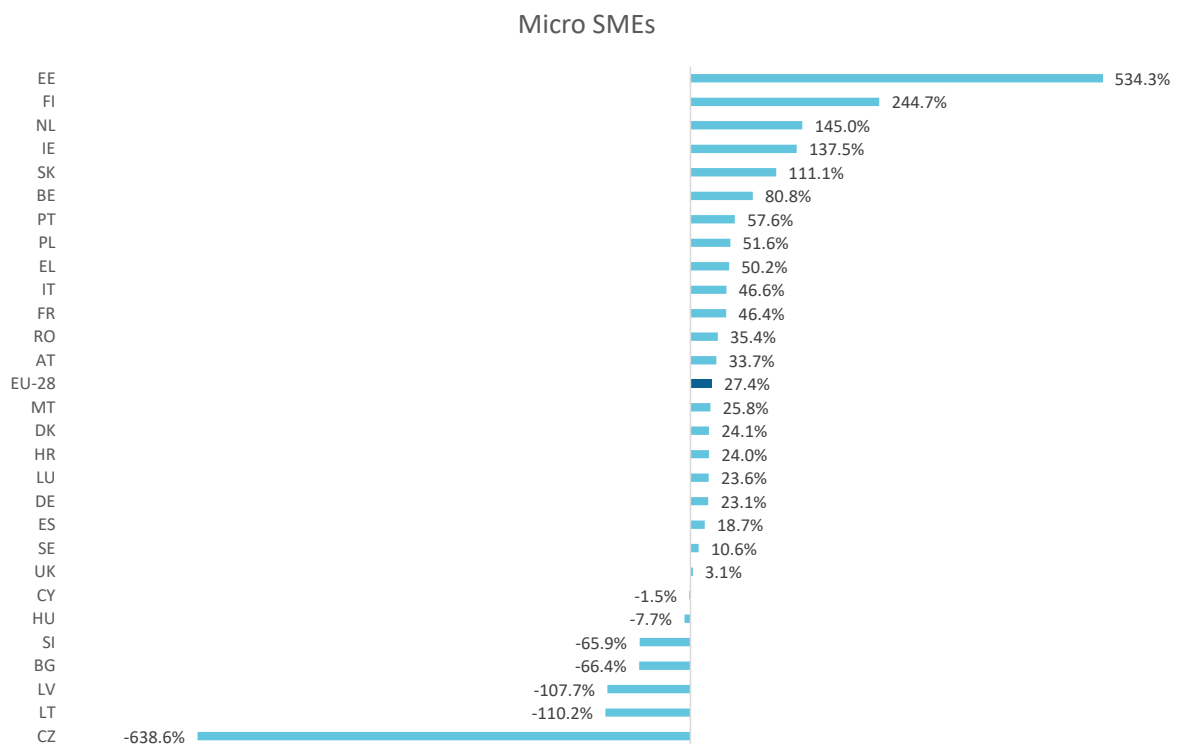




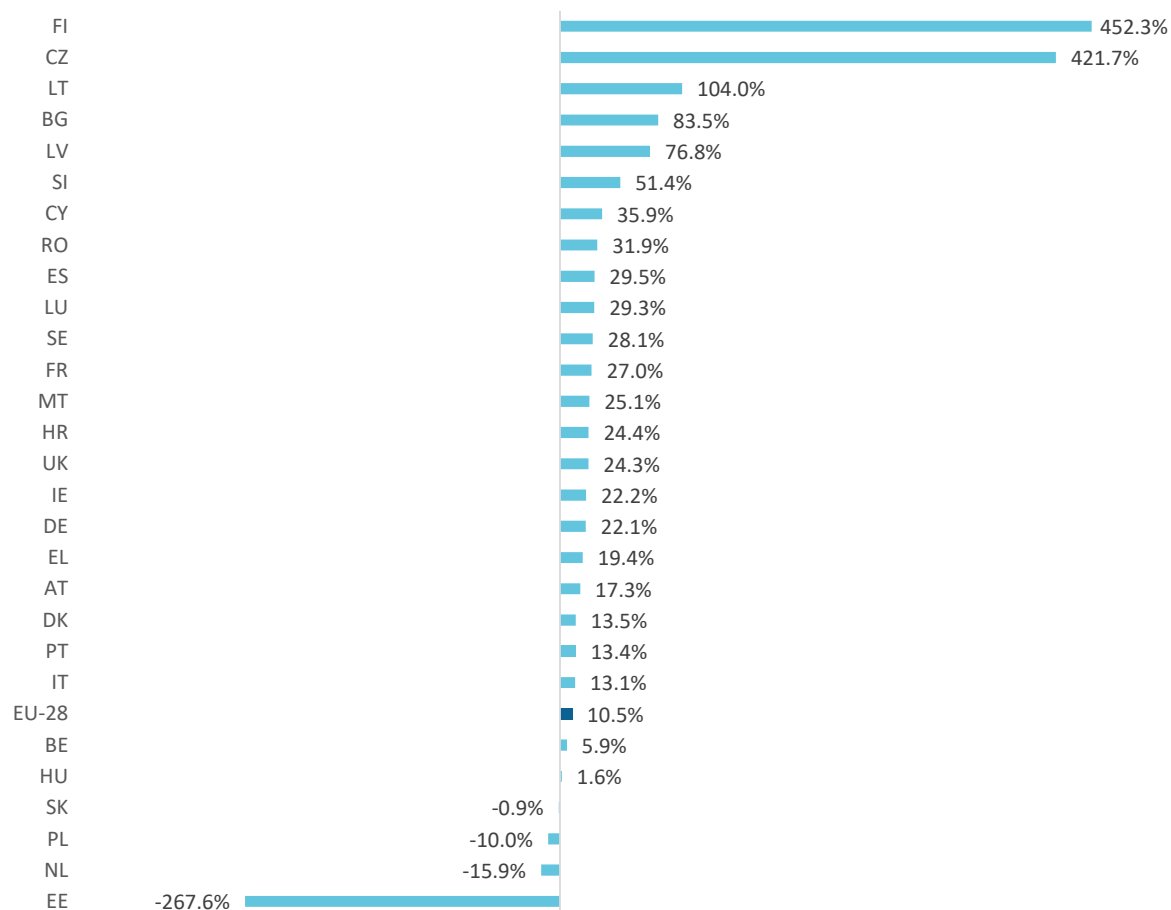
Notes: Data for Portugal are not shown because the percentage contributions are very large due to the fact that overall value added in the NFBS changed very little.

Source: Eurostat, National Statistical Offices, DIW Econ

ANNEX 12: CONTRIBUTION OF DIFFERENT SME SIZE CLASSES TO CHANGE IN NFBS EMPLOYMENT FROM 2008 TO 2017



Medium-sized SMEs



Source: Eurostat, National Statistical Offices, DIW Econ

ANNEX 13: ANALYSIS OF THE RELATIVE CONTRIBUTION OF SMEs TO THE ECONOMIC RECOVERY FROM 2009 TO 2017

The assessment of the relative contribution of SMEs can be summarised by a single figure CONTRIBUTION which is equal to the ratio of the SMEs' share of the change from 2009 to 2017 in economy-wide gross value added (employment) to the SME share of economy-wide gross value added (employment) in 2009 (see equations 1a and 1b).

$$(1a) \text{ Contribution} = \frac{\frac{(NFBS \text{ SME } GVA_{2017} - NFBS \text{ SME } GVA_{2009})}{economy - wide \text{ } GVA_{2017} - economy - wide \text{ } GVA_{2009}}}{NFBS \text{ SME } GVA_{2009} / economy - wide \text{ } GVA_{2009}}$$

(1b) Contribution

$$= \frac{\frac{(NFBS \text{ SME } employment_{2017} - NFBS \text{ SME } employment_{2009})}{economy - wide \text{ } employment_{2017} - economy - wide \text{ } employment_{2009}}}{NFBS \text{ SME } employment_{2009} / economy - wide \text{ } employment_{2009}}$$

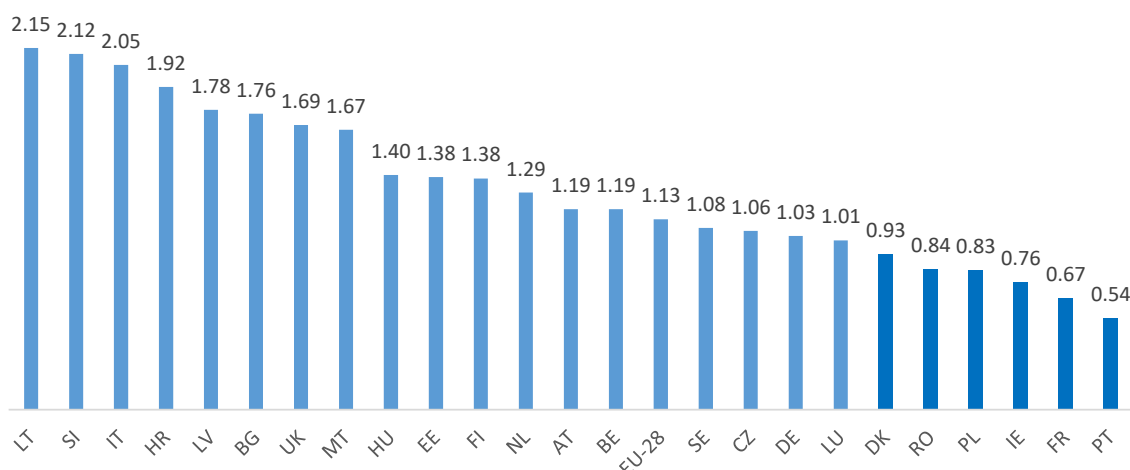
If the value of CONTRIBUTION is 1, the SME contribution to the recovery and subsequent expansion of economy-wide gross value added (employment) is commensurate with the importance of SMEs in the economy.

In contrast, if the value of CONTRIBUTION is greater than one, SMEs made a contribution to the economy-wide recovery and subsequent expansion in value added (employment) which is greater than expected on the basis of their importance in the economy.

Obviously, the opposite conclusion holds true if the value of CONTRIBUTION is less than 1.

Figure 78 and Figure 79 provide detailed information on the relative contribution of SMEs to the increase in economy-wide value added and employment from 2009 to 2017.

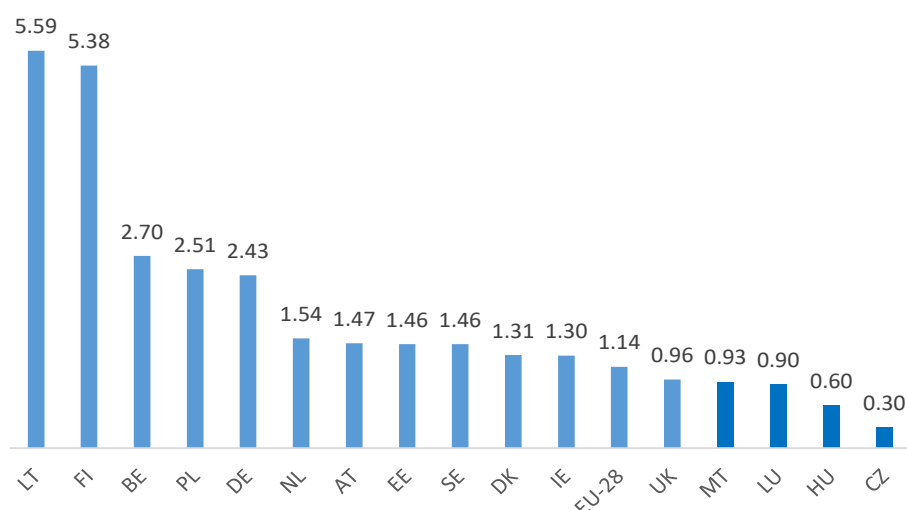
Figure 78: Contribution of SMEs in the NFBS to the recovery and subsequent expansion in economy-wide gross value added from 2009 to 2017 – value of CONTRIBUTION



Notes: The figure shows only data for Member States in which SME value added and economy-wide value added increased from 2009 to 2017

Source: Eurostat, National Statistical Offices, DIW Eco

Figure 79: Contribution of SMEs in the NFBS to the recovery in economy-wide employment from 2009 to 2017 – value of CONTRIBUTION



Notes: The figure shows only data for Member States in which SME employment and economy-wide employment increased from 2009 to 2017

Source: Eurostat, National Statistical Offices, DIW Econ

The summary overview of the results of the analysis in Table 27 shows that no perfect correlation exists between the value added and employment contribution of SMEs.

For example, in the case of DK, the contribution of SMEs in the NFBS to economy-wide growth in gross value added is less than would have been expected on the basis of the SME share in economy-wide gross value added in 2009. However, the opposite result holds true in the case of employment growth.

In total, 8 Member States show similarly opposing results (CZ, DK, HU, IE, LU, MT, PL and UK).

Table 27: Was the contribution of SMEs to the recovery and subsequent expansion of Member States' economies from 2009 to 2017 greater than would have been expected on the basis of the SMEs share of economy-wide value added and employment?

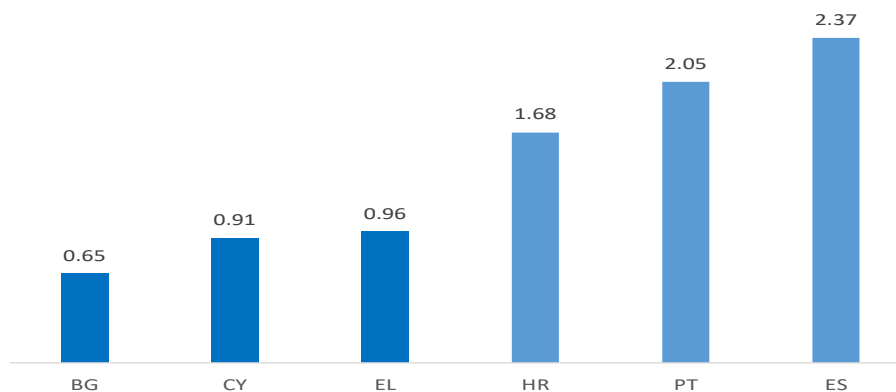
Member State	Value added	Employment
AT	YES	YES
BE	YES	YES
BG	YES	Not applicable
CY	Not applicable	Not applicable
CZ	YES	NO
DE	YES	YES
DK	NO	YES
EE	YES	YES
EL	Not applicable	Not applicable
ES	Not applicable	Not applicable
EU-28	YES	YES
FI	YES	YES
FR	NO	Not applicable
HR	YES	Not applicable
HU	YES	NO
IE	NO	YES
IT	YES	Not applicable
LT	YES	YES
LU	YES	NO
LV	YES	Not applicable
MT	YES	NO
NL	YES	YES
PL	NO	YES
PT	NO	Not applicable
RO	NO	Not applicable
SE	YES	YES
SI	YES	Not applicable
UK	YES	NO

Notes: "Not applicable" means that the SME and economy-wide indicators (value or employment) did not move in the same direction over the period 2009-2017. Slovakia not included because of a break in the data series

Source: Eurostat, National Statistical Offices, DIW Econ

The relative contribution of SMEs to changes in economy-wide employment in Member States which experienced a decline in employment from 2009 to 2017 is shown in Figure 80 below.

Figure 80: Contribution of SMEs in the NFBS to the decline in economy-wide employment from 2009 to 2017 – value of CONTRIBUTION



Source: Eurostat, National Statistical Offices, DIW Econ

Of the 12 NACE level 1 sectors, all but three contributed more than expected to the recovery in value added in the EU-NFBS. The three exceptions are: 'construction', 'electricity, gas, steam and air conditioning supply', and 'wholesale and retail trade' (Table 28: More than proportional contribution of SMEs in the different NACE1 sectors of the NFBS to the economy-wide recovery of value added from 2009 to 2017 by Member StateTable 28).

Moreover, within the goods producing industries, the medium-tech and high-tech industries contributed more than expected to the recovery in value added of the EU-28 NFBS while low-tech industries contributed less. Within the services industries, the knowledge intensive sector contributed more than expected and the less knowledge intensive sector contributed less than expected to the value added recovery of the EU-28 NFBS (Table 30).

Table 28: More than proportional contribution of SMEs in the different NACE1 sectors of the NFBS to the economy-wide recovery of value added from 2009 to 2017 by Member State

Country	NACE sector											
	B	C	D	E	F	G	H	I	J	L	M	N
AT	NO	YES	NO	YES	NO	YES	NO	YES	YES	YES	YES	YES
BE	N/A	NO	N/A	YES	NO	NO	YES	YES	NO	YES	YES	YES
BG	YES	YES	YES	YES	N/A	YES	YES	YES	YES	YES	YES	YES
CY	N/A	N/A	YES	YES	N/A	N/A	N/A	YES	YES	N/A	YES	YES
CZ	N/A	YES	N/A	NO	N/A	YES	NO	YES	NO	YES	YES	YES
DE	N/A	YES	N/A	NO	YES	NO	NO	YES	YES	NO	YES	YES
DK	N/A	YES	YES	YES	NO	YES	YES	YES	NO	YES	YES	YES
EE	YES	YES	NO	NO	YES	YES	NO	YES	YES	YES	YES	YES
EL	N/A	YES	N/A	N/A	YES	YES	NO	NO	YES	N/A	YES	YES
ES	N/A	YES	YES	YES	N/A	YES	YES	YES	N/A	YES	YES	YES
EU-28	N/A	YES	NO	YES	NO	NO	YES	YES	YES	YES	YES	YES
FI	YES	NO	NO	NO	YES	NO	NO	YES	YES	NO	YES	YES
FR	N/A	YES	YES	YES	NO	NO	YES	YES	YES	YES	YES	YES
HR	N/A	YES	YES	YES	N/A	YES	YES	YES	N/A	YES	N/A	YES
HU	N/A	YES	N/A	N/A	YES	YES	YES	YES	NO	NO	YES	YES
IE	N/A	YES	NO	N/A	YES	NO	NO	NO	YES	YES	NO	YES
IT	N/A	YES	YES	YES	N/A	YES	YES	YES	N/A	NO	YES	YES
LT	NO	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES
LU	N/A	NO	YES	NO	NO	YES	NO	NO	NO	NO	YES	NO
LV	YES	YES	YES	NO	YES	YES	NO	YES	YES	YES	YES	YES
MT	N/A	NO	N/A	N/A	NO	YES	YES	YES	YES	YES	YES	YES
NL	N/A	YES	N/A	N/A	NO	YES	YES	YES	NO	YES	YES	YES
PL	NO	YES	NO	YES	N/A	NO	YES	YES	NO	NO	NO	YES
PT	N/A	YES	NO	YES	N/A	NO	NO	YES	N/A	N/A	NO	YES
RO	NO	YES	NO	YES	N/A	YES	YES	YES	YES	NO	NO	YES
SE	YES	NO	NO	YES	YES	NO	NO	YES	YES	YES	YES	YES
SI	N/A	YES	YES	NO	N/A	YES	YES	YES	YES	NO	YES	YES
SK	NO	YES	N/A	NO	YES	YES	YES	YES	YES	YES	YES	YES
UK	N/A	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES

Notes: Nace 1 sectors: B = 'mining and quarrying', C = 'manufacturing', D = 'electricity, gas, steam and air conditioning supply', E = 'water supply, sewerage, waste management and remediation activities', F = 'construction', G = 'wholesale and retail trade, repair of motor vehicles and motorcycles', H = 'transportation and storage', I = 'accommodation and food service activities', J = 'information and communication', L = 'real estate', M = 'professional, scientific and technical activities', N = 'administrative and support service activities'

Source: LE Europe analysis

Table 29: More than proportional contribution of SMEs in the different NACE1 sectors to the economy-wide recovery in employment from 2009 to 2017 by Member State

Country	NACE sector											
	B	C	D	E	F	G	H	I	J	L	M	N
AT	N/A	NO	NO	YES	YES	YES	N/A	YES	YES	YES	YES	YES
BE	N/A	N/A	YES	N/A	YES	YES	YES	YES	NO	YES	YES	YES
BG	YES	NO	YES	N/A	YES	NO	N/A	N/A	N/A	N/A	N/A	N/A
CY	YES	YES	YES	N/A	YES	NO	YES	N/A	N/A	N/A	N/A	N/A
CZ	N/A	NO	NO	NO	N/A	YES	N/A	NO	YES	NO	YES	YES
DE	N/A	YES	NO	YES	YES	NO	YES	YES	YES	N/A	YES	YES
DK	YES	YES	YES	YES	YES	N/A	YES	N/A	YES	N/A	YES	YES
EE	N/A	YES	N/A	YES	NO	NO	NO	YES	YES	N/A	YES	YES
EL	N/A	YES	N/A	N/A	YES	YES	NO	N/A	NO	N/A	N/A	YES
ES	YES	YES	YES	N/A	YES	N/A	YES	N/A	N/A	N/A	N/A	N/A
EU-28	N/A	N/A	NO	YES	N/A	NO	YES	YES	YES	NO	YES	YES
FI	YES	N/A	YES	YES	YES	N/A	N/A	YES	YES	YES	YES	YES
FR	N/A	N/A	YES	YES	N/A	NO	N/A	N/A	YES	NO	YES	YES
HR	YES	YES	YES	N/A	YES	YES	N/A	N/A	YES	N/A	YES	N/A
HU	N/A	NO	N/A	NO	N/A	NO	NO	NO	YES	N/A	YES	YES
IE	N/A	NO	N/A	YES	N/A	NO	NO	YES	YES	YES	YES	YES
IT	N/A	N/A	YES	YES	N/A	N/A	YES	YES	N/A	N/A	YES	YES
LT	YES	YES	N/A	YES	YES	YES	YES	YES	YES	YES	YES	YES
LU	N/A	N/A	YES	NO	NO	NO	N/A	YES	YES	YES	YES	YES
LV	N/A	N/A	NO	N/A	N/A	YES	N/A	N/A	N/A	YES	N/A	N/A
MT	N/A	NO	N/A	NO	NO	NO	YES	NO	YES	YES	YES	YES
NL	YES	N/A	YES	N/A	N/A	YES	N/A	YES	YES	N/A	YES	YES
PL	N/A	YES	N/A	YES	N/A	NO	YES	NO	YES	YES	YES	YES
PT	YES	NO	NO	N/A	YES	YES	N/A	N/A	N/A	N/A	N/A	N/A
RO	YES	N/A	YES	N/A	YES	NO	N/A	N/A	N/A	YES	N/A	N/A
SE	YES	N/A	NO	YES	YES	YES	NO	YES	YES	YES	YES	YES
SI	N/A	N/A	YES	N/A	N/A	N/A	N/A	YES	YES	YES	YES	YES
SK	N/A	YES	N/A	N/A	YES	YES	YES	YES	YES	YES	YES	YES
UK	YES	N/A	YES	YES	N/A	NO	YES	YES	YES	NO	YES	YES

Notes: Nace 1 sectors: B = 'mining and quarrying', C = 'manufacturing', D = 'electricity, gas, steam and air conditioning supply', E = 'water supply, sewerage, waste management and remediation activities', F = 'construction', G = 'wholesale and retail trade, repair of motor vehicles and motorcycles', H = 'transportation and storage', I = 'accommodation and food service activities', J = 'information and communication', L = 'real estate', M = 'professional, scientific and technical activities', N = 'administrative and support service activities'

Source: LE Europe analysis

Table 30: More than proportional contribution of SMEs in different technology-intensive sectors to the economy-wide recovery of value added from 2009 to 2017 by Member State

Country	Technology intensity		
	Low-tech	Medium-tech	High-tech
AT	NO	YES	YES
BE	N/A	YES	YES
BG	YES	YES	YES
CY	N/A	N/A	YES
CZ	NO	YES	YES
DE	NO	YES	YES
DK	YES	NO	YES
EE	YES	YES	YES
EL	YES	NO	YES
ES	N/A	YES	YES
EU-28	NO	YES	YES
FI	YES	YES	NO
FR	NO	NO	YES
HR	YES	YES	YES
HU	YES	YES	YES
IE	YES	NO	YES
IT	YES	YES	YES
LT	YES	YES	YES
LU	NO	YES	NO
LV	YES	YES	YES
MT	NO	NO	N/A
NL	NO	YES	YES
PL	NO	YES	NO
PT	YES	YES	YES
RO	NO	YES	YES
SE	NO	YES	NO
SI	YES	YES	YES
SK	YES	YES	YES
UK	NO	YES	YES

Source: LE Europe analysis

Table 31: More than proportional contribution of SMEs in different technology-intensive sectors to the economy-wide recovery in employment from 2009 to 2017 by Member State

Country	Technology intensity		
	Low-tech	Medium-tech	High-tech
AT	N/A	YES	YES
BE	N/A	N/A	N/A
BG	YES	YES	N/A
CY	YES	YES	NO
CZ	N/A	YES	YES
DE	NO	YES	YES
DK	N/A	YES	YES
EE	YES	YES	YES
EL	NO	YES	YES
ES	YES	YES	N/A
EU-28	N/A	N/A	NO
FI	N/A	N/A	N/A
FR	N/A	N/A	N/A
HR	YES	NO	YES
HU	NO	NO	YES
IE	YES	N/A	YES
IT	N/A	N/A	N/A
LT	YES	YES	YES
LU	NO	N/A	NO
LV	N/A	N/A	N/A
MT	NO	NO	N/A
NL	N/A	N/A	N/A
PL	YES	YES	YES
PT	NO	YES	N/A
RO	N/A	NO	N/A
SE	N/A	N/A	N/A
SI	N/A	YES	N/A
SK	YES	YES	YES
UK	N/A	NO	N/A

Source: LE Europe analysis

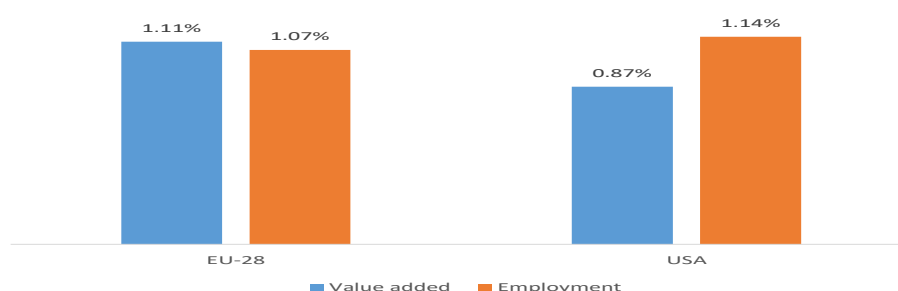
Table 32: More than proportional contribution of SMEs in different knowledge-intensive sectors to the economy-wide recovery in value added and employment from 2009 to 2017 by Member State

Country	Value added		Employment	
	Less knowledge-intensive	Knowledge-intensive	Less knowledge-intensive	Knowledge-intensive
AT	NO	YES	YES	YES
BE	N/A	NO	YES	YES
BG	NO	YES	N/A	N/A
CY	N/A	N/A	N/A	N/A
CZ	NO	YES	NO	YES
DE	NO	YES	YES	YES
DK	NO	NO	N/A	YES
EE	NO	YES	YES	YES
EL	NO	YES	NO	NO
ES	N/A	YES	N/A	N/A
EU-28	NO	YES	YES	YES
FI	NO	YES	YES	YES
FR	NO	NO	N/A	YES
HR	NO	YES	NO	YES
HU	NO	YES	NO	YES
IE	NO	NO	YES	YES
IT	NO	YES	N/A	YES
LT	NO	YES	YES	YES
LU	NO	NO	NO	YES
LV	NO	YES	N/A	N/A
MT	NO	NO	NO	YES
NL	NO	NO	YES	YES
PL	NO	YES	YES	YES
PT	YES	YES	N/A	N/A
RO	NO	YES	N/A	N/A
SE	NO	NO	YES	YES
SI	NO	YES	N/A	YES
SK	NO	YES	YES	YES
UK	NO	NO	YES	YES

Source: LE Europe analysis

Finally, over the period 2009-2016, the only period for which US SME data are available, EU-28 SMEs made a slightly greater contribution than US SMEs to the economy-wide recovery in value added and a markedly smaller contribution to the recovery in employment.

Figure 81: Contribution of SMEs to the economy-wide increase in value added and employment from 2009 to 2016 – value of CONTRIBUTION



Source: Eurostat, National Statistical Offices, DIW Econ

ANNEX 14: RESULTS OF CORRELATION ANALYSIS

Table 33: Correlation between annual growth in SME value added in various sectors and annual growth in GDP and aggregate demand components from 2008 to 2017 in the EU-28 economy

	GDP at market prices	Final consumption of households	Final consumption of general government	Gross fixed capital formation	Exports of goods and services
NACE 1 sector	0.96	0.91	0.24	0.96	0.91
B	0.63	0.66	0.08	0.54	0.83
C	0.91	0.86	0.19	0.88	0.95
D	0.40	0.48	-0.16	0.38	0.50
E	0.76	0.76	0.52	0.58	0.85
F	0.89	0.85	0.17	0.97	0.74
G	0.68	0.58	0.18	0.75	0.57
H	0.98	0.96	0.36	0.95	0.91
I	0.84	0.82	0.51	0.82	0.67
J	0.90	0.88	0.38	0.81	0.77
L	0.40	0.39	-0.43	0.45	0.62
M	0.98	0.96	0.36	0.91	0.93
N	0.91	0.87	0.24	0.87	0.87

Note: B = 'mining and quarrying', C = 'manufacturing', D = 'electricity, gas steam and air conditioning supply', E = 'water supply, sewerage, waste management and remediation activities', F = 'construction', G = 'wholesale and retail trade, repair of motor vehicles and motorcycles', H = 'transportation and storage', I = 'accommodation and food service activities', J = 'information and communication', L = 'real estate activities', M = 'professional, scientific and technical activities', N = 'administrative and support service activities'

Source: Eurostat, National Statistical Offices, DIW Econ

Table 34: Correlation between annual growth in SME value added in various NACE 2 sectors and annual growth in GDP and aggregate demand components from 2008 to 2017 in the EU-28 economy

	GDP at market prices	Final consumption of households	Final consumption of general government	Gross fixed capital formation	Exports of goods and services
B05	0.14	0.14	-0.41	0.20	0.28
C13	0.94	0.89	0.33	0.89	0.91
C16	0.94	0.90	0.34	0.92	0.90
C17	0.86	0.86	0.48	0.71	0.92
C18	0.84	0.80	0.14	0.90	0.83
C22	0.94	0.91	0.39	0.88	0.92
C25	0.93	0.90	0.12	0.92	0.96
C26	0.85	0.83	0.38	0.75	0.91
C28	0.88	0.85	0.06	0.88	0.95
C29	0.83	0.81	0.28	0.76	0.93
C31	0.89	0.87	0.40	0.92	0.70
C33	0.91	0.93	0.24	0.82	0.94
F42	0.90	0.85	0.46	0.88	0.76
F43	0.92	0.88	0.14	0.99	0.83
H49	0.94	0.90	0.33	0.99	0.79
H52	0.88	0.89	0.30	0.77	0.93
J62	0.90	0.90	0.42	0.78	0.80
M69	0.90	0.87	0.38	0.85	0.92
M70	0.94	0.92	0.35	0.84	0.94
M71	0.90	0.87	0.32	0.87	0.74
M73	0.90	0.88	0.24	0.85	0.85
M74	0.97	0.95	0.35	0.90	0.91
B06	0.50	0.54	0.07	0.37	0.75
B07	-0.07	-0.05	-0.66	0.02	0.17
B08	0.76	0.67	-0.02	0.87	0.68
B09	0.35	0.39	0.59	0.20	0.15
C10	0.60	0.53	0.29	0.52	0.66
C11	0.72	0.70	0.24	0.61	0.74
C12	-0.05	-0.01	0.17	-0.11	-0.09
C14	0.76	0.66	-0.04	0.84	0.76
C15	0.73	0.71	0.12	0.65	0.86
C19	0.42	0.34	-0.21	0.51	0.41
C20	0.80	0.78	0.48	0.66	0.86
C21	0.17	0.05	-0.29	0.19	0.20
C23	0.78	0.69	0.04	0.92	0.64
C24	0.75	0.71	0.26	0.68	0.87
C27	0.78	0.76	0.22	0.70	0.91
C30	0.27	0.18	-0.32	0.33	0.38
C32	0.72	0.69	0.22	0.73	0.77
D35	0.42	0.50	-0.06	0.36	0.50
E36	0.18	0.24	0.70	-0.10	0.27
E37	0.34	0.36	0.35	0.12	0.57
E38	0.86	0.87	0.51	0.73	0.87
E39	0.42	0.43	0.65	0.32	0.15
F41	0.79	0.74	0.17	0.88	0.58
G45	0.42	0.35	0.24	0.49	0.25
G46	0.66	0.55	-0.04	0.75	0.62
G47	0.67	0.62	0.58	0.68	0.50
H50	0.87	0.86	0.28	0.83	0.82
H51	0.62	0.59	0.45	0.49	0.66
H53	0.83	0.79	0.42	0.76	0.67
I55	0.73	0.72	0.30	0.80	0.51
I56	0.75	0.74	0.56	0.68	0.65
J58	0.62	0.62	0.39	0.56	0.70
J59	0.50	0.48	-0.15	0.69	0.39
J60	0.13	0.14	0.32	0.14	-0.08
J61	0.26	0.22	-0.25	0.21	0.34
J63	-0.09	-0.13	-0.23	-0.13	-0.02
L68	0.40	0.39	-0.43	0.45	0.62
M72	-0.06	0.02	0.43	-0.13	-0.19
M75	0.52	0.49	0.20	0.47	0.31
N77	0.55	0.48	0.14	0.57	0.44
N78	0.85	0.84	0.30	0.74	0.89
N79	0.56	0.57	-0.26	0.65	0.56
N80	0.70	0.74	0.49	0.70	0.58
N81	0.76	0.70	0.18	0.72	0.80
N82	0.80	0.75	0.21	0.76	0.74

Note: See Annex 4 for precise definition of each of the NACE 2 sectors

Source: LE Europe analysis

ANNEX 15: STATISTICAL ANALYSIS OF THE IMPACT OF THE SBA ON THE ECONOMIES OF MEMBER STATES

This chapter examines how the SBA has contributed to the performance of SMEs in the EU-28 using two different approaches.

First, the chapter presents the results of a cluster analysis of EU-28 Member States in terms of the number of SBA measures which Member States have introduced. Of interest is whether it is possible a) to identify Member States that are similar, in terms of the implementation of the SBA, and b) if such clusters can be identified, whether differences can be observed in the economic performance of SMEs across these clusters.

The second part of the chapter presents the results of an econometric analysis of the performance drivers of SMEs, of which the implementation of the SBA may be one. More precisely, the empirical analysis relates the developments in SME value added and employment in the different EU-28 Member States to a number of potential factors such as:

- General structural factors, such as the ease of doing business or overall competitiveness rating, education of the labour force, long-term unemployment rate and digitalisation of the economy.
- Cyclical factors such as the countrywide output gap, real long-term interest rates and the unemployment rate.
- Macro-economic policy variables such as the real short-term interest rate, the change in the structural balance, and evolution of aggregate demand.
- Factors reflecting the specific challenges faced by SMEs (for example, finding customers or access to finance).
- The implementation of the SBA (total number of measures, or measures by SBA principle).

Key findings of a cluster analysis of EU-28 Member States and their implementation of the SBA

The technique used to assign countries to groups on the basis of the implementation of the SBA is cluster analysis. The method calculates the dissimilarity between countries in terms of the number of SBA measures implemented under each of the 10 SBA principles. The specific type of cluster analysis method which was used is 'complete linkage cluster analysis' (also known as the 'farthest neighbour' method), with a simple cut-off based on a maximum allowed level of dissimilarity between members of a group. This method divides objects (in this case, countries) into groups based on the distances between the farthest (most dissimilar) members of the groups. The advantage of this method is that it provides well-defined groups compared to other cluster analysis methods (e.g. the single linkage or 'nearest neighbour' method).

The cluster analysis has been undertaken on the basis of the cumulative number of SBA measures introduced in each EU Member State over the period 2011-2017 per SBA principle.

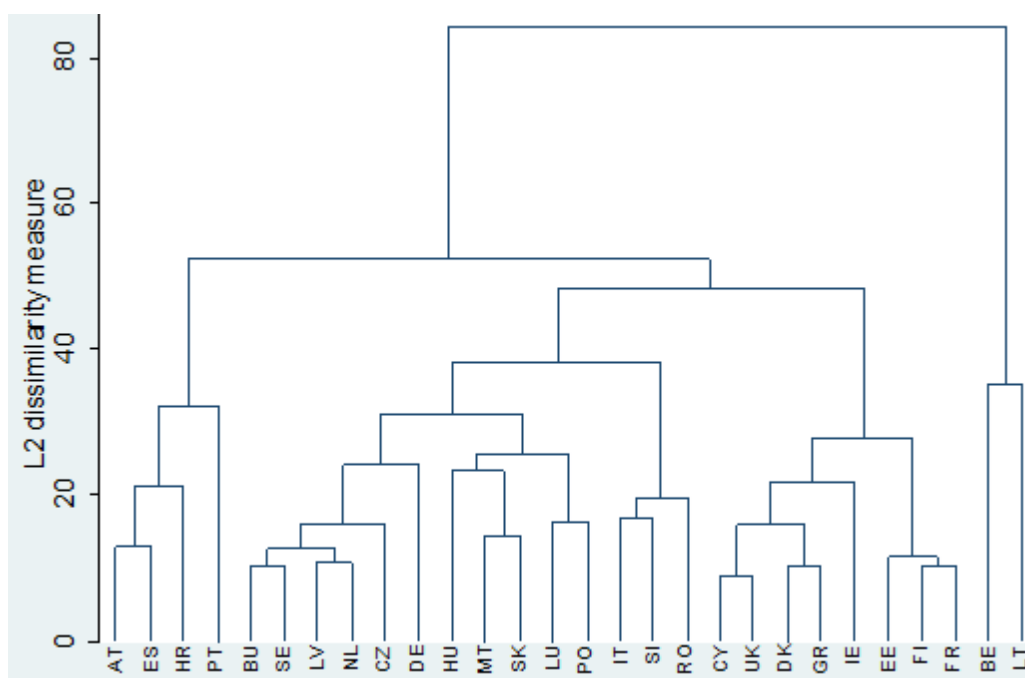
The SBA strives to foster SME development and remove obstacles to SME growth. It does not constitute a legal requirement but a series of guidance measures that can be adapted to suit each country's specific needs. This guidance is underpinned by ten core principles:

- Entrepreneurship: Creating an environment in which entrepreneurs and family businesses can thrive and entrepreneurship is rewarded.

- 'Second Chance': Ensuring that honest entrepreneurs who have experienced bankruptcy are promptly given a second opportunity to succeed.
- 'Think Small First': Designing rules modelled on the 'Think Small First' principle.
- Responsive Administration: Making public administrations responsive to the needs of SMEs.
- State Aid and Public Procurement: Adapting public policy tools to suit SME needs - facilitating SMEs' participation in public procurement and ensuring better access to State Aid for SMEs.
- Access to Finance: Facilitating SMEs' access to finance and developing a legal and business environment conducive to the specific requirements of SMEs, including timely payments in commercial transactions.
- Single Market: Helping SMEs to benefit more from the opportunities offered by the Single Market.
- Skills and Innovation: Promoting the enhancement of skills in the SME workforce and all forms of innovation.
- Environment: Enabling SMEs to transform environmental challenges into economic opportunities while acting sustainably.
- Internationalisation: Encouraging SMEs to benefit from the growth of global markets and supporting them in this pursuit.

Figure 82 can be interpreted as a tree diagram which illustrates the arrangement of the clusters produced by hierarchical clustering. Each node in the cluster tree contains a group of similar data; nodes that are next to other nodes in the graph are more 'similar' than far away nodes. Clusters at one level join with clusters in the next level up, at decreasing degrees of similarity. The final number of clusters is not predetermined.

Figure 82: Complete linkage clustering by country counts of SBA measures in each of 10 SBA measure categories (counts of SBA measures 2011 to 2017)



Notes: L2 dissimilarity means that Euclidean distance is used. Data are missing for 2015.

The height of the vertical lines and the range of the (dis)similarity axis give visual clues about the strength of the clustering. Long vertical lines indicate more distinct separation between the groups.

Long vertical lines at the top of the cluster tree indicate that the groups represented by those lines are well separated from one another. Shorter lines indicate groups that are not as distinct.

Source: LE Europe

The clustering analysis results in the following groupings of Member States:

- Austria, Spain, Croatia and Portugal
- Bulgaria, Czech Republic, Germany, Hungary, Luxembourg, Latvia, Malta, Netherlands, Poland, Sweden and Slovakia
- Italy, Romania, and Slovenia
- Cyprus, Denmark, Estonia, Finland, France, Greece, Ireland and the UK
- Belgium and Lithuania

At issue is whether these various groups of countries show clear differences in SME performance.

One hypothesis is that the more SBA measures a country has adopted, the better the general environment in which SMEs operate and hence the SME performance should be better than in countries which have implemented fewer SBA measures.

However, it could also be argued that if a country adopted many SBA measures it is because its environment was not very SME-friendly to start with, and hence it is not clear whether SMEs would be performing better than in other Member States.

Moreover, many factors other than the adoption of SBA measures impact on the performance of SMEs.

Therefore, in order to take into account a wide range of potential factors besides the SBA measures that may impact on the performance of SMEs, an extensive multivariate analysis was undertaken. The key results of this analysis are presented in the next section.

Key findings of the econometric analysis of the drivers of SME performance

The multivariate analysis of the potential impact of SBA-related interventions uses a version of the multivariate economic growth models found in the economic literature. This approach allows consideration of country-specific structural, cyclical, institutional and policy factors which may affect the performance of SMEs in the EU-28 Member States.

The proposed model relates alternative measures of SME performance to a series of variables which are likely to contribute to particular patterns of SME outcomes, in addition to the SBA-related policy measures.

SME performance is influenced by a series of economic factors which can be grouped into four main headings:

- General structural factors such as indices reflecting the ease of doing business or overall competitiveness indicators and sub-indicators, education of the labour force, long-term unemployment rate and digitalisation of the economy.
- Cyclical factors such as the countrywide output gap, real long-term interest rate and unemployment rate.
- Macro-economic policy variables such as the real short-term interest rate.
- Factors reflecting the specific challenges faced by SMEs, such as finding customers or accessing finance.

The main variable of interest is an index or alternative indices reflecting the intensity of SBA-related policy interventions.

Alternative SME performance indicators of interest are:

- number of SMEs
- SME value added
- SME employment

In order to allow for the normal time lag for the policy measures to impact the economy, both the macroeconomic policy variables and the SBA indicators enter the model with a one period lag.

Initially, the proposed approach was to use yearly data on the number of SBA-related policy measures. However, the behaviour of the corresponding panel exhibited high variability across the first 4 years with a very significant drop from the first year to the next three years and then a further large drop in 2016-2017. Such a pattern would not be helpful for estimating the impact of SBA-related interventions on the variables of interest since these are by nature much more stable over time.

Table 35: Number of SBA-related policy interventions, per country, 2011-2014

	2011/2012	2012/2013	2013/2014	2014/2015	Yearly average for 2016 and 2017
AT	36	16	7	32	11
BE	62	55	51	33	18
BG	26	25	8	13	13
CY	12	11	9	12	10
CZ	34	3	14	10	5
DE	51	22	17	22	10
DK	39	10	21	10	5
EE	14	3	8	15	3
ES	29	8	18	22	12
FI	7	1	2	5	5
FR	7	1	5	12	6
GR	27	8	9	10	9
HR	46	3	6	19	7
HU	42	20	23	17	12
IE	20	12	15	15	10
IT	33	28	12	14	15
LT	60	37	27	28	12
LU	25	9	5	11	12
LV	55	5	9	13	6
MT	28	3	3	10	12
NL	48	3	14	12	12
PO	24	3	11	38	7
PT	20	32	35	27	11
RO	16	32	35	41	15
SE	33	9	12	10	11
SI	23	43	22	14	11
SK	18	22	34	9	5
UK	40	2	5	19	4
Total	849	401	429	493	262

Source: Carsa and PwC

Two alternative approaches to constructing SBA policy intensity measures were considered as a result of the data limitations. The first was to use the cumulative number of policies over the three periods 2011/12, 2012/13 and 2014/15 in order to allow time for the effects to be felt in the most recent periods for which we have outcomes data. This approach would have relatively few observations for robust estimation of the effects of interest.

The second was to use an aggregate of policy measures over 2011-2014 and a second aggregate over 2015-2017. We opted for the second approach given that it allowed us to consider a longer period of time for the other variables of interest.⁶⁵

Using aggregated SBA data in two periods, 2011-2014 and 2015-2017, still resulted in three alternative ways to construct the SBA indicator: the simple aggregate, the cumulative of the aggregate in the second period and a yearly average for each period. The results of the econometric analysis dictated the choice among these.

Econometric model

The general form of the model is as follows:

$$\begin{aligned}
 \text{SME performance indicator}_{i,t} &= f(a * \text{General structural factors}_{i,t} + b * \text{cyclical factors} \\
 &+ c * \text{macro policy factors}_{i,t} \\
 &+ d * \text{specific challenges facing SMEs}_{i,t} + e \text{ SBA indicator}_{i,t})
 \end{aligned}$$

Where i = Member State and t = year, and performance indicator = employment, value added in real terms and number of SMEs

Given that the number of observations is small, all the possible explanatory variables cannot be included in the model at the same time. A series of initial diagnoses were made in order to select appropriate subsets of the variables of interest and to run the corresponding variations of the model.

Depending on the SME outcome variable, the significance of the SBA policy variables varied. In several cases, none of the measures of SBA policy interventions had a statistically significant effect on SME outcomes. A selection of models in which a statistically significant effect of SBA policies was identified is presented below.

BOX 3

A note on the econometric approach

At issue was whether to use a fixed effects (FE) or a random effects (RE) estimator for the panel data model. In principle random effects would be more appropriate if there was no reason to expect the missing country effects to be correlated with the included explanatory variables.

This is always a difficult call to make in such circumstances. Given the interest in investigating the independent effect of SBA policies, the greater concern is if some country-specific missing variables are correlated with the number of SBA interventions. To aid in selecting among the two approaches a Hausman test was used. The test rejected at the 98% level the hypothesis that the difference in RE and FE coefficients was not systematic. This is therefore an indication in favour of the RE model.

Another consideration was whether to estimate the random effects model through generalised method of moments (GMM) or maximum likelihood (ML) estimators. The standard random-effects regression estimator is a generalised method of moments (GMM) estimator that is just a matrix-weighted average of the between and within estimators. The ML random-effects regression estimator is an **ML estimator** that fully maximizes the likelihood of the random-effects model.

⁶⁵ Although it is important to point out that SME outcomes data for 2015 onwards are estimates.

In most cases the statistical precision of the **ML estimators** was higher and therefore this approach was adopted.

Preferred models

The modelling sought to estimate the effect of SBA policy interventions on three SME performance measures: number of SMEs, employment in SMEs and value added by SMEs.

A range of alternative measures were considered for each of these:

- Variables in levels and in logs
- Variables in growth rates
- Variables in ratios to relevant macro aggregates

The research question is to investigate the extent to which SBA policies have had an impact on SME outcomes. As such, we have searched for models where the coefficient on the SBA variables was positive and significant. In general, we found positive effects of SBA more often on SME value added, to a somewhat lesser extent on SME numbers and even less so on SME employment.

One model for each of the three SME performance indicators is presented in Table 36 to Table 38.

Table 36: Model 1: estimated effects of SBA measures on SME value added

Dependent variable: SME value added Maximum Likelihood Random Effects estimator	Estimated coefficient	Statistically significant at * 90% ** 95% *** 99%
Cumulative number of SBA interventions	163.1	***
GDP at current prices	0.2	***
Employment	3.3	**
Tax rate	-639.1	***
Insolvency, rate of recovery	298.5	*
Prevalence of tertiary education	-1145.6	**
"12 pillars" index	26011.6	***
Constant term	-101710.7	***

Source: LE Europe

The results for this model indicate a positive and statistically significant effect, at a 99% confidence level, of SBA-related interventions on value added by SMEs.

Value added by SMEs is also positively related to the level of GDP, employment, rate of recovery from insolvencies (although only marginally significant) and an index representing the 12 pillars of competitiveness.

On the other hand, value added by SMEs is negatively affected by the tax rate on corporate profits, and the prevalence of tertiary education. The latter may be considered somewhat surprising but may be due to Member States with more tertiary education producing relatively more value added through large firms.

Table 37: Model 2: estimated effects of SBA measures on the number of SMEs

Dependent variable: number of SMEs, growth rate Maximum Likelihood Random Effects estimator	Estimated coefficient	Statistically significant at * 90% ** 95% *** 99%
Number of SBA interventions	0.0004	***
Ease of starting a business	-0.0018	***
Ease of registering property	0.0004	*
Insolvency, rate of recovery	-0.0005	***
Index of connectivity	0.0029	**
Prevalence of tertiary education	0.0019	***
Constant term	0.0700	

Source: LE Europe

In this model, the dependent variable is the growth rate of the number of SMEs. In this specification, SBA-related interventions also have a positive and statistically significant effect.

Three other variables also appear to contribute to the growth of the number of SMEs, although with varying degrees of statistical significance. The stronger effects come from the index of connectivity and the prevalence of tertiary education. The index “Ease of registering property” has a statistically weaker positive effect.

There are statistically significant negative effects on the growth of SME numbers arising from the indices for ease of starting a business and recovery after insolvency. Since these are institutional indicators it is possible that Member States with higher ratings have had higher ratings for some time and the corresponding effects on growth of SMEs have been exhausted before the period covered by our sample. Conversely, those Member States that are catching up in the institutional aspect may see effects on SME growth even as the respective indices remain comparatively low.

Table 38: Model 3: estimated effects of SBA measures on SME employment

Dependent variable: SME employment, growth rate Maximum Likelihood Random Effects estimator	Estimated coefficient	Statistically significant at * 90% ** 95% *** 99%
Number of SBA interventions per year	0.0002	**
Interest rate	-0.0070	***
Tax rate	-0.0003	
Compensation of employees relative to GDP	-0.1768	***
Ease of starting a business	-0.0008	
Index of connectivity	0.0016	
Prevalence of tertiary education	0.0007	*
Constant term	0.1262	***

Source: LE Europe

A borderline statistically significant positive effect was found for the number of SBA interventions per year on the growth rate of SME employment.

The interest rate has a statistically significant negative effect as does the ratio of compensation of employees relative to GDP. None of the other variables included were statistically significant at the 95% level.

Key conclusions emerging from the econometric analysis

The econometric approach provides a different perspective on the effects of SBA policy intervention on SME outcomes, compared to the analysis based on clustering and correlations. In particular, statistically robust effects of SBA interventions on SME outcomes can be identified. This was much less apparent when relying only on clustering and correlations.

The difference in results is not entirely unexpected. An econometric analysis is a more powerful tool to identify the effects of a particular variable as it allows us to control for confounding effects of other variables. In essence, SME outcomes are related to several explanatory variables but SBA policies also have an identifiable effect.

The precision of the estimates and the robustness of the effects of SBA policies on SME outcomes varied greatly across model specifications. Positive effects on SME value added were encountered across a wide range of specifications and estimated with a relatively high level of precision. There is also a range of models where the effect of SBA policies on the number of SMEs appears positive and significant.

In relation to SME employment, results were mixed overall and none of the specifications considered yielded a very high level of statistical significance.

The precision of the estimates and the robustness of the effects of SBA policies on SME outcomes varied greatly across model specifications and SME performance indicators.

- Statistically significant and positive effects on SME value added were found across a wide range of specifications and estimated with a relatively high level of precision.
- There is also a range of models in which the effect of SBA policies on the number of SMEs is positive and statistically significant.

In relation to SME employment, the estimation results were mixed overall and none of the specifications considered yielded a very high level of statistical significance.

ANNEX 16: ESTIMATION RESULTS OF THE MODEL EXPLAINING FDI BY SMES

The following econometric model was estimated using the Flash Eurobarometer 421 microdata.

$$(1) FDI_i = \alpha + B.Emp_i + \gamma.Age_i + \Delta.Sector_i + Z.Turnover_i + H.Turnovergrowth_i + \Theta.Ownership_i + \varepsilon_i$$

The dependent variable is equal to one if the firm has undertaken FDI and equal to zero otherwise. All independent variables are categorical variables (categories are summarised in the table below) with the exception of the firm age variable. A logit estimator was used to estimate the model. Standard errors were clustered at the country level.

The variables in the model were centred on an SME with 0-9 employees, operating in the retail sector, with less than €25k turnover, experiencing no turnover growth and operating as an independent firm. SMEs with these characteristics were chosen for the 'base category' by considering the conditional distributions in the table above. In particular, SMEs in the base category are no more or less associated with undertaking FDI than average.

The results are presented in Table 39. More than 10,000 observations were used to estimate the models and each model had in the order of several hundred firms that had undertaken FDI.

Model properties are good. While the pseudo-R2 statistic is relatively small, the goodness of fit of the models was also tested by assessing the relationship between the predicted and actual frequency of firms undertaking FDI using the Hosmer and Lemeshow's goodness-of-fit test. The results of the Hosmer and Lemeshow test show that each model fits the data well, indicated by a large p-value, although the intra-EU FDI model passes the test at the 5% level.

Consider column (1) which presents the results of a regression of whether a firm has any FDI (intra- or extra-EU) on its characteristics. When all categorical variables have a value of zero, the constant reflects the likelihood of the base category of SME undertaking FDI. As such, the constant of 0.037 shows that for SMEs in the base category, for every 100 SMEs not undertaking FDI, there are an additional 3.7 that do.

Table 39 Logistic estimation results of decision to undertake FDI by SMEs in the EU28

	Any FDI (1)	Intra-EU FDI (2)	Extra-EU FDI (3)
Odds ratios			
<i>Constant†</i>	0.037***	0.025***	0.018***
<i>Emp</i>			
10-49	1.224*	1.239*	1.283
50-249	1.536***	1.577***	1.638**
<i>Age</i>	1.001	1.003	1.002
<i>Sector</i>			
Manufacturing	1.058	1.024	1.126
Services	0.961	0.97	1.026
Industry	0.679**	0.641**	0.807
<i>Turnover in 2014 (€)</i>			
Between 25k and 50k	0.52	0.471	0.357
Between 50k and 100k	0.462*	0.46	0.4
Between 100k and 250k	0.512*	0.385**	0.511
Between 250k and 500k	0.693*	0.734	0.542*
Between 0.5m and 2m	0.682***	0.743**	0.449***
Between 2m and 10m	1.362*	1.416**	1.163
Over 10m	2.623***	2.833***	2.227***
<i>Turnover growth between 2008 and 2014 (%)</i>			
Fallen more than 25	0.907	0.763	1.122
Fallen between 5 and 25	0.862	0.817	1.061
Risen between 5 and 25	0.995	0.942	1.076
Risen more than 25	1.628***	1.526***	1.768**
<i>Ownership</i>			
National group	1.025	1.162	1.037
International group	1.742***	1.833***	1.750***
N	10313	10313	10313
Number of firms with FDI	674	506	350
Pseudo R ²	0.086	0.093	0.083
Hosmer and Lemeshow (p-value)	0.761	0.099	0.533

Source: LE Europe analysis of micro data of Eurobarometer 421

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