



ANNEX 4.21 TO THE JRC TECHNICAL REPORT

High Growth Enterprises:

demographics,
finance &
policy measures

FACTSHEET - SLOVAKIA (SK)

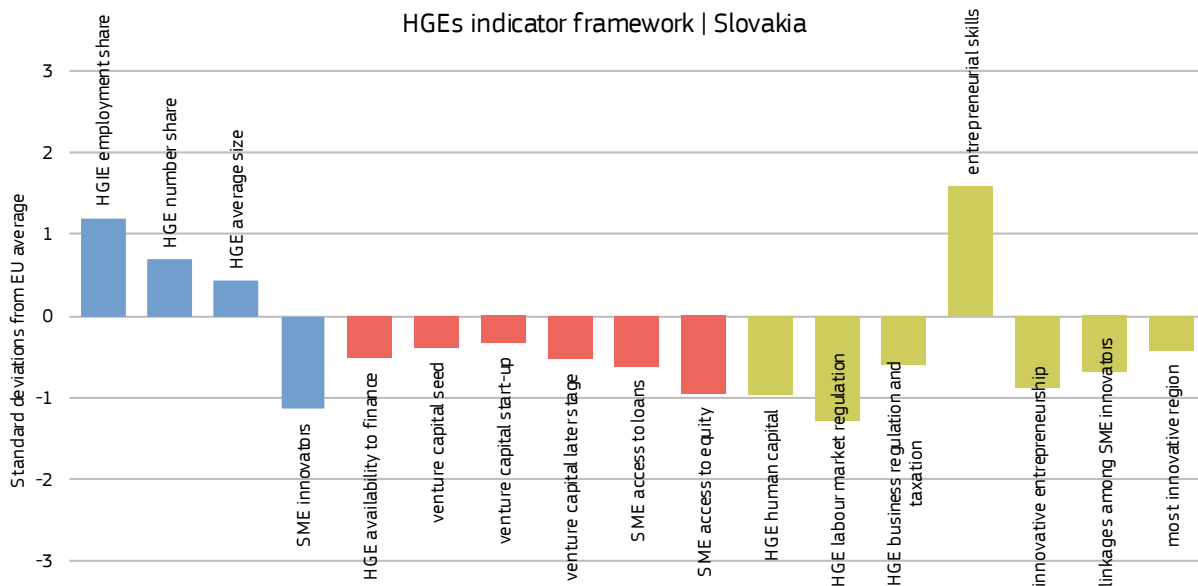
F. FLACHENECKER
J. GAVIGAN
X. GOENAGA BELDARRAIN
G. PASI
N. PREZIOSI
B. STAMENOV
G. TESTA

1. Executive summary

Overall, SK performs relatively well considering the presence of high growth enterprises* (HGEs). In SK, there is a higher employment and number share of HGEs, which are also on average larger, compared to the EU average. This relatively strong performance in terms of HGEs could be linked to the deep integration of SK in global value chains, in particular in the manufacturing sector. The highest shares of HGEs are found mostly in knowledge-intensive services and medium-low and low tech manufacturing industries. Furthermore, SK scores among the highest in self-reported entrepreneurial skills among all Member States.

The conditions for HGEs could further be improved by facilitating the availability and access to finance, improving the relevant regulatory environment and supporting the overall innovation ecosystem. While venture capital investments have increased substantially during the years 2014-2016, they are relatively low across all stages (seed, start-up and later stage) of ventures, are mostly concentrated around the region of Bratislava and recently dropped substantially. Thus, access to finance, improving the regulatory environment and advancing the innovation ecosystem (in particular the low levels of innovativeness of SMEs) can be considered key priorities for advancing the SK research and innovation ecosystem and enabling the framework conditions for the emergence and development of HGEs.

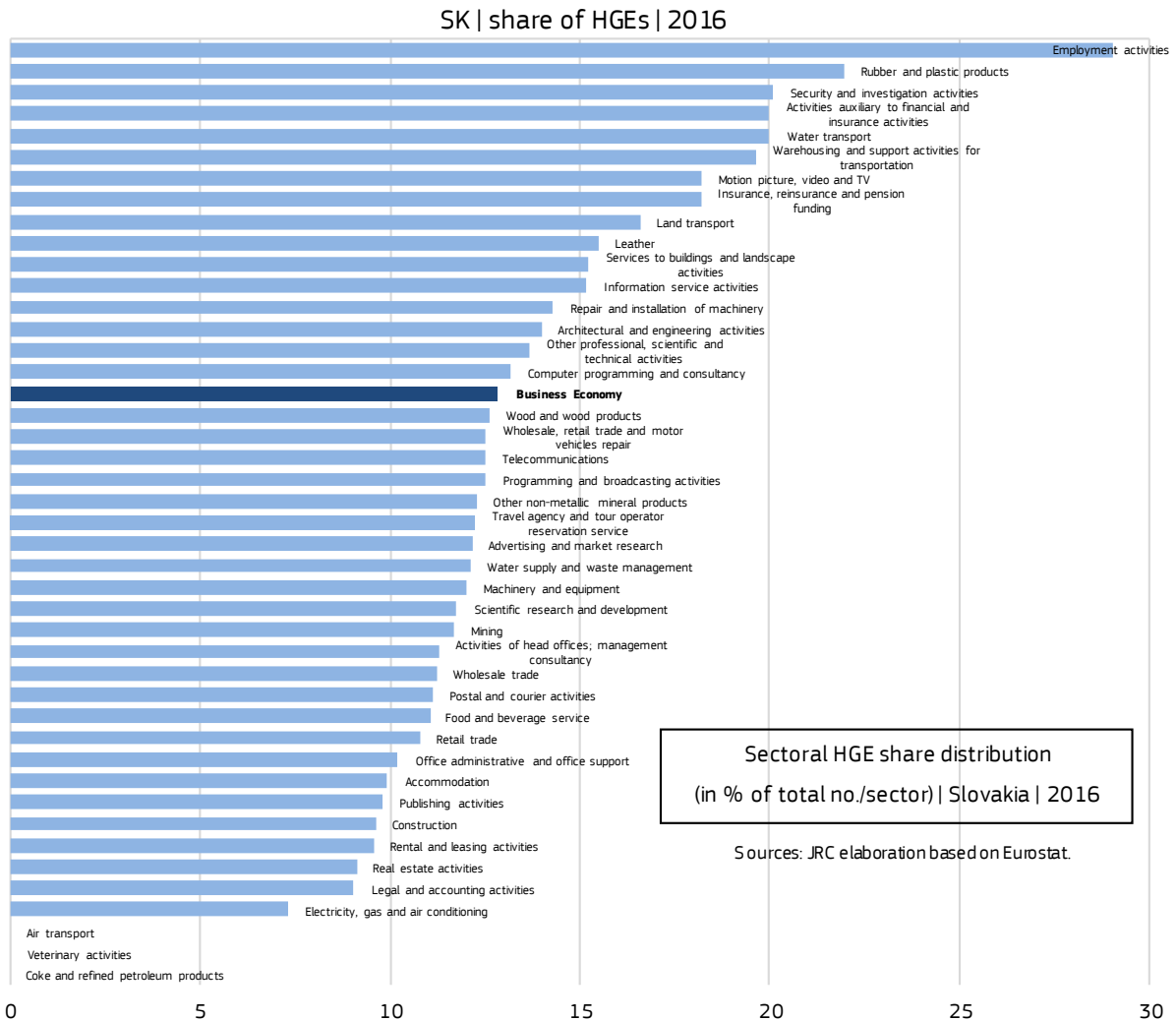
2. HGEs indicator framework



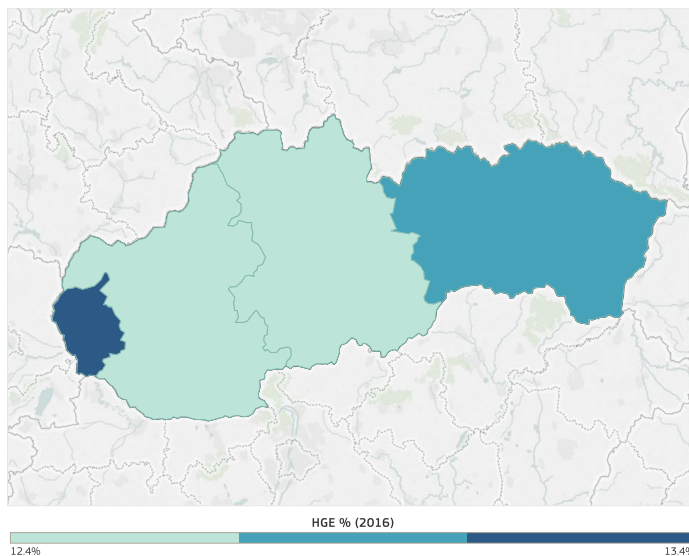
- SK performs well above the EU average in terms of the employment share of innovative HGEs across all active firms (19% of employees in enterprises with more than 10 employees work in HGEs, representing 189,789 employees in 2016), the number share of HGEs (13% of enterprises with more than 10 employees are HGEs, representing 2,130 HGEs in 2017) as well as the average employment size of HGEs (the average HGE has about 90 employees).
- Entrepreneurial skills, which measures the percentage of the working-age population reporting to have the required skills and knowledge to start a business, is one of the highest among all Member States (53% of positive responses).
- SK generally performs below the EU average across all other indicators, in particular regarding labour market regulation for HGEs, the share of innovative SMEs, SME access to equity and the percentage of HGEs considering the availability of staff with the right skills is not an investment barrier.

* In line with Eurostat, HGEs are defined in this factsheet as enterprises having (i) experienced an annualised average employment growth rate of 10% per year over a three-year period and (ii) at least 10 employees at the beginning of the growth period. The importance of HGEs is directly linked to their substantial contribution to employment growth, productivity improvements, economic renewal and innovativeness.

3. Firm demographics and sectoral decomposition



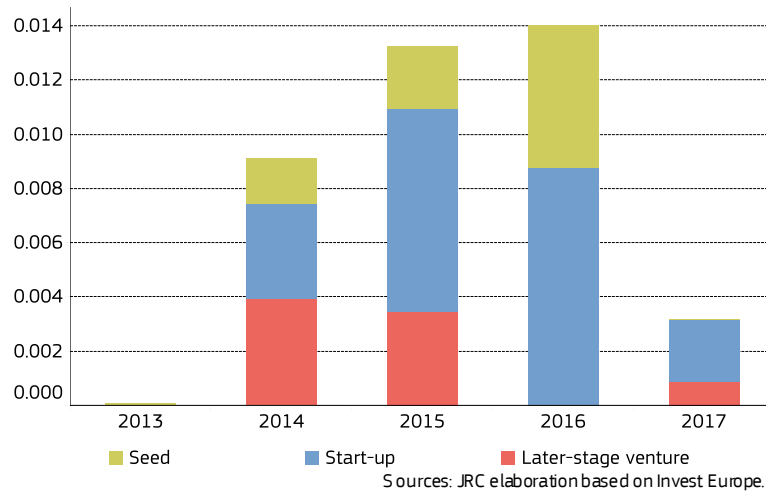
- The overall share of HGEs in SK is around 13% across the business economy, ranging from 7.3% in electricity, gas and air conditioning (or 0% for air transport, veterinary activities, and coke and refined petroleum products) to 29.1% in employment activities.
- The highest shares of HGEs are found mostly in knowledge-intensive services, medium-low manufacturing, and transportation and storage industries.



- The proportion of HGEs relative to other firms is rather homogenous across regions.
- Nevertheless, the highest share of HGEs among active enterprises is found in the region of Bratislava and to a slightly lesser extent in Eastern Slovakia.

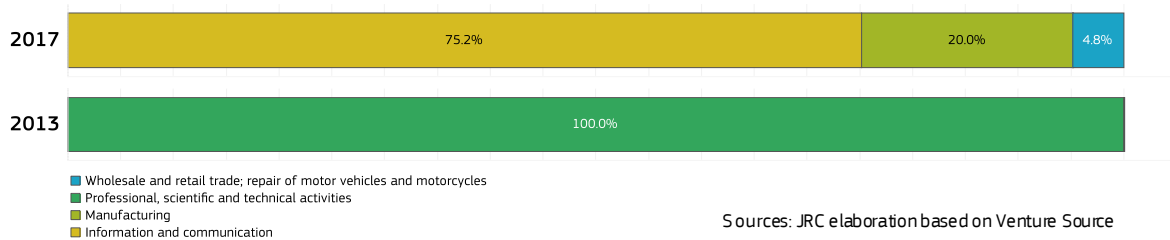
4. Financing HGEs and start-ups: the role of venture capital

Venture capital by stage of financing (in % of GDP) | Slovakia | 2013-2017



- While venture capital investments have increased substantially during the years 2014, 2015 and 2016, they are relatively low across all stages of ventures.
- During the peak in 2016, venture capital investments in SK reached 0.014% of GDP compared to roughly 0.1% in Sweden and 0.22% in the UK.
- The venture capital investments in SK are highly concentrated in Bratislava across all stages of financing.
- The relatively low levels of later stage ventures are noteworthy since they are considered crucial to keep the value added and employment created by scale-ups within an economy.

Sectoral distribution of VC investment (in %) | Slovakia | 2013 & 2017



- The sectoral distribution of venture capital investments is concentrated in four sectors: professional, scientific and technical activities (receiving 100% of VC investments in 2013), information and communication, manufacturing, and wholesale and retail trade.
- The sectoral distribution of venture capital investments appears to be volatile over time, which is also reflected by the relatively low levels of overall venture capital investments.

5. Finance-related policy measures

Policy Measure	Investment Horizon	Target	Value (€)
Slovak Growth and Capital Fund (SGCF)	3 – 4 years	Firms, SMEs	€0.5 million to €2.5 million
National Holding Fund (NHF)	3 – 5 years	Firms, SMEs	€0.5 million to €2.3 million
Innovation and Technology Fund (ITF)	4 – 6 years	Firms, SMEs	€20,000 to €1.5 million

- In SK in 2014, private venture funds account for about 2% of VC investment (59% in the long-term EU average), public VC funds for approximately 57% (EU long-term average: 25%) and mixed (private-public) VC funds for about 41% (EU long-term average: 16%). In the EU, both the share of private and public VC investments have increased between 2007 and 2018, while the mixed VC funds have decreased (JRC, forthcoming).
- The objective of the Slovak Growth and Capital Fund (SGCF) is to identify relevant projects or companies with growth potential, covering potentially fast-growing companies across all sectors. The investment horizon is 3-4 years and the volume of investments ranges from €0.5 million to €2.5 million.
- The National Holding Fund (NHF) is providing VC financing for SMEs through the Slovak Development Fund (SDF), the SGCF and the Innovation and Technology Fund (ITF). The SDF invests in established or emerging companies that need additional growth capital. The SDF invests in the capital of companies and becomes a co-owner of the company for a pre-determined period. The investment horizon is 3-5 years and the volume of investments range from €0.5 million to €2.3 million.
- The aim of the ITF is to support the entrepreneurship by providing VC. The investment horizon is 4-6 years and the volume of investments range from €20,000 to €1.5 million.

Annex: HGEs indicator framework details

Indicators	Details	Motivation
HGEs indicators		
HGE employment share	Percentage share of employees among HGEs in 50% 'most innovative' industries relative to total employment (EIS; 2018)	Measures contribution of HGEs to employment creation
HGE number share	Percentage share of HGEs of total enterprises with at least 10 employees (Eurostat, 2016)	Measures how many firms are HGEs
HGE average size	Average size of HGEs (employment definition); employees divided by number of HGEs (Eurostat; 2016)	Measures average size of HGEs, an indication for future job growth potential
SME innovators	Share of SMEs with product, process, marketing or organisational innovations or innovating in-house among all SMEs (EIS; 2018)	Existing SME innovativeness as predictor for future innovations
Financing HGEs indicators		
HGE availability of finance	Percentage of HGEs considering the availability of finance is not an investment barrier (EIBIS; 2016-2018)	HGEs access to finance is considered a precondition for the development of HGEs
Venture capital seed	Share of seed venture capital to GDP (Venture Source; 2017)	Venture capital is a relevant source of finance for potential HGEs
Venture capital start-up	Share of start-up venture capital to GDP (Venture Source; 2017)	Venture capital is a relevant source of finance for potential HGEs
Venture capital later stage	Share of later stage venture capital to GDP (Venture Source; 2017)	Venture capital is a relevant source of finance for potential HGEs
SME access to loans	EIF SME Access to Finance Sub-index for loans, comprising the use and cost of loans (EIF; 2018).	SME access to loans is an important framework condition indicating the access to loans for HGEs
SME access to equity	EIF SME Access to Finance Sub-index for equity, comprising use of equity and the sophistication of the equity market (EIF; 2018)	SME access to equity is an important framework condition indicating the access to equity for HGEs
HGEs framework conditions indicators		
HGE human capital	Percentage of HGEs considering the availability of staff with the right skills is not an investment barrier (EIBIS; 2016-2018)	HGEs access to human capital is essential for the development of HGEs
HGE labour market regulation	Percentage of HGEs considering the labour market regulation is not an investment barrier (EIBIS; 2016-2018)	HGEs may be constrained by existing labour market regulation
HGE business regulation and taxation	Percentage of HGEs considering the business regulation (e.g., licences, permits, bankruptcy) and taxation is not an investment barrier (EIBIS; 2016-2018)	HGEs may be constrained by existing business regulation
Entrepreneurial skills	Percentage of 18-64 population who believe to have the required skills and knowledge to start a business (GEM; 2018)	HGEs may require entrepreneurial spirit, skills and knowledge
Innovative entrepreneurship	Ratio between improvement-driven and necessity-driven entrepreneurship (EIS; 2018)	Countries with high relative prevalence of improvement-driven opportunity, and entrepreneurship tend to be primarily innovation-driven, thus conducive for HGEs
Linkages among SME innovators	Innovative SMEs collaborating with others, public-private co-publications and private co-funding of public R&D expenditures (EIS; 2018).	Quality of innovations increases with collaboration and provides information on sophistication of SME innovation ecosystem, thus related to HGEs.
Most innovative region	Relative performance of most advanced region in the Regional Innovation Scoreboard within each Member State vis-à-vis the best performing regions across all other Member States (RIS; 2017).	HGEs innovation ecosystems tend to be concentrated in most innovative regions/centres.

The European Commission's science and knowledge service

Joint Research Centre

JRC Mission

As the science and knowledge service of the European Commission, the Joint Research Centre's mission is to support EU policies with independent evidence throughout the whole policy cycle.



EU Science Hub

ec.europa.eu/jrc



@EU_ScienceHub



EU Science Hub - Joint research Centre



EU Science, Research and Innovation



EU Science Hub

