



ANNEX 4.17 TO THE JRC TECHNICAL REPORT

# High Growth Enterprises:

demographics,  
finance &  
policy measures

## FACTSHEET – POLAND (PL)

F. FLACHENECKER

J. GAVIGAN

X. GOENAGA BELDARRAIN

G. PASI

N. PREZIOSI

B. STAMENOV

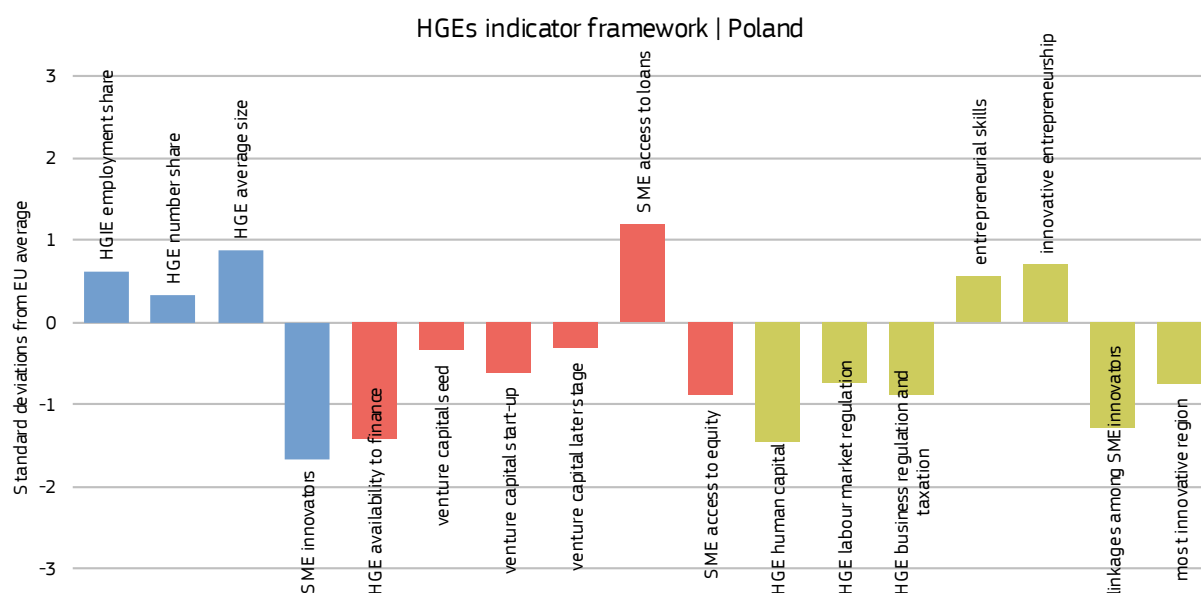
G. TESTA

## 1. Executive summary

PL performs above-average in the number and employment share of high-growth enterprises\* (HGEs). As the financial and framework conditions are generally weak, one possible explanation for the large share of HGEs might be the high average growth of the economy (2018 GDP growth: 5.1% in PL vs 2.0% in EU), which allowed HGEs to emerge disproportionately to the overall growth in the number of enterprises, thereby resulting in a relatively high share of HGEs vis-à-vis the EU average. Despite the unfavourable overall level of framework conditions, entrepreneurial skills and innovative entrepreneurship are considered to be above the EU average.

Conditions for the emergence and development of HGEs could be improved in several factors. Framework conditions are seen as one of the critical barriers, in particular, regulation for starting, running and growing a firm, along with, company taxation, labour market regulations and higher education system. However, regulations related to access to capital and product market regulations seem to be rather supportive. Venture capital financing and SME access to equity in general are well below the EU average which may constitute a barrier for HGE development. Also, venture capital is concentrated in a few, already developed regions. Over half of venture capital available in PL comes from public sources. However, these financial instruments are not targeted directly towards HGEs, which can benefit from wide array of initiatives for innovative companies that could be grouped in the following categories: training for entrepreneurs, funding initiatives, acceleration programmes and matching initiatives.

## 2. HGEs indicator framework



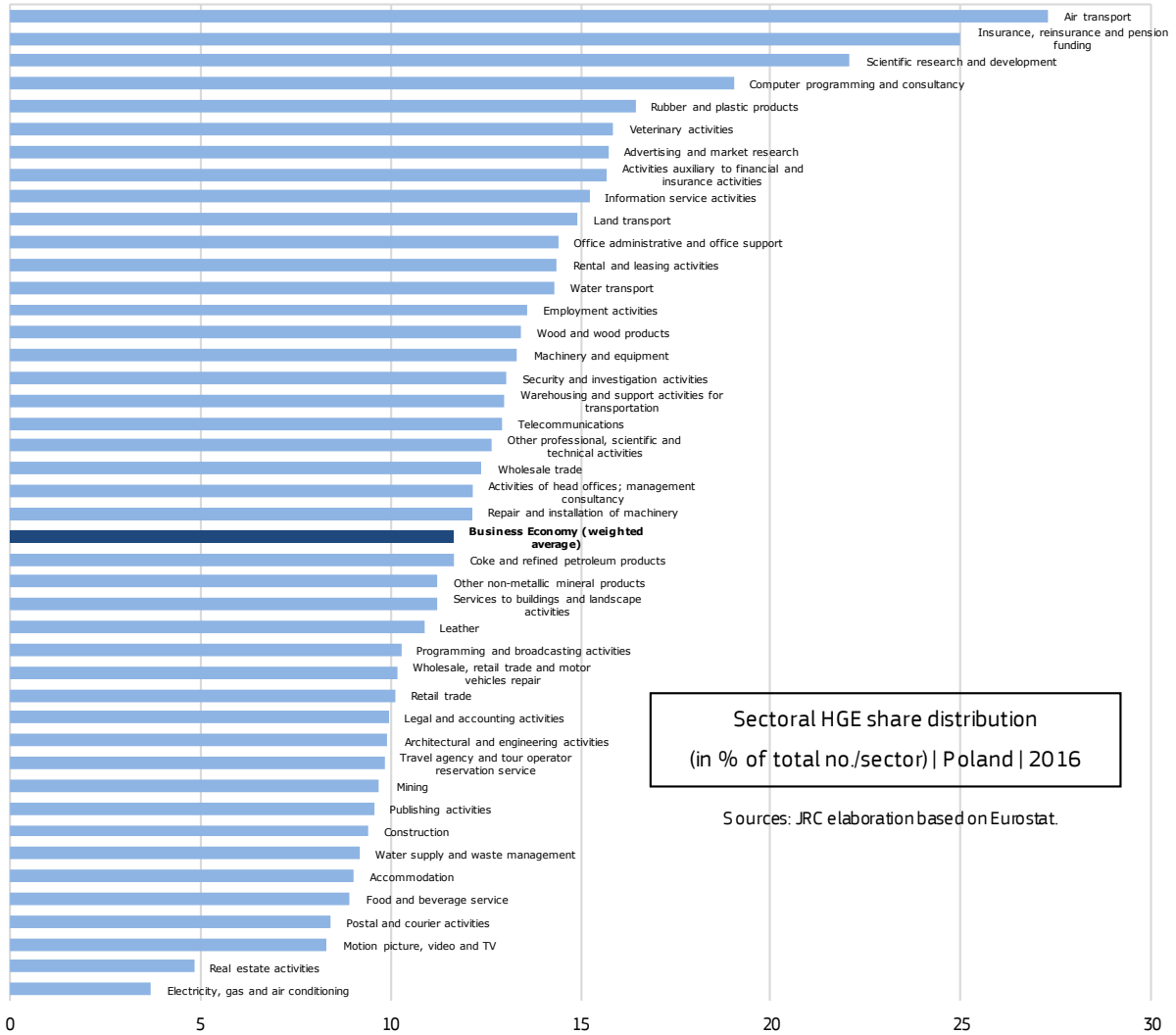
- PL performs above the EU average in the share of HGE in terms of both employment and number. The average size of HGEs is significantly higher than the EU average. In contrast to HGEs, the share of SME innovators is lagging behind.
- Financing conditions for HGE in PL are weak compared to the EU average. Although SMEs' access to loans is favourable, availability of finance is still considered a serious investment barrier for HGEs. This finding can be explained by the lower-than-average share of venture capital in GDP (seed, start-up and later stage) and weak access to equity for SMEs.
- Framework conditions are generally lagging behind the EU average. Although entrepreneurial skills and innovative entrepreneurship outperform the EU average, regulations and a lack of human capital for HGEs are serious investment barriers. The lack of linkages among SME innovators and the below-average innovation performance of

\* 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.

the most innovative region in PL highlight the weaknesses of the innovation ecosystem.

- The contrast between high share of HGEs and low level of financing and framework conditions calls for further analysis. High average growth (2018 GDP growth: 5.1% in PL vs 2.0% in EU) might have been a potential driver of the high share of HGEs in the Polish economy.

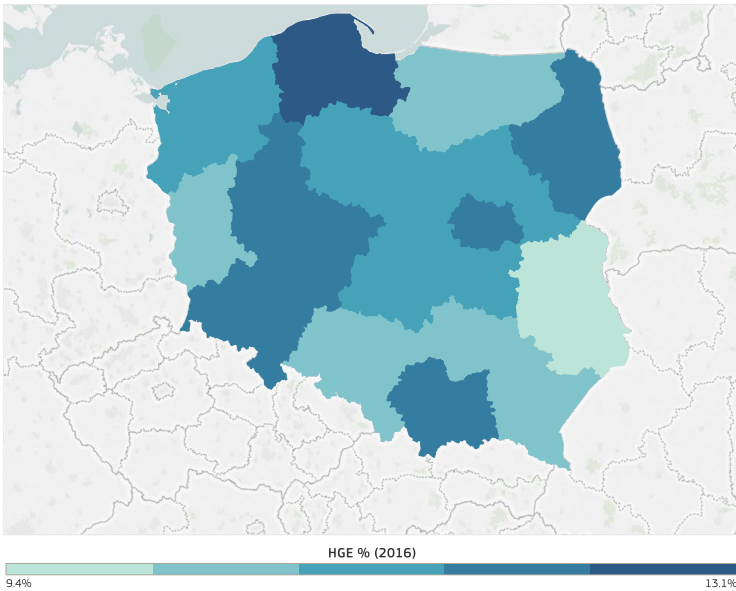
### 3. Firm demographics and sectoral decomposition



Sectoral HGE share distribution  
(in % of total no./sector) | Poland | 2016

Sources: JRC elaboration based on Eurostat.

- The average share of HGEs is 12% in PL across the business economy, ranging from 3.7% in electricity, gas and air conditioning to 27.3% in air transport.
- The highest shares of HGEs are found in knowledge intensive services.



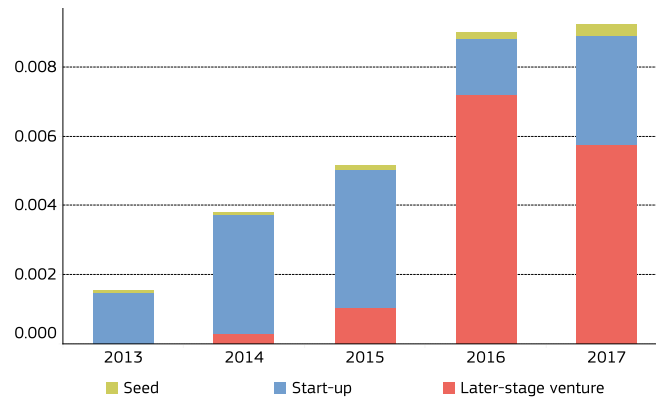
HGE share (% of active enterprises) across NUTS2 regions | 2016 | Poland

Sources: JRC elaboration based on Eurostat

- The highest share of HGEs can be found in the Pomorskie region, which showed the second-highest growth rate of gross value added in PL in 2016
- The regional share of HGEs is correlated with the GDP per capita level of the region.

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

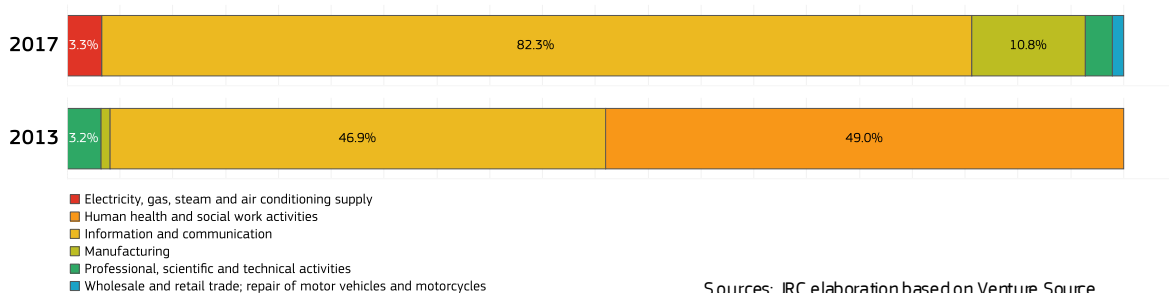
Venture capital by stage of financing (in % of GDP) | Poland | 2013-2017



Sources: JRC elaboration based on Venture Source.

- Venture capital as a share of GDP has been increasing quickly since 2013, however, the overall level is still far below the EU average.
- Within venture capital, later-stage ventures raised their share substantially. In 2017, later-stage investments were responsible for about 2/3 of all venture capital.

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



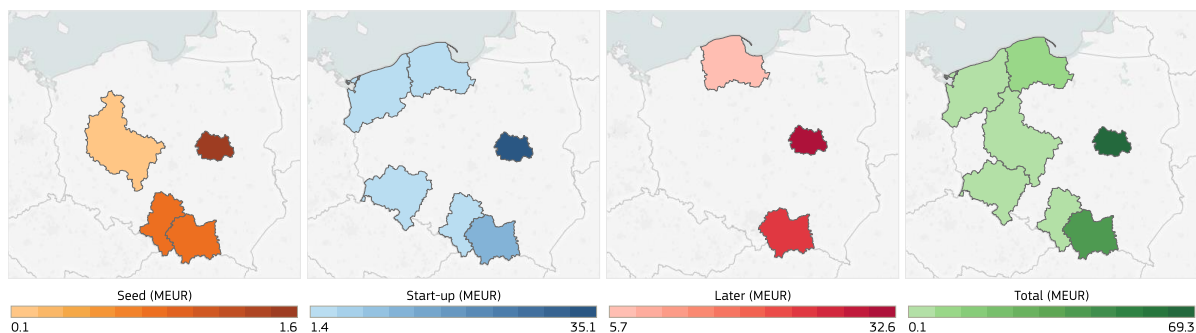
Sources: JRC elaboration based on Venture Source.

- The sectoral distribution of VC investments changed substantially between 2013 and 2017, which is also related to

the relatively low shares of VC investments per year, thus large changes can occur already due to only a few investments.

- ICT increased its share from 46.9% to 82.3%, while the health industry shrunk from almost half to practically zero. Manufacturing increased its share from below 1% to above 10%.

#### Regional distribution of VC investment by stage of financing (in MEUR) | Poland | 2013-2017



Sources: JRC elaboration based on Venture Source.

- Venture capital in general is concentrated in the few most developed regions (based on GDP per capita).
- Most of the venture capital is invested in three regions: the capital region, Malopolskie and Slaskie.

## 5. Finance-related policy measures

- There are no financial instruments tailored to HGEs in PL. However, HGEs can benefit from the following general governmental programmes and financial instruments.
- Training:
  - Academy of SME Manager: co-finance training for management of SMEs
- Funding:
  - PFR Ventures: fund of funds: financing for innovative SME
  - De minimis guarantees by BGK: guarantee programme to facilitate access to finance for SMEs
  - The Biznesmax guarantee with subsidy by BGK: guarantee programme to facilitate access to finance for SMEs
  - Electro ScaleUp: to support the dynamic development of start-ups in electromobility
  - Design for entrepreneurs: finance a professional design process with the aim of implementing a new, improved product or service
  - Legal support for start-ups: finance legal support for start-ups cooperating with investors
- Acceleration programmes:
  - Scale Up: accelerate development of start-ups
- Matching services:
  - Connect & Scale UP: improve quality of innovations by networking/adopting large companies' practices

## Annex: HGEs indicator framework details

Indicators	Details	Motivation
<b>HGEs indicators</b>		
HGE employment share	Percentage share of employees among HGEs in 50% 'most innovative' industries relative to total employment ( <a href="#">EIS; 2018</a> )	Measures contribution of HGEs to employment creation
HGE number share	Percentage share of HGEs of total enterprises with at least 10 employees ( <a href="#">Eurostat; 2016</a> )	Measures how many firms are HGEs
HGE average size	Average size of HGEs (employment definition); employees divided by number of HGEs ( <a href="#">Eurostat; 2016</a> )	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 ( <a href="#">EIS; 2018</a> )	Existing SME innovativeness as predictor for future innovations
<b>Financing HGEs indicators</b>		
HGE availability of finance	Percentage of HGEs considering the availability of finance is not an investment barrier ( <a href="#">EIBIS; 2016-2018</a> )	HGEs access to finance is considered a precondition for the development of HGEs
Venture capital seed	Share of seed venture capital to GDP ( <a href="#">Venture Source; 2017</a> )	Venture capital is a relevant source of finance for potential HGEs
Venture capital start-up	Share of start-up venture capital to GDP ( <a href="#">Venture Source; 2017</a> )	Venture capital is a relevant source of finance for potential HGEs
Venture capital later stage	Share of later stage venture capital to GDP ( <a href="#">Venture Source; 2017</a> )	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 ( <a href="#">EIF; 2018</a> ).	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 ( <a href="#">EIF; 2018</a> )	SME access to equity is an important framework condition indicating the access to equity for HGEs
<b>HGEs framework conditions indicators</b>		
HGE human capital	Percentage of HGEs considering the availability of staff with the right skills is not an investment barrier ( <a href="#">EIBIS; 2016-2018</a> )	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 ( <a href="#">EIBIS; 2016-2018</a> )	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 ( <a href="#">EIBIS; 2016-2018</a> )	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 ( <a href="#">GEM; 2018</a> )	HGEs may require entrepreneurial spirit, skills and knowledge
Innovative entrepreneurship	Ratio between improvement-driven and necessity-driven entrepreneurship ( <a href="#">EIS; 2018</a> )	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 ( <a href="#">EIS; 2018</a> ).	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 ( <a href="#">RIS; 2017</a> ).	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](https://ec.europa.eu/jrc)



@EU\_ScienceHub



EU Science Hub - Joint research Centre



EU Science, Research and Innovation



EU Science Hub

