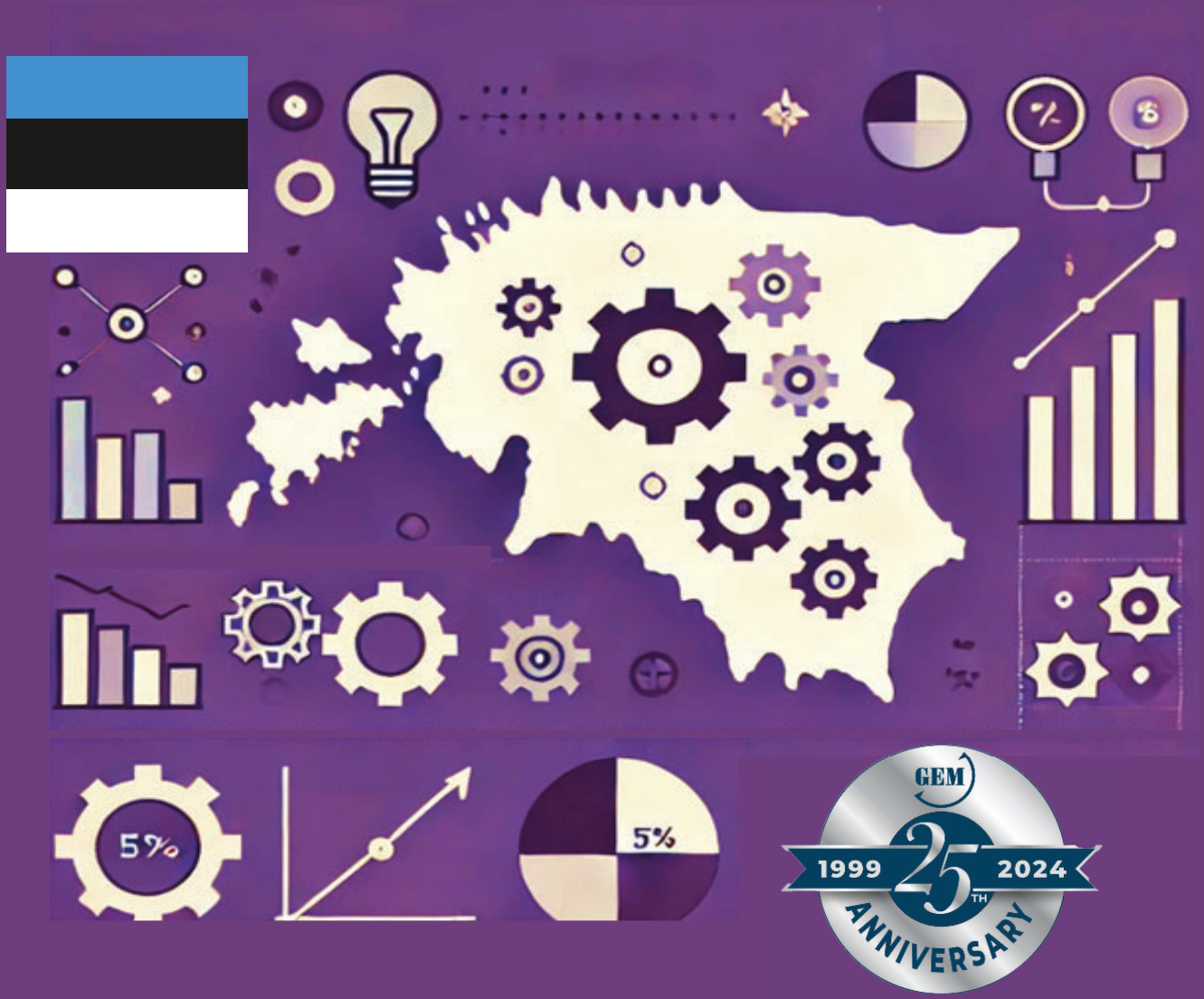
GLOBAL ENTREPRENEUERSHIP MONITOR

THE ESTONIAN REPORT

2023



REPUBLIC OF ESTONIA
MINISTRY OF ECONOMIC AFFAIRS AND COMMUNICATIONS

GLOBAL ENTREPRENEURSHIP MONITOR

THE ESTONIAN REPORT

2023

TALLINN UNIVERSITY OF TECHNOLOGY

School of Business and Governance

Tallinn 2024

Authors: Sirje Ustav, Merle Küttim, Jelena Hartšenko, Iuliia Trabskaja, Merike Kaseorg, Kaire Vahejõe, Helena Rozeik, Daria Podmetina, Basel Hammoda
Editor: Sirje Ustav
Layout: Mirjam Piik
Cover design: AI

ISSN 2228-3676 (pdf)

TABLE OF CONTENTS

Tables

Figures

FOREWORD

Entrepreneurship is an important driver of economic development, societal health and wealth. It promotes the essential innovation required not only to exploit new opportunities, promote productivity and create employment but address some of society's greatest challenges, such as the Sustainable Development Goals (SDGs) and societal, and economic shocks from different global events.

After many years and considering drastic events in past years, the impact of the pandemic and war in Ukraine, our government and all the stakeholders need hard, robust and credible data to make key decisions that stimulate the economy, at the same time promoting sustainable forms of entrepreneurship and healthy entrepreneurial ecosystem.

To create a holistic picture of the Estonian entrepreneurial ecosystem, it is important to go beyond official statistics, the number of registered businesses, or taxes collected. Stakeholders need to understand on-the-ground perceptions about entrepreneurship directly from the target audience with generalisable knowledge. Global Entrepreneurship Monitor (GEM) is still the only research format for collecting data directly from entrepreneurs and experts.

Estonia's GDP was expected to have contracted by just over 2% in 2023 (EU Commission, 2023), because of declining private consumption and falling investment, but with positive growth anticipated in 2024. Inflation has also declined over the year although recent price increases have impacted business competitiveness, especially in international markets. Additionally, the minimum wage has increased constantly over the last 3 years and will become 40% more in 2004 than in 2021. On the contrary, the unemployment rate increased steadily during 2023.

Recent government policy changes in Estonia have made us witness increased business taxes that may affect local businesses' competition and increased financial support for the transition to 'green' businesses for Estonia as a whole and just transition measures in the Ida-Viru region. The impact of these combined factors on small businesses' operations and their entrepreneurial intentions and startup launches are determined among other factors.

RESEARCH TEAM

In year 2023 GEM Estonia national report is led by Tallinn University of Technology, Department of Business Administration (see in TalTech).

Sirje Ustav
Team lead, research

Merle Küttim
APS research lead

Jelena Hartšenko
SPSS specialist, researcher

APS team

Iuliia Trabskaja

Merike Kaseorg

Kaire Vahejõe

NES team

Helena Rozeik

Daria Podmetina

Basel 10ammoda

Reviewing and counselling

Prof. Susanne Durst,
TalTech

Prof. Aki Harima,
TalTech

Prof. Mervi Raudsaar,
Tartu University

Financed and supported:

REPUBLIC OF ESTONIA
MINISTRY OF ECONOMIC AFFAIRS
AND COMMUNICATIONS

EXECUTIVE SUMMARY

In 2023 global GDP was expected to grow by just 3%, and world inflation fell to 7%. Despite this global GDP growth, all 46 economies in the GEM APS have a significant number of adults reporting that their household income has fallen in 2023. In the context of this hectic year, the following are five salient and noteworthy themes for Estonia from the 2023 GEM surveys.

1. Entrepreneurial education (EE) continues to get low marks. Despite incremental improvement in some cases, EE at school in most economies continues to be assessed as poor and was rated as the weakest of all 13 Entrepreneurial Framework Conditions in 31 out of 49 economies. This is also the case in Estonia where we found rather moderate awareness of entrepreneurial competencies (49%). However, in the 2023 survey assessed by national experts, EE at school was proposed as satisfactory or better in just five out of 49 economies, including Estonia.
2. Entrepreneurial activity rates are highly variable. Levels of new entrepreneurial activity are highly variable across all regions and all income groups in the world. For Estonia, facing the peak in 2017 when GEM data from Estonia was last collected (Figure A), we see a rapid decrease by 2023 both in young and established businesses.

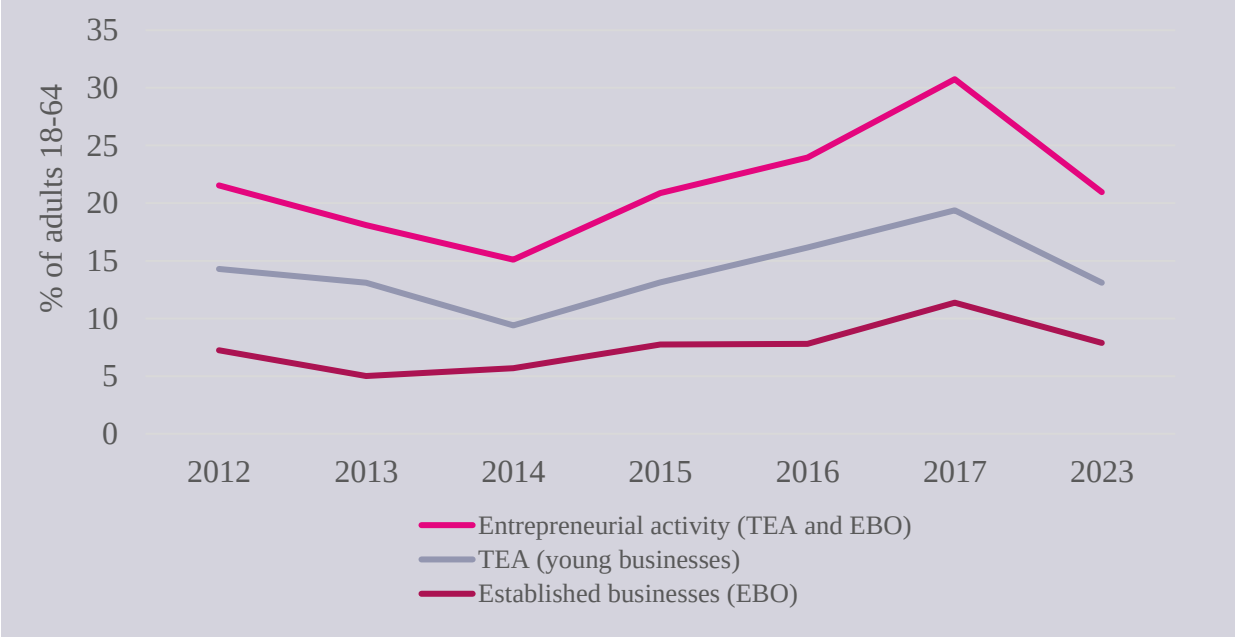


***Figure A**. The level of entrepreneurial activity in Estonia 2012–2023 (% of people aged 18–64)*
Source: GEM Adult Population Survey 2012–2023

Estonia's small economy largely depends on exports and internalisation. Therefore, we are very pleased to see that early-stage entrepreneurs possess a strong internationalisation orientation (Table A) with most of them aiming to offer innovative products and services.

***Table A**. Ambition of early-stage entrepreneurs 2023 (%)*

	2023
TEA (young businesses)	13.1
Nascent entrepreneur	10.7
New businesses	3.1
TEA (young businesses), male	16.2
TEA (young businesses), female	9.9
Entrepreneurship with high growth job-expectations	17.2
Innovative product/service	24.5
Strong internationalisation orientation	56.3

Source: GEM Adult Population Survey 2023

Perception of entrepreneurship in Estonia has changed over the last decade (Table B) in a pleasant direction, thus we can claim a positive jump since 2014 despite a slight decrease in the recent hectic times. Global crises surely have had an influence. That is supported by the fact that over time decreasing fear of failure has risen back to level 2014 with a score of 49.8%. Still, it has not seriously influenced the general perception of entrepreneurship as a desirable career choice. Unluckily also the well-increased score of perceived opportunities (61.0) has dropped back by 2017 to 2014 level (49.5) by the year of data collection in 2023.

***Table B.** Perception of entrepreneurship (% of people aged 18–64)*

	2014	2017	2023
Potential entrepreneurs	10.6	22.3	18.3
Fear of failure	49.7	36.8	49.8
Perceived entrepreneurial capabilities	42.5	49.7	46.8
Perceived opportunities to start a business	49.4	61.0	49.5
Entrepreneurship is a desirable career choice	55.6	54.2	55.7
Perceive good business opportunities, fear of failure	41.8	31.8	40.9

Source: GEM Adult Population Survey 2014–2023

The trend of why opportunities seem to be missing should be looked at in future research. Is it a general trend, or is there industry-wise differentiation? When connected to overall economic insecurity, improvement will take time. To conclude, we can see that many positive trends were in the process but suffered or stopped during the dramatic global events of recent years.

On the other hand, when asking experts involved in entrepreneurial decision-making or policies, the outlook is less negative from the entrepreneurs' perspective. Moreover, comparing us with our Baltic neighbours and the European average (Figure B), there is a lot of positive.

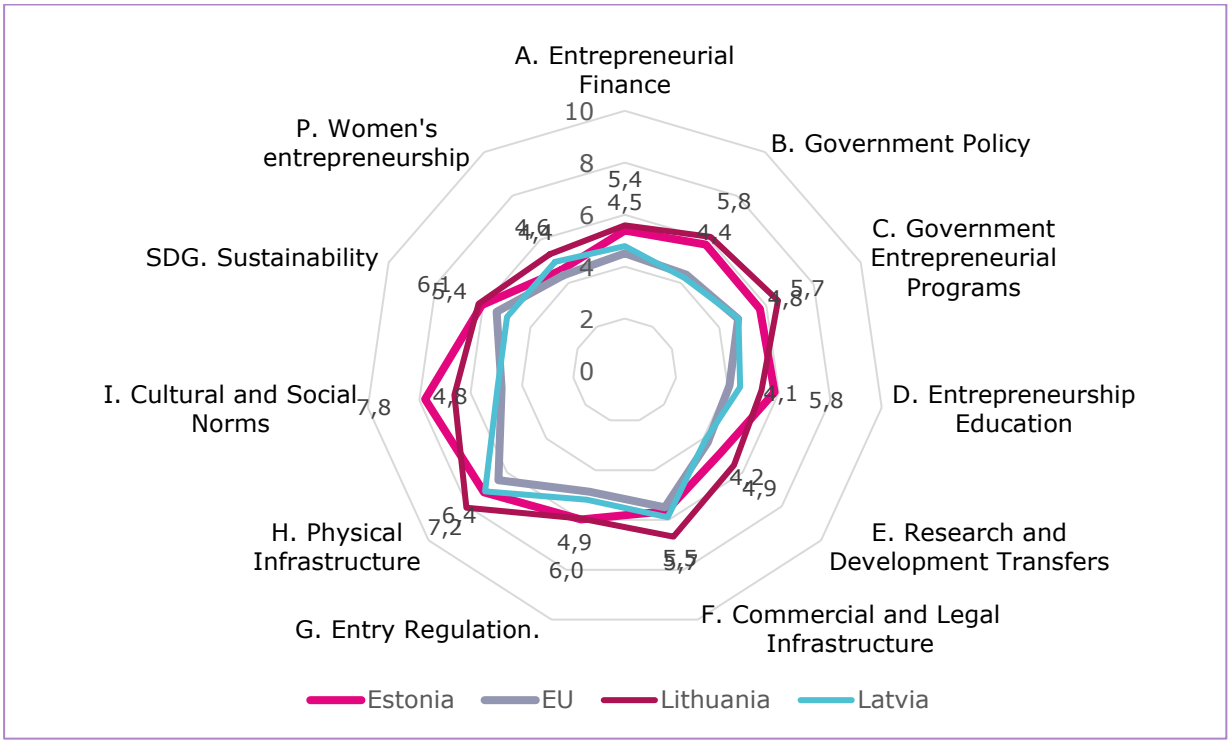


Figure B. *NES survey results 2023: Estonia vs neighbouring countries and EU average*
Source: GEM NES Survey 2023

We can be proud that cultural and social norms in Estonia are perceived as very supportive (78%) towards entrepreneurship. Experts strongly believe that Estonia is one of the best in entrepreneurship education. We need to study Lithuanian governmental programs and infrastructure – physical and commercial more closely, the aspects that local experts appreciate more than we do in Estonia. Also, women in Latvia and Lithuania seem slightly more encouraged in entrepreneurship.

Since the Baltics, and to some extent Europe, share similar economic and cultural contexts our GEM study frequently looks at the EU, Latvia and Lithuania, in some cases even with the rest of GEM-country data to understand the entrepreneurial landscape.

1 GEM RESEARCH FRAMEWORK AND METHODOLOGY

This chapter briefly lays out the GEM conceptual framework and methodology. GEM analyses and reports are based on information collected by two surveys and samples: the APS or population-based data (Figure 1.1.) by considering the proportion of individuals in each economy reporting and NES or expert data by concluding expert opinions on the local entrepreneurship eco-system.

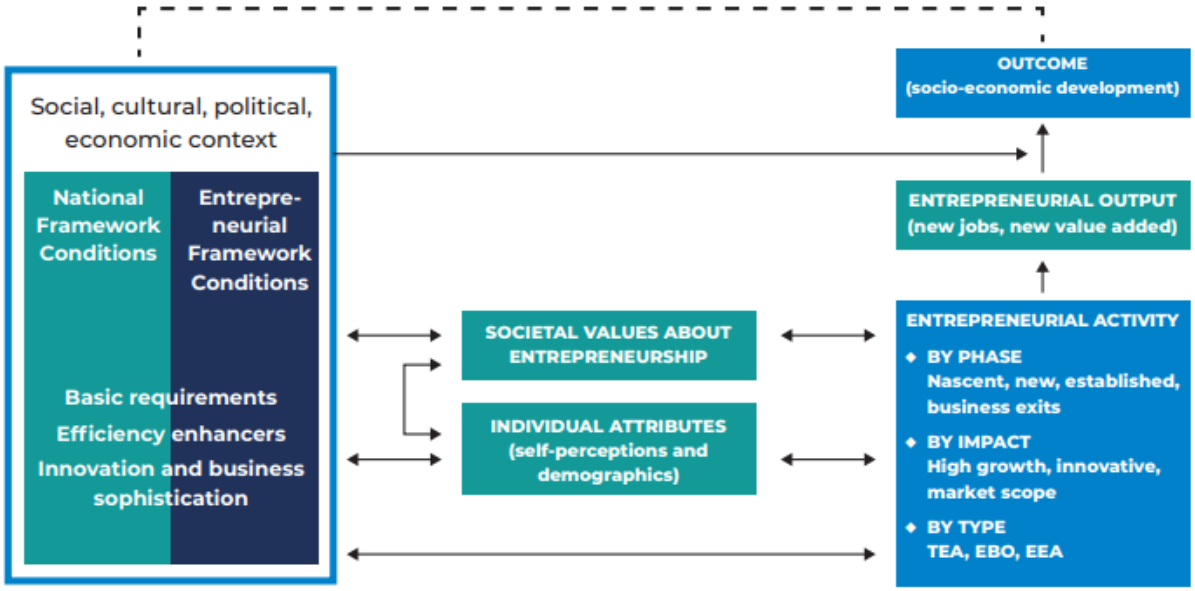


Figure 1.1. *The GEM APS conceptual framework*
(TEA refers to entrepreneurial activity, EBO refers to established business activity, and EEA refers to employee entrepreneurial activity)

All national teams participating in GEM apply the same methodology with standard questionnaires. Each National Team is responsible for the collection of GEM data, and then reporting results based on that national data set to the GEM consortium. The local team then produces the National Report for specific entrepreneurial activity

indicators of own country-based interests. In 2023 special interest is looking into women's entrepreneurship and sustainability practice.

To provide better comparability GEM 2023 divides all the economies involved in the survey into three income groups because income is often a key influence on entrepreneurial attitudes and activities. Level A economies with a Gross Domestic Product (GDP) per capita of more than $50,000; level B economies with a GDP per capita of between $25,000 and $50,000 and level C economies with a GDP per capita of less than $25,000. Estonia is considered a middle-income economy.

1.1 Adult population (APS) and expert (NES) studies

GEM APS study involves an extensive questionnaire that assesses participants' entrepreneurial intentions, activities, attitudes, motivations, and ambitions. The results are then cross-checked and quality-approved by GEM's technical and research team.

1.1.1 APS data, its collection and analysis

The APS is a comprehensive questionnaire, administered to a minimum of 2,000 adults in each GEM economy. The questionnaire is designed to collect detailed information on the entrepreneurial activities, attitudes and aspirations of respondents. For survey quality assurance several requirements were established, like a professional research team experienced in such studies, and having field competence. The APS in Estonia was conducted according to the GEM methodology.

When creating a proportional model of the survey sample, the structure of the general population regarding the respondent's place of residence, age, gender, education, type of settlement and nationality was considered. In sample formation the population proportional model, where all people among the population have an equal chance of becoming a respondent. The sample size of the study was 2000 respondents found by random sampling method. The target population was divided into subsamples (strata). The strata were based on the actual proportions of the target group in the Estonian population according to age, sex, nationality and region. Sampling different strata of the population separately is used to avoid big over- or underrepresentation of some population groups that are harder or easier to reach (like young men or older women), to avoid large values for weights and therefore improve the representativeness of the anonymous sample (that cannot be based on the personal data in the register).

Online survey – Computer Assisted Web Interviewing (CAWI), is an effective and generally good representative method. Through an online survey, it was possible to reach the survey target group – the Estonian population aged 18–64.

Telephone interviewing or Computer Assisted Telephone Interviewing (CATI) provides an opportunity to reach older and younger Estonians, as these target groups are harder to reach by online survey because they have lower response rates than other target groups. The sample plan was achieved, an online survey was conducted with 1,600 interviews and 400 interviews were made over the telephone (Table 1.1.).

Table 1.1. *Sample of population*

Criteria	1 Tallinn	2 North and West Estonia	3 Tartu region and South Estonia	4 Viru region	Total
Age					
18-24	69	65	57	32	223
25-34	165	109	101	44	419
35-49	265	207	155	90	717
50-64	193	189	154	105	641
Gender					
male	340	290	238	137	1005
female	352	280	229	134	995
Nationality					
Estonians	354	480	402	107	1343
Other nationalities	338	90	65	164	657
Settlement					
City	692	192	255	204	1342
Rural settlement	0	378	212	67	658
Total	692	570	467	271	2000

Source: Turu-uuringute AS, 2023

The data on distribution from Statistics Estonia was used for weighting. Each respondent unit was assigned a sampling weight to make the respondent's contribution proportional to the distribution of the population according to the main demographic variables. We used gender, age, region, settlement type and nationality to weight the data. The statistical analyses, e.g. means, were made using SPSS.

1.1.2 NES data and its collection and analysis

The NES is completed by selected experts in each GEM economy and collects views on the context in which entrepreneurship takes place in that economy. It gathers information about the aspects or conditions of a country's socio-economic characteristics, identified by GEM that, according to research, enhance (or hinder) new business creation in a given economy, and form the framework for the NES. These conditions have a significant impact on national entrepreneurship and are referred to as the Entrepreneurship Framework Conditions (EFCs).

The conditions for the 2023 NES study were:

- A1. Entrepreneurial Finance Are there sufficient funds for new startups?
- A2. Ease of Access to Entrepreneurial Finance And are those funds easy to access?
- B1. Government Policy: Support and Relevance Do they promote and support startups?
- B2. Government Policy: Taxes and Bureaucracy Or are new businesses burdened?

- C. Government Entrepreneurial Programs Are quality support programs available?
- D1. Entrepreneurial Education at School Do schools introduce entrepreneurship ideas?
- D2. Entrepreneurial Education Post-School Do colleges offer courses in starting a business?
- E. Research and Development Transfers Can research be translated into new businesses?
- F. Commercial and Professional Infrastructure Are these sufficient and affordable?
- G1. Ease of Entry: Market Dynamics Are markets free, open and growing?
- G2. Ease of Entry: Burdens and Regulation Do regulations encourage or restrict entry?
- H. Physical Infrastructure Is this sufficient and affordable?
- Social and Cultural Norms Does culture encourage and celebrate entrepreneurship?

The NES is conducted using a standardised questionnaire to gain responses from at least 36 experts, all carefully selected according to their expertise and knowledge of the conditions considered most representative of the entrepreneurship context.

The Estonian research team collected a sample of 45 entrepreneurship ecosystem influencers-experts for NES. Altogether there were 58 responses collected from experts, out of which there were 47 valid responses, the rest were not filled fully. There were 24 male respondents and 23 females. The final sample of 45 included five experts for each nine conditions. The average age of a respondent is 47, and the range of age is between 18 and 71. Eight respondents claimed to have a college or university degree, 38 had a master's degree or PhD, and only one had a secondary school education. On average, respondents worked in 19 areas connected to entrepreneurship, from one to 33 years.

Respondents had specialisation in finance (2), economy, economics, marketing (12), engineering (5), engineering + law (1), business management, public administration (5), anthropology, andragogy (1), entrepreneurship (1), engineering and business (2), communication (2), Forest Industry Engineer and IT Engineer (1), governance of technology (1), social scientist (1), materials technology (1), media (1), economics (business, sales, marketing) and law (1), innovation and technology management (2), IT (2), physics (1).

Among the respondents, 20 identified themselves as entrepreneurs, 8 as investors, financiers, or bankers, 9 as policymakers, 15 as business and support services providers in the private sector, 12 as business and support services providers in the public sector, and 11 as educators, teachers, and researchers.

1.2 GEM explanation of key variables

This subsection briefly lists and describes key variables used in GEM.

- **TEA** or early-stage entrepreneurship includes people who have been in the active establishment of their enterprise in the past 12 months with real establishment procedures as well as *start-ups* already established in the last 4–42 months. The sample consists of the percentage of adults (aged

18–64) starting or running a new business, i.e. one that has not yet paid wages or salaries for 42 months or more.

- **EBO** or established businesses have more than 3.5 years of entrepreneurial activity. The sample consists of the percentage of adults (aged 18–64) who are currently the owner-managers of an established business, i.e. owning and managing businesses that have paid salaries, wages or any other payments to the owners, for more than 42 months.
- **Attitudes and intentions** – This study looks at individual attitudes and perceptions across the adult populations. It includes whether survey respondents know someone who has started their own business, whether they think it is easy to start a business, and whether they consider they have the knowledge, skills and experience required to start their own
- **Exit or closing** the company is under study to dig into the reason why a business was closed within the last 12 months.
- **SDGs** (Sustainable Development Goals) reflected in the United Nations Goals, which are slowly but surely working themselves into the business environment and into the consciousness of both entrepreneurs and consumers.
- **EFCs** – Entrepreneurial Framework Conditions are the conditions identified by GEM that enhance (or hinder) new business creation in each economy and form the framework for the NES.
- **NECI** or National Entrepreneurial Context Index summarises in one figure the average state of 13 national EFCs selected by GEM researchers as the most reliable determinants of a favourable environment for entrepreneurship.
- **ESI** – Entrepreneurial Ecosystem Quality Composite Index is a diagnostic tool that provides frameworks and data to analyse just about any subnational ecosystem. ESI reports have been conducted in several ecosystems around the world.

2 ENTREPRENEURSHIP: PUBLIC ATTITUDES AND PERCEPTIONS

The examination of entrepreneurial actions holds significance for understanding the phenomenon of entrepreneurship. Nevertheless, for a comprehensive estimation of entrepreneurial potential and formulation of insightful business development forecasts the analysis of attitudes and perceptions becomes one of the key tasks. Aligned with the foundational theory of planned behaviour (Ajzen, 1991), perceptions and attitudes serve as predictors of intentions, which subsequently shape real actions and behaviour. Consequently, evaluating entrepreneurs' perceptions, attitudes and intentions emerges as an important step in comprehending the further development of the entrepreneurial ecosystem and fostering entrepreneurship.

2.1 Social foundations of entrepreneurship

Entrepreneurship and the entrepreneurs' behaviour are influenced by many factors (e.g. economic, cultural, social). Among these factors, attitudes and perceptions hold a distinct significance. Indeed, while attitudes and perceptions represent just one set of forces shaping an entrepreneur's journey, a substantial body of literature identified the key role of emotion, attitude, perception and intention in fostering entrepreneurial development (Liñán, and Fayolle, 2015). In this vein, even under unfavourable external conditions, people begin entrepreneurial activities and achieve great success if they have high motivation and confidence in their capabilities. Regarding attitude and perception, this group of factors includes many questions, such as: Does the entrepreneur believe in the potential and opportunity to start a business? Does the entrepreneur believe in him/herself? How do entrepreneurs assess they have sufficient skills and knowledge to start their own business?

Considering the social foundation of entrepreneurship, among key indicators are the "High Status to Successful Entrepreneurs Rate" and "Entrepreneurship as a Good Career Choice Rate" (see Figure 2.1.). "High Status to Successful Entrepreneurs Rate" is the percentage of the 18–64 population who agree with the statement that successful entrepreneurs receive high status in their country. In Estonia, this indicator is extremely high (71.3) and higher than in other Baltic countries. Moreover, this indicator has had a positive development trend over time and has increased by 4% since 2017 (64.7). The high

value of the "High Status to Successful Entrepreneurs Rate" can be explained by many successful cases of creation and development of startups in Estonia, such as BOLT, TransferWise, Playtech etc. These companies have Estonian founders, originate from Estonia, and at the same time have entered the global market and become the largest players in their field. Such successful cases positively influence the country's entrepreneurial culture and inspire potential entrepreneurs. In this vein, this so-called 'Unicorn Boom' is significantly motivating and inspiring. In addition, the Culture of Innovation, widespread in Estonia, makes any innovator a respected member of society, which also applies to entrepreneurs.

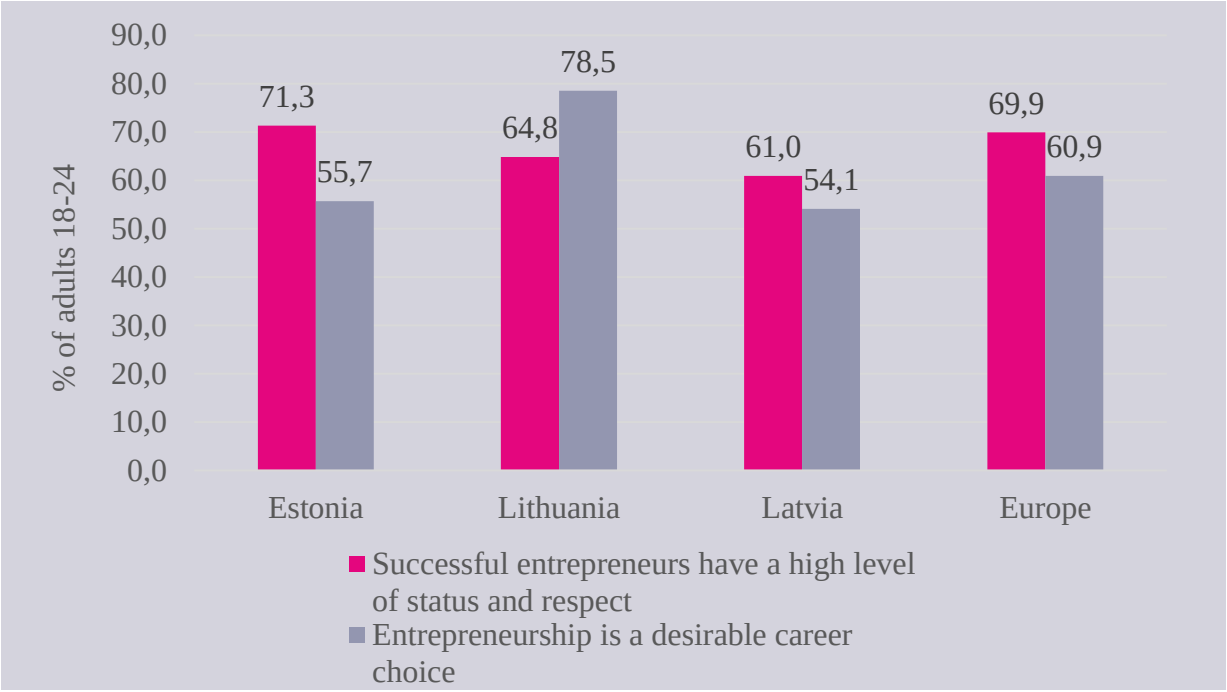


Figure 2.1. *Social foundation of entrepreneurship in Baltic countries (2023)*
Source: GEM Adult Population Survey 2023

"Entrepreneurship as a Good Career Choice Rate" shows the height of the social status of entrepreneurship in the country. Whether it is considered prestigious to become an entrepreneur. If entrepreneurship is regarded as a good career choice in the country, it encourages people to start entrepreneurial activities, and entrepreneurs become role models. Thus, the prestige of an entrepreneurial career is a significant motivator for people and stimulates the overall development of entrepreneurship, forming a positive attitude toward entrepreneurship.

2.2 Starting a business

Starting an entrepreneurial activity represents one of the key milestones in the entrepreneurial journey. Upon committing to start an entrepreneurial journey, a critical consideration is the presence of entrepreneurs within one's network and personal acquaintance with them. To measure that, an indicator: "Knowing someone who has started a business

in the past two years" is utilised. Additionally, even if you know an entrepreneur, the question "How easy is it to start a business" arises, and the statement "In my country, it is easy to start a business" is used to measure this question. Moreover, individuals' perception of the entrepreneurial opportunity, and how people perceive the opportunity to become an entrepreneur measured via the "Perceived Opportunities Rate" is central to this assessment.

The significance of: "Know someone who has started a new business" in its potential lies as a trigger for entrepreneurial aspirations. Establishing personal ties with individuals who have entrepreneurial experience can significantly influence one's motivation to initiate their business ventures. This interpersonal connection bridges the gap between the abstract concept of entrepreneurship and its practical realisation, making the idea more tangible and feasible. The indicator "Know someone who has started a new business" is surprisingly low in Estonia (44.3%) and Estonia ranks 40th for this indicator in the global ranking. This fact is surprising given the small size of the country and the close acquaintance of people. Perhaps the low rate can be explained by the fact that entrepreneurs are likely to socialise in their small circle.

You may be acquainted with someone who has launched a business venture, however, was their experience characterised by simplicity? While individual cases may vary, the consensus often leans towards acknowledging the complexity of entrepreneurship. To measure public perception regarding the ease of starting a business within a country, APSs employ a statement: "In my country, it is easy to start a business." Notably, in Estonia 77.3% of respondents affirm the ease of entrepreneurial activity, positioning the nation 7th in the global ranking. This statistic finds its rationale in several factors: the near absence of bureaucracy, extremely simplified and convenient formal procedures (the formalities related to the creation of a new venture usually take around 30 minutes and can be done online), an excellent digital ecosystem, which allows almost all procedures to be done online, for example, registering a new company. Furthermore, Estonia boasts an extensive support infrastructure for entrepreneurs such as financial support, incubators and pre-incubator facilities.

Indeed, the system of incubator support for entrepreneurs is well developed in Estonia, Startup Wise Guys, Superangel, Prototron, Tehnopol Startup Incubator and Estonian Business Angel Network are among the largest incubators. There is also extensive support in universities (e.g. the Startup Lab pre-incubator at the University of Tartu). In addition, strategic planning competencies are very well developed in Estonia (Vadi, 2022). The ability to plan and clearly define goals and expected performances helps reduce uncertainty and appreciate that starting a business in the favourable Estonian entrepreneurial ecosystem of the economy is not complicated at all. Also, well-developed digital infrastructure and the availability of financing in Estonia facilitate business formation.

It is interesting to delve into the regional distribution of the perception of how easy it is to start a business in Estonia. As demonstrated in Figure 2.2., North Estonia shows the most favourable figures, attributable to the inclusion of Tallinn, the nation's capital known for its highly developed entrepreneurial ecosystem and many successful start-ups.

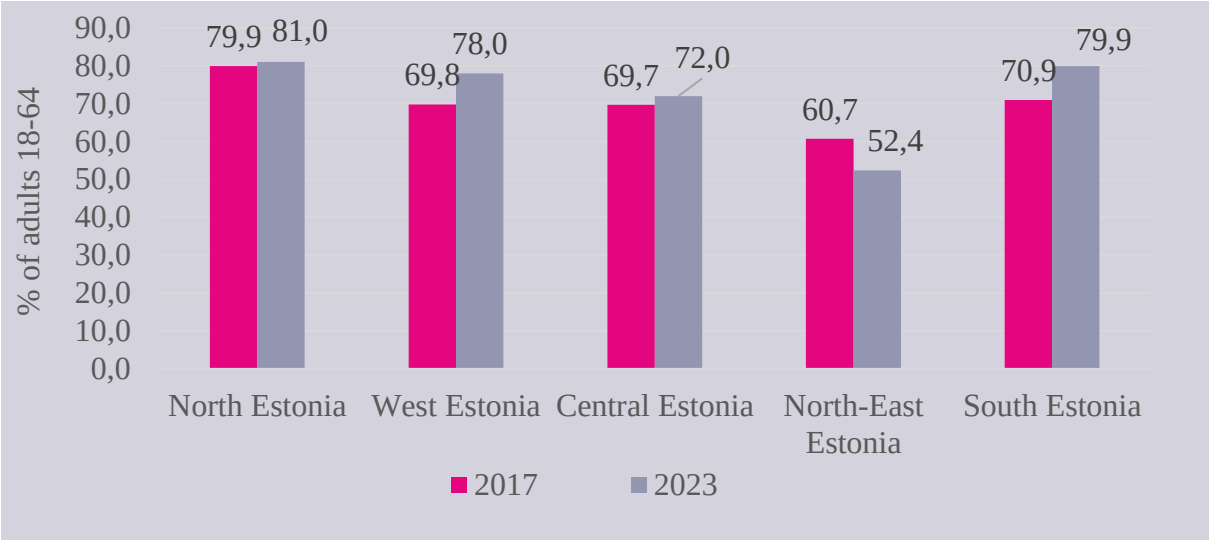


Figure 2.2. *Easy to start a business. Regions of Estonia*
Source: Authors' calculations based on GEM Adult Population Survey 2017-2023 data

Similarly, South Estonia emerges as a frontrunner; this region includes Tartu, a hub of entrepreneurial activity, with the headquarters of prominent startups such as Bolt, alongside a robust network of entrepreneurial support incubators. Tartu hosts the country's oldest university, fostering entrepreneurship through support systems and commercialisation for scientific achievements including spin-off centres. Conversely, North-East Estonia records the lowest indicators, reflecting historical patterns of low entrepreneurial dynamism in Ida-Viru County.

Traditionally, this region has been characterised by the industrial and mining enterprises, with a populace predisposed toward employment within these sectors. Additionally, one can observe that over the last six years, since 2017, the figures have partly changed, however, the proportional distribution has been maintained.

The Perceived Opportunities Rate stands as a key metric of considerable relevance. In the population survey, participants are asked to assess whether there are "Good conditions to start a business in the following 6 months in the area where he/she lives". This distinction is crucial as it shifts the focus from abstract notions of entrepreneurial feasibility to the proposed geographical area. In 2023, Estonia's Perceived Opportunities Rate marginally trails the European average, registering at 49.5% compared to Europe's 50.7%. Estonia holds the global 31st position, potentially influenced by inflationary pressures and geopolitical instabilities. Among the Baltic nations, Estonia ranks second, behind Lithuania with a score of 61.2%.

Within the Estonian regional context, as outlined in Table 2.1., the Perceived Opportunities Rate mirrors trends observed before. Once again, North Estonia and South Estonia emerge as frontrunners, while North-East Estonia lags.

Table 2.1. *Perceived opportunities rate. Regions of Estonia (2014, 2017, 2023)*

Perceived Opportunities Rate in %			
	2014	**2017**	**2023**
North Estonia	80.0	75.0	55.7
West Estonia	31.8	47.6	50.3
Central Estonia	28.7	44.9	34.0
North-East Estonia	36.8	34.6	17.8
South Estonia	41.8	57.7	56.8
All Estonia	49.4	61.0	49.5

Source: Authors' calculations based on GEM Adult Population Survey 2014-2023 data

The underlying rationales likely repeat those elucidated in the preceding paragraph. The dynamics over the last 10 years are of particular interest. In general, almost all regions of Estonia have seen a decrease in the indicator. The explanation can be the complicated geopolitical situation, inflation, economic crisis and market saturation with startups.

2.3 Ease of starting a business

One of the core measures of a nation's entrepreneurial potential lies in the "Ease of Starting a Business" indicator. This measure is assessed through a series of statements.

First, the Perceived Capabilities Rate is evaluated through the statement: "I have the knowledge, skills and experience to start my own business". This assertion aligns with the self-perception category within the Global Entrepreneurship Monitor population study. Individuals are more inclined to start a business if they harbour the belief that they have the requisite skills and knowledge to navigate the complexities of launching a new enterprise. This self-assurance creates a sense of preparedness and proficiency in entrepreneurial pursuits.

The Perceived Capabilities Rate in Estonia (46.8) falls below that of the Baltic countries and lags behind the European average. This outcome is somewhat unexpected given the widespread integration of Estonian entrepreneurship education initiatives. Dedicated entrepreneurship subjects have been integrated into the curriculum of schools and universities across various disciplines and academic levels, including bachelor's, master's, and doctoral programs (e.g., at the Universities of Tartu and Tallinn). Entrepreneurship education was prioritised in Estonia at the end of the 1990s, and entrepreneurship education was introduced starting from the lower grades. Nevertheless, it is essential to recognise that individuals may underestimate their skills and knowledge. For example, low self-esteem may be associated with decreasing life satisfaction in Estonia, as indicated in the "Estonian Human Development Report. Mental Health and Well-Being" (2023), lower satisfaction may be related to COVID and the negative effects of the pandemic.

The second item is the "Fear of Failure Rate", measured by the statement: "You would not start a business for fear it might fail". Obviously, entrepreneurial activity has

a considerable degree of uncertainty (Kuckertz, 2021; Fisher et al., 2020; Diandra, & Azmy, 2020). When an individual starts a new business venture, this person faces unpredictable outcomes, with success and failure looming as distinct possibilities.

It is widely acknowledged that a substantial proportion of startups fail in the first year of their existence (Eisenmann, 2021; Cavicchioli, & Kocollari, 2021; Santisteban, Mauricio, & Cachay, 2021). Consequently, the fear of failure often emerges as a significant barrier preventing individuals from starting a business (Cacciotti, et al., 2016; Morgan, Sisak, 2016). Notably, Estonia's Fear of Failure Rate stands at 49.8% (see Table 2.2), significantly higher than in other Baltic countries – Lithuania and Latvia. However, it is on par with the average of European countries. The possible explanation here may be the general attitude towards failure in Estonian society, where failure is interpreted as either a definitive setback or merely a bold attempt exerting considerable influence.

Table 2.2. *Ease of starting the business in Baltic countries (2023)*

Countries	Perceived Capabilities Rate %	Fear of Failure Rate %
Estonia	46,8	49,8
Latvia	52,4	41,8
Lithuania	57,1	38,4
Europe	52,0	49,1

Source: GEM Adult Population Survey 2023

When examining the Perceived Capabilities Rate across Estonia's regions (see Table 2.3.), North Estonia, South Estonia, and West Estonia stand out with the highest scores. Residents in these areas exhibit the greatest confidence in their skills and knowledge to start entrepreneurial activities. This phenomenon likely stems from the activities of universities specialising in entrepreneurial education, such as Tallinn University of Technology (TalTech), Estonian Business School, and Tartu University.

Table 2.3. *Perceived capabilities rate. Regions of Estonia (2014, 2017, 2023)*

Perceived Capabilities Rate in %			
	2014	2017	2023
North Estonia	47.0	51.7	48.9
West Estonia	42.4	47.6	47.1
Central Estonia	35.7	47.2	45.0
North-East Estonia	31.8	38.2	34.8
South Estonia	41.6	53.5	47.9
All Estonia	42.5	49.7	46.8

Source: Authors' calculations based on GEM Adult Population Survey 2014–2023 data

As noted above these academic institutions offer various entrepreneurship-related training programs, courses, and professional development initiatives. Moreover, these regions boast a growth of accelerators and incubators providing diverse educational opportunities.

Conversely, residents in North-East Estonia perceive themselves as the least prepared for entrepreneurship among all Estonian regions. The disparity could be

attributed to a lower inclination towards entrepreneurship in this region, coupled with a scarcity of universities and incubators fostering entrepreneurial skills.

In addition, linguistic and cultural factors may also have an impact. The region is mainly Russian speaking. Ethnic differences characterise entrepreneurial behaviour as well; the segregated Russian-language community is less engaged in entrepreneurial activities compared to Estonians (Adsera, & Chiswick, 2007; Anthias, & Cederberg, 2009; Kelm, Lasek, & Brzozowski, 2019).

2.4 Intentions to start a business

Among other indicators, the GEM APS measures an intention to start a business. Intention is one of the key indicators of the entrepreneurs' behaviour. Following the foundational theory of planned behaviour (Ajzen, 1991), intention predicts the actions. So far, with a high intention, there is a high probability that the action will follow. In this vein, the intention to start a business predicts actions to start. To measure the intention of individuals to start a business, the question "Are you expecting to start a new business in the next three years?" is used (Table 2.4.).

Table 2.4. *Entrepreneurial intentions rate in Baltic countries (2023)*

Countries	Entrepreneurial Intentions rate (Expects to start a new business in the next 3 years, % of adults responding yes)		
	2014	**2017**	**2023**
Estonia	10.6	22.3	18.3
Latvia	-	21.8	12.0
Lithuania	22.3	-	24.4
EU	13.4	13.4	15.7

Source: GEM Adult Population Survey 2023

This indicator is relatively high – 18.3% in Estonia, higher than the European average score. Among the Baltic countries, this indicator is higher only in Lithuania (24.4%). This indicator has remained stable since 2018, which is good news, as it suggests that the intention to start a business in Estonia has not decreased despite the consequences of the pandemic and political crises.

2.5 Investments in start-ups

GEM aims to understand the phenomenon of entrepreneurship more precisely and in-depth, using different perspectives and approaches. That is why, among other indicators, the GEM APS uses the indicator 'Investing in someone else's new business'. This approach makes it possible to identify several

important aspects. Firstly, there is also the possibility of being entrepreneurial. While individuals may not actively seek entrepreneurial opportunities or engage in the entrepreneurial process when investing, they still exhibit an entrepreneurial mindset by taking risks and embracing uncertainty.

When analysing this item, the regional cross-section is interesting. Thus, unlike the distribution characteristic of all the indicators mentioned above – in this indicator, the South of Estonia leads by a large margin (7.1%), significantly overtaking North Estonia (4.6%).

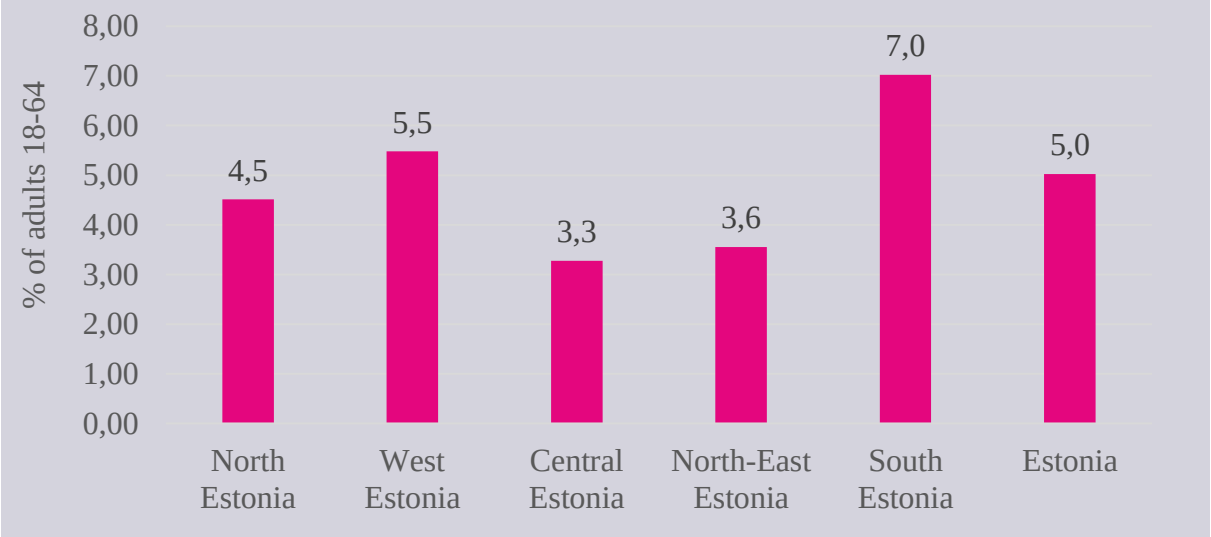


Figure 2.3. *Investing in someone else's new business for regions in Estonia (% of adults)*
Source: Authors' calculations based on GEM Adult Population Survey 2023

One possible explanation might be the positive impact of the activities of Tartu University and the numerous incubators on fostering a positive mindset and confidence in entrepreneurial initiatives, building trust in investing in entrepreneurship. Moreover, the concentration of startups in Southern Estonia, where many headquarters are located, along with a significant portion of startup employees inclined to start their ventures and invest in new startups, further contributes to this trend.

What about looking at the European results for the same phenomenon (Figure 2.2.)?

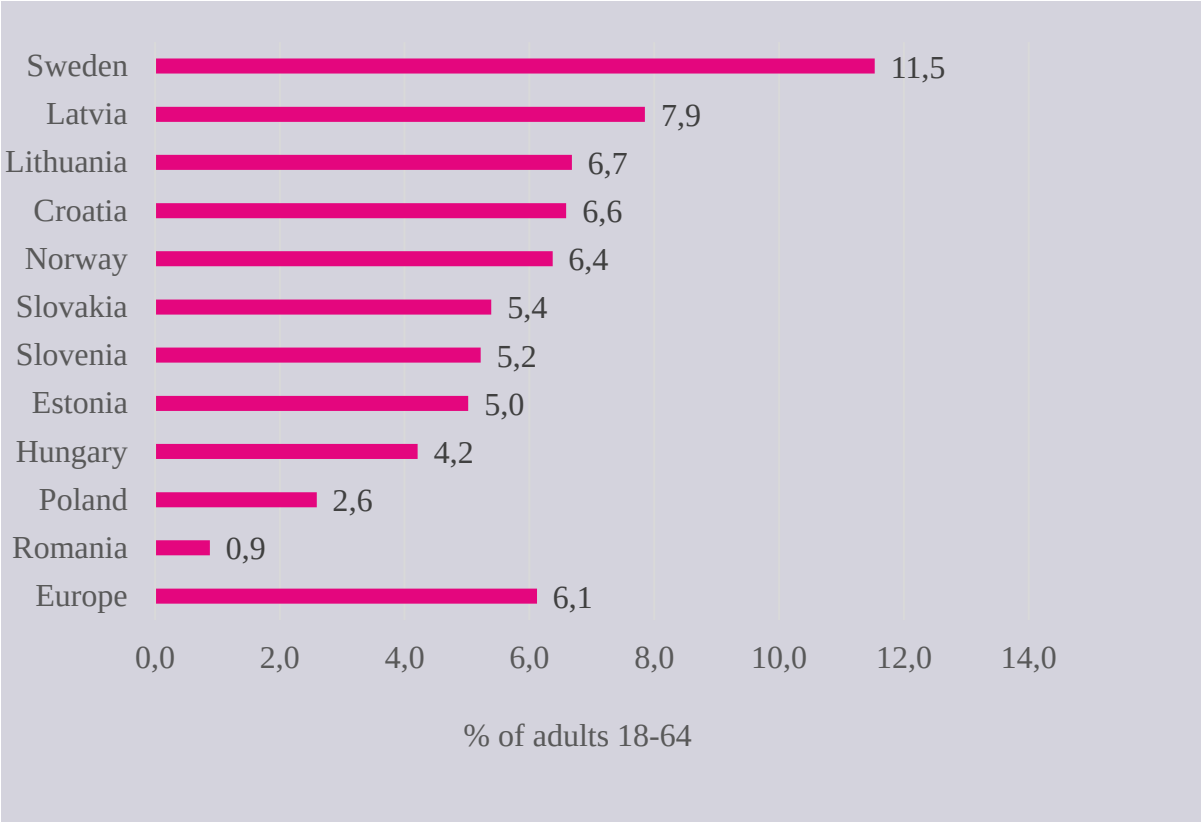


Figure 2.4. *Investing in someone else's new business (% of adults 18–64)*
Source: GEM Adult Population Survey 2023

Estonian average lands below the European and behind the other Baltic countries. This might be the cause of overall investment culture which is an interesting aspect to be investigated in further research.

3 LEVELS OF ENTREPRENEURIAL ACTIVITY

This chapter provides an overview of the entrepreneurial activity in Estonia among the adult population (18–64 years old) in 2023 by drawing comparisons with previous years (2014 and 2017) and other countries such as Northern and Eastern European countries and country groups (e.g., European countries on average, groups based on income levels). The focus is also on entrepreneurial activity in its different phases – early-stage (nascent and new) entrepreneurship and established business ownership.

3.1 Entrepreneurial activity in Estonia

The main indicators in this subchapter are early-stage entrepreneurial activity (TEA) and established business ownership (EBO). The TEA rate characterises adults aged 18–64 starting or running a new business for not more than 42 months (3,5 years). The EBO rate means adults who have owned and managed a running business for over 42 months (3,5 years). The entrepreneurial activity rate in 2023 is 13.1% for TEA and 7.9% for EBO in Estonia (Table 3.1.). The TEA rate has decreased since 2017, when it was 19.4. The same applies to the EBO rate, which has decreased since 2017, when the indicator was 11.4. The total entrepreneurial activity rate, a combination of the two indicators, is 20.5% in 2023 in Estonia.

In international comparison, the developments in Estonia correspond to the European average in that in Europe the TEA rate is higher (9.8%) than the EBO rate (7.5%) (GEM 2023/2024, 2024). The TEA rate in Estonia is higher than in Europe on average (13.1% and 9.4% respectively). Estonia's TEA rate is relatively high thanks to its nascent entrepreneurship rate (10.7%), the highest in international comparison. Nascent entrepreneurs are people engaged in creating new ventures, meaning they are still in quite the early stages of entrepreneurship. The new business ownership rate, which also contributes to the TEA and consists of businesses which already function, is, on the other hand, lower than the European average and the rate in several countries (3.1%).

The same applies to the Estonian EBO rate, although the differences are small (7.9% and 7.5% respectively) and the total entrepreneurial activity rate (20.5% and 16.5% respectively). When comparing Estonia to

selected European countries, the TEA rate is higher only in Latvia (14.3%) and Croatia (13.2%), while the EBO rate is higher in Latvia (10.7%), Lithuania (14.6%), Slovenia (8.8%) and Poland (11.6%). Total entrepreneurial activity rate is higher only in Latvia (24.4%) and Lithuania (21.2%).

Also, the potential entrepreneurship rate in Estonia is higher than the European average (18.3% and 15.3% respectively). Compared to other countries the potential entrepreneurship rate is higher in Latvia (24.4%) and Croatia (28.0%). And finally, the business exit rate in Estonia is 4.0%, which is higher than the European average (3.4%). When compared to other European countries, the business exit rate is higher only in Croatia (4.11%) and Norway (4.3%) (Table 3.1.).

Table 3.1. *The level of entrepreneurial activity in Estonia compared to the average for the surveyed European countries in 2023 (% of people aged 18–64)*

	Potential entrepreneurship rate	**Nascent entrepreneurship rate (SU)**	**New business ownership rate (BB)**	**Total early-stage entrepreneurial activity rate (SU+BB=TEA)**	**Established business ownership rate (EBO)**	**Any business rate (TEA+EBO)**	**Business exit rate**
Estonia	18.3	10.7	3.1	13.1	7.9	20.5	4.0
Latvia	24.4	9.3	5.3	14.3	10.7	24.4	3.7
Lithuania	12.0	3.6	3.2	6.7	14.6	21.2	2.9
Slovenia	18.0	4.4	2.8	7.1	8.8	15.7	3.5
Slovakia	15.4	8.5	2.6	10.8	4.0	14.3	3.1
Croatia	28.0	10.4	4.0	13.2	5.2	18.1	4.1
Hungary	10.8	5.5	4.8	9.9	7.4	16.9	3.5
Poland	3.5	1.5	1.1	2.6	11.6	14.0	3.4
Romania	9.0	3.6	2.6	5.9	5.1	10.6	1.4
Sweden	13.2	7.0	3.2	9.3	5.5	14.5	4.3
Norway	10.9	4.2	2.9	6.9	7.6	14.3	3.2
Europe	15.3	6.4	3.5	9.4	7.5	16.5	3.4

Source: Authors' calculations based on GEM 2023 data

Note: European countries: Greece, the Netherlands, France, Spain, Hungary, Italy, Romania, Switzerland, the United Kingdom, Sweden, Norway, Poland, Germany, Luxembourg, Cyprus, Lithuania, Latvia, Estonia, Croatia, Slovenia, Slovakia

When looking at the association TEA/EBO, Estonia belongs to the country group where TEA is higher than EB, together with, e.g., the Netherlands, Croatia, and the UK (Figure 3.1.). There is also a group of countries where the situation is reversed, the EBO rate dominates over the TEA rate, e.g., Lithuania, Poland and Greece. In some countries, the TEA and EBO rates are equally high, e.g., in Latvia, or at medium level, e.g., in Hungary, Slovenia, Romania and Norway (Figure 3.1.).

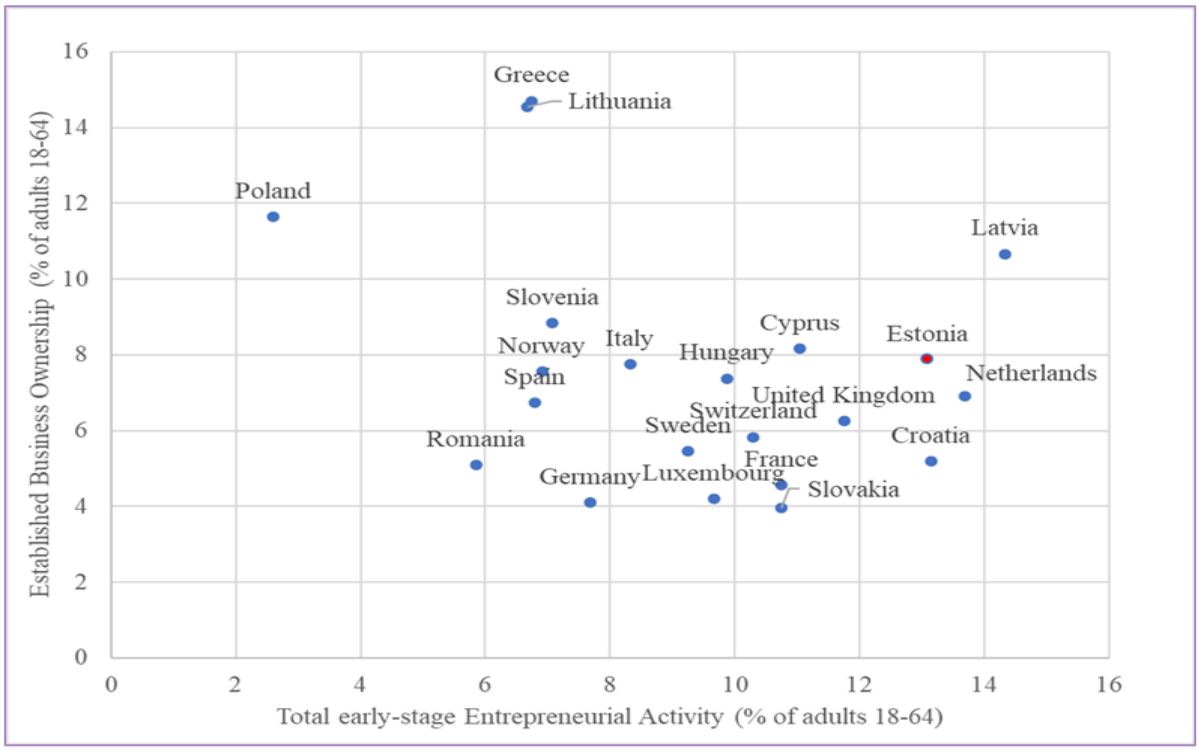


Figure 3.1. *TEA plotted against EBO (% of adults 18–64)*
Source: Authors' calculations based on GEM 2023 data

Estonian entrepreneurial activity is different from country groups formed based on income in that in Estonia the TEA rate exceeds that of the EBO (Figure 3.2.). This is like Europe on average. However, in international comparison, in low-income country groups, middle-income economies and high-income economies (where Estonia also belongs), the EBO rate is higher than that of TEA. The difference is exceptionally striking in middle- and high-income economies. Estonian trends are like Latvian, in that the TEA rate is higher than the EBO rate. The trend is reversed in Lithuania, where the EBO rate is higher.

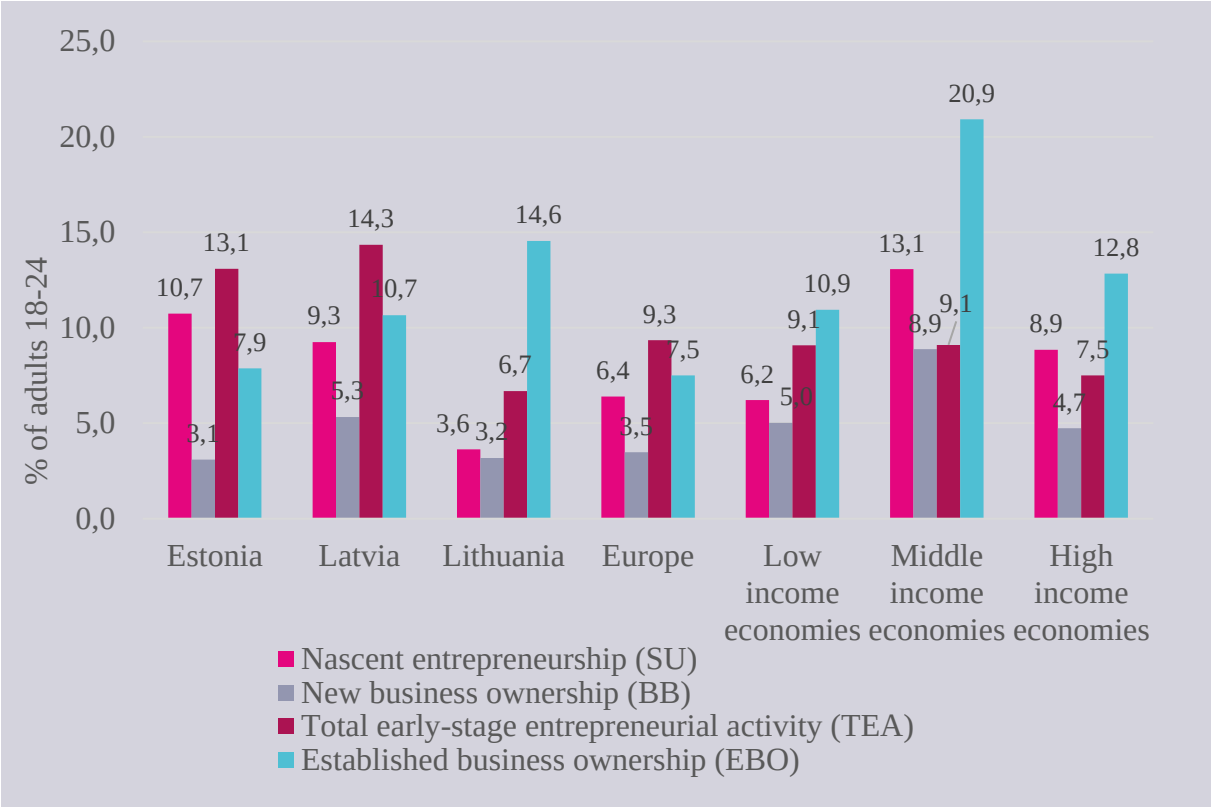


Figure 3.2. *The level of entrepreneurial activity in Estonia compared to the average for the surveyed European countries and categories of economies by income level in 2023 (% of people aged 18–64)*
Source: Authors' calculations based on GEM 2023 data

When looking at the dynamics of the entrepreneurial activity in Estonia in 2014, 2017 and 2023, the analysis indicates that the entrepreneurial activity peaked in 2017 (Figure 3.3.). It has fallen since, but in most cases not to the 2014-year level (*Globaalne*, 2015). The TEA and EBO rates are higher in 2023 than in 2014, although the new business ownership rate (as part of TEA) is almost similar in both years. The potential entrepreneurship rate shows a similar growth and decline trend as the business exit rate.

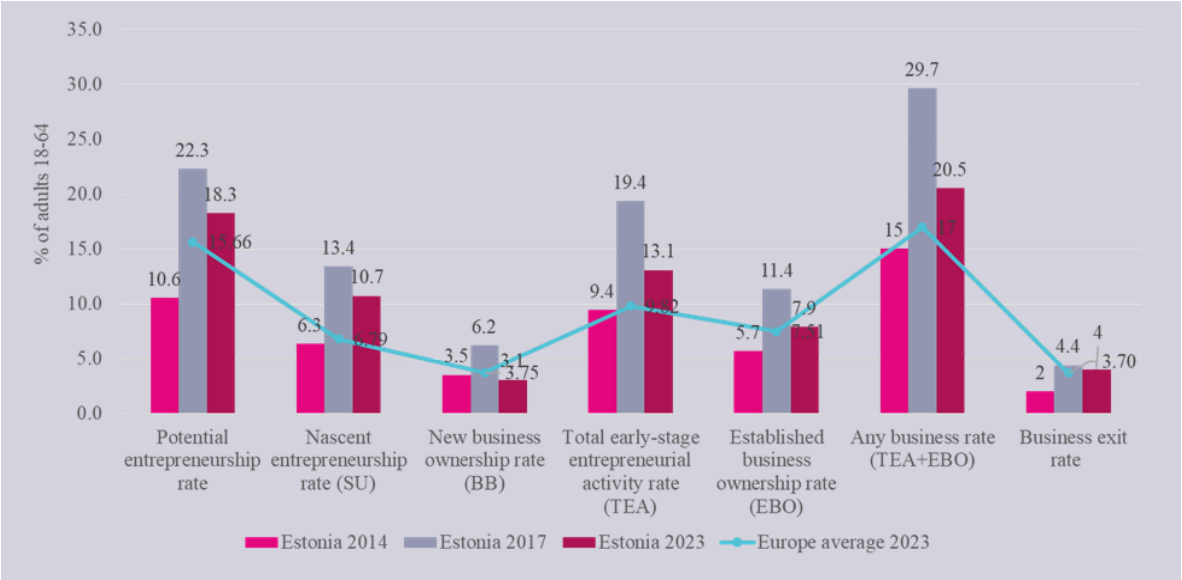


Figure 3.3. *The level of entrepreneurial activity in Estonia (% of people aged 18–64)*
Source: Authors' calculations based on GEM 2023 data

Regarding the sectoral activity within TEA, consumer-oriented services dominate over business-oriented services in Estonia in 2023 (Figure 3.4.).

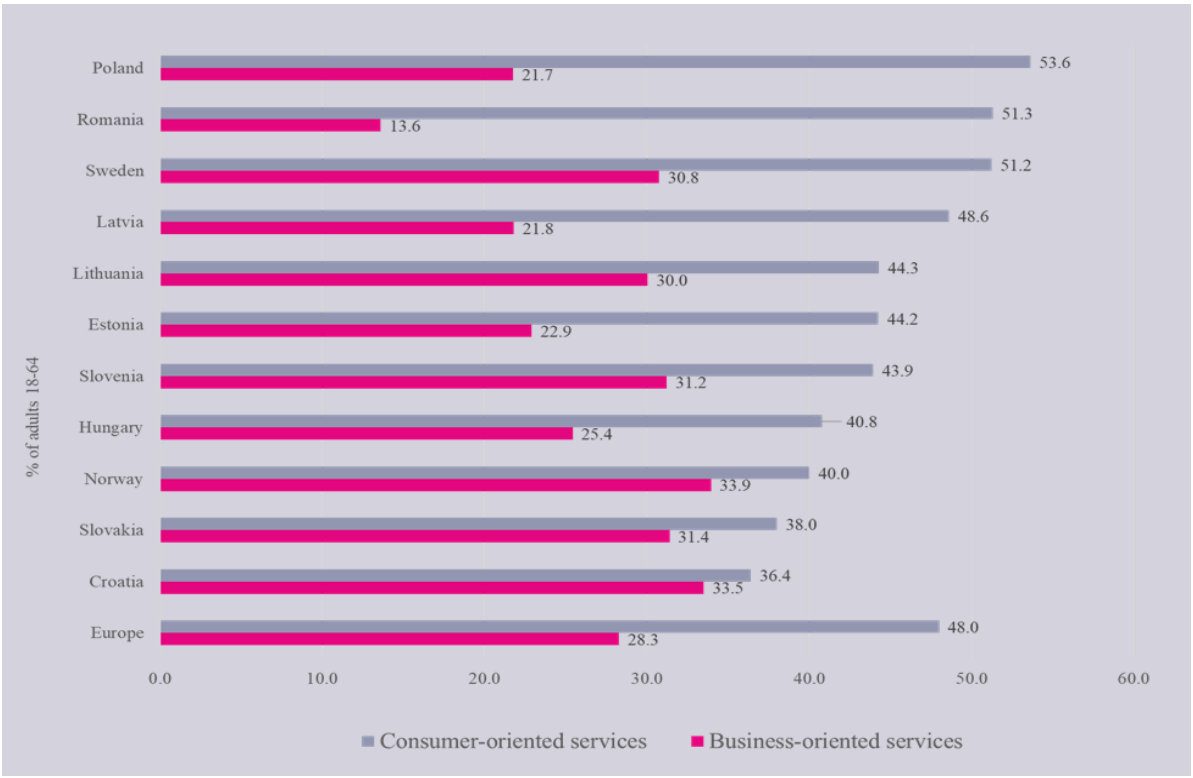


Figure 3.4. *Business services and consumer services (% of TEA)*
Source: GEM Adult Population Survey 2023

This is also the case in other European countries and Europe on average. There are countries where the difference is more than two-fold like Poland, Romania and Latvia, and the countries where the difference is smaller, e.g., Croatia, Slovakia, Norway and Hungary.

Looking at income-based country groups, consumer-oriented services dominate in low-, middle- and high-income economies (Figure 3.5.). The difference is the largest in low- and middle-income economies and decreases somewhat in high-income economies.

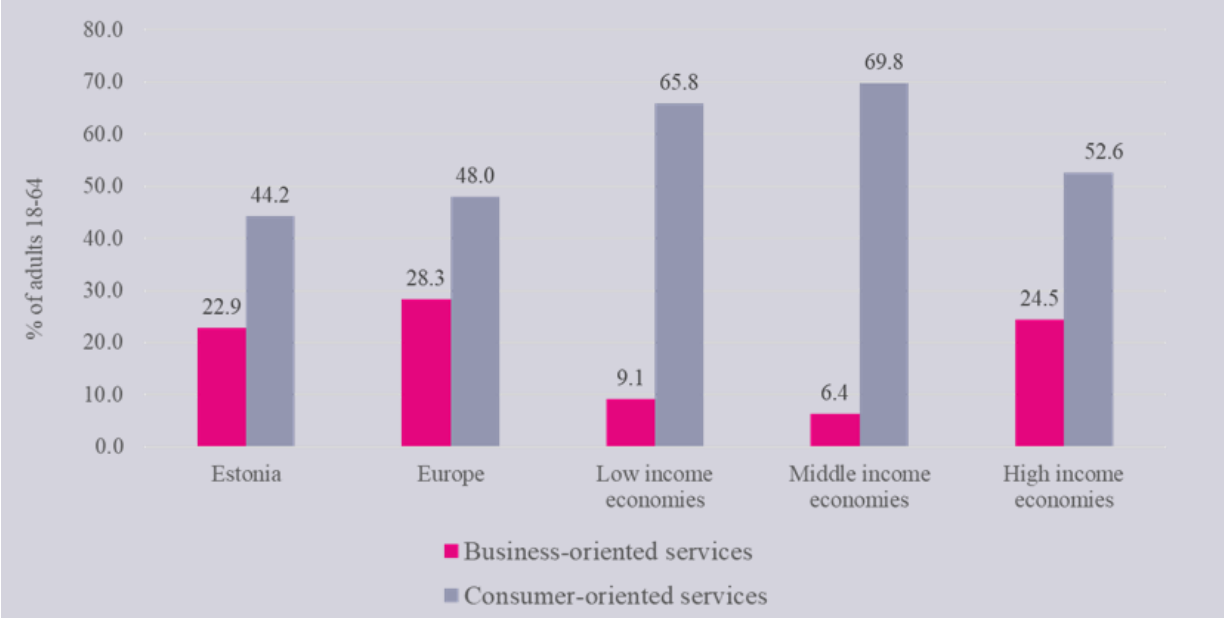


Figure 3.5. *Business services and consumer services (% of TEA)*
Source: GEM Adult Population Survey 2023

The findings show the shift in the primary indicators of entrepreneurial activity in Estonia as anticipated when comparing the 2023 GEM APS results to those from 2017. As Estonia's level of development has risen, there appears to be a downward trend in entrepreneurial activity. Over the past seven years, the Estonian TEA and EBO rates have declined. In 2023, these rates align with the European average, with the TEA rate being slightly higher in Estonia and the EBO rate similar to the European indicator.

3.2 Early-stage entrepreneurs

Exploring the TEA phase more specifically and starting with gender differences, reveals that the TEA rate in Estonia in 2023 is higher for men than for women (16.2% and 9.9% respectively). This corresponds to the European average, where men on average tend to be more entrepreneurial. As to the other Baltic states, the same trend can be observed in Latvia, but not in Lithuania, where the TEA rate among women is higher (Table 3.2.). The gender differences have persisted over time in Estonia, as in 2014 the

TEA rate among men was 11.2% and among women 7.7% (*Globaalne*, 2015).

As to gender equality, the female/male TEA ratio was 0.6 in 2023 in Estonia and has not moved closer to one since 2017 when it was also 0.6 (with value one indicating equal division of men and women, values below one that men dominate and values above one that women are more entrepreneurial). Gender equality is somewhat higher in Europe on average (0.7), the same in Latvia (0.7), while Lithuania, where women are more entrepreneurial (1.2), stands out.

Table 3.2. *Gender differences in the TEA phase*

	Total early-stage Entrepreneurial Activity (TEA) by gender		**Female/Male TEA Ratio**
	% Male	% Female	
Estonia	16.2	9.9	0.6
Lithuania	6.1	7.2	1.2
Latvia	16.5	12.2	0.7
Europe	11.6	8.0	0.7

Source: Authors' calculations based on GEM 2023 data

Another indicator characterising the TEA is the motivation for starting with entrepreneurship, which ranges according to the self-determination theory along the extrinsic-intrinsic motivations scale, from more externally controlled to more internally motivated (see e.g., Ryan & Deci, 2000; Ryan & Deci, 2020). In the GEM study, the motives related to the desire 'to earn a living because jobs are scarce' and 'to build great wealth or a very high income' seem to fall more on the extrinsic motivation. The motive 'to continue a family tradition' involves both extrinsic and intrinsic elements, and the motive 'to make a difference in the world' seems to belong to the intrinsic end of the motivation continuum.

The data indicates that in Estonia the desire to earn a living dominates (Figure 3.6.). This is followed by wealth or a very high-income motive, making a difference in the world, and continuing a family tradition. A similar division of motives can be observed in Europe on average and in different country groups based on income. The difference is that in middle- and low-income countries the 'earn a living motive' is more prevalent than in Estonia. The same applies to the desire to acquire wealth or very high income. The desire to make a difference is more pronounced in the middle-income country group compared to low- and high-income countries.

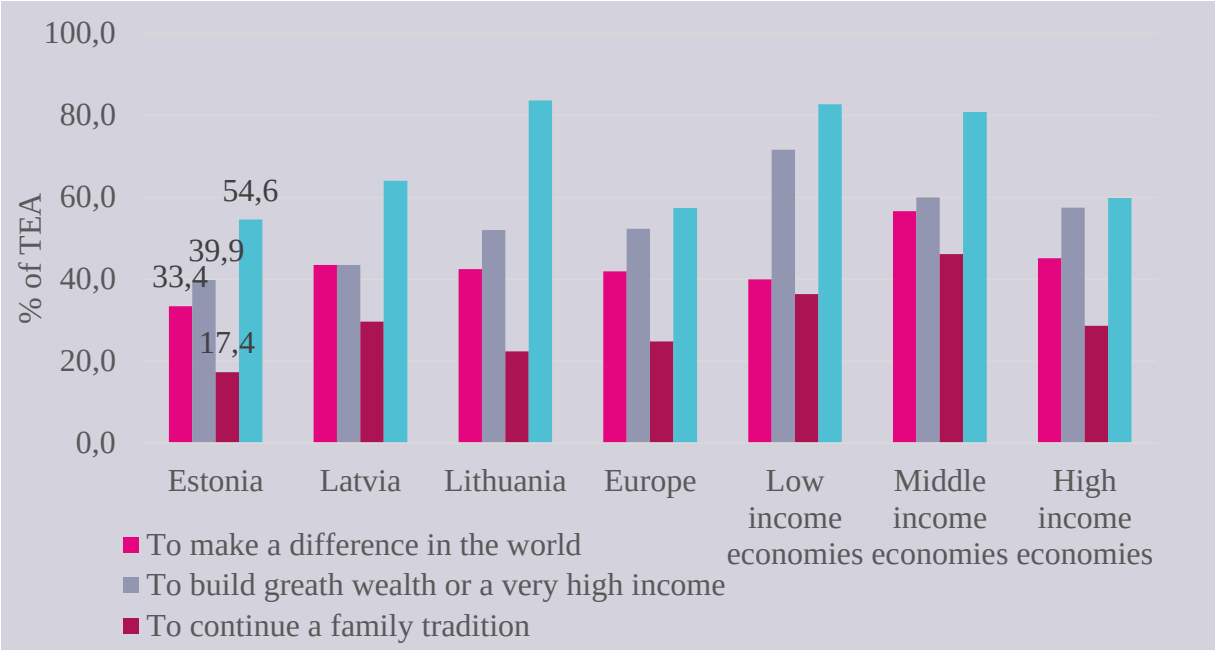


Figure 3.6. *Motivations for starting and running a business in Estonia, the European countries surveyed, and categories of countries by income level in 2023 (% of young business owners – TEA)*
Source: Authors' calculations based on GEM 2023 data

There are some differences in motivation between the graduates' and non-graduates' motives for starting with entrepreneurship, although these differences are small (Figure 3.7.). Graduates are somewhat more motivated by the desire to build wealth and great income, while at the same time starting a business also because jobs are scarce, and they need to earn a living.

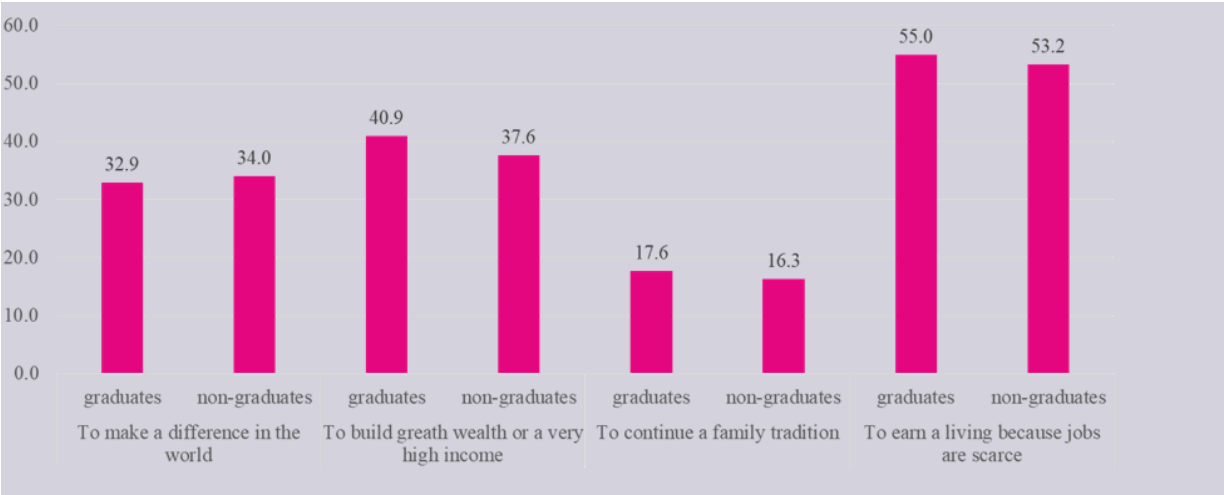


Figure 3.7. *Motivations for starting and running a business in Estonia for graduates and non-graduates (% of young business owners – TEA)*
Source: Authors' calculations based on GEM 2023 data

In 2023, Estonia's TEA rate for men surpassed that for women, reflecting the broader European pattern of higher male entrepreneurship. Although there has been a slight improvement in gender equality in TEA rates from 2017 to 2023, Estonia still

falls behind the European average and the other two Baltic countries, where women exhibit higher entrepreneurial activity. The main motive for starting new businesses in Estonia is earning a living, followed by acquiring wealth, making a difference, and continuing a family tradition. These trends are similar across Europe, though in middle- and low-income countries the motivations of earning a living and acquiring wealth are even more prevalent.

3.3 Established businesses ownership

Regarding the EBO phase and gender differences, men in Estonia are somewhat more entrepreneurial than women (9.7% and 6.1% respectively). Like with TEA, the gender difference has persisted over time as in 2014 the EBO rate among men was 7.0% and among women 4.4% (*Globaalne*, 2015). This gender difference in the EBO phase can be observed in Europe on average and in the other Baltic states. Interestingly, the gender dynamics in the EBO phase are almost identical (Table 3.3.).

Table 3.3. *Gender differences in the EBO phase*

	Established Business Ownership (EBO) by gender		
	% Male	**% Female**	**Ratio**
Estonia	9.7	6.1	0,4
Lithuania	16.5	12.7	0,4
Latvia	13.9	7.5	0,4
Europe	9.2	5.8	0,4

Source: Authors' calculations based on GEM 2023 data

Regarding motives to start with entrepreneurship in the EBO phase, here non-graduates are motivated more than graduates by the desire to earn a living because jobs are scarce (Figure 3.8.). The non-graduates are also more interested in building wealth or very high income. Considering the differences between the two phases, entrepreneurs in the TEA phase are more motivated by the desire to make a difference in the world by the wish to build wealth or earn a very high income. In the EBO phase, continuing with the family tradition and earning a living becomes more important because jobs are scarce.

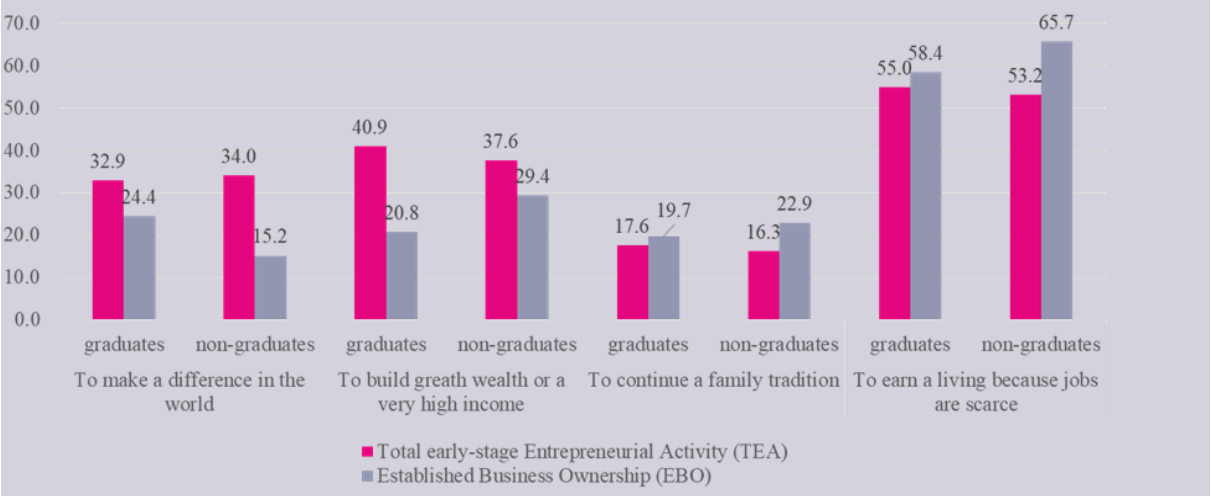


Figure 3.8. *Comparison of early-stage entrepreneurs' (TEA) and established business owners' (EBO) entrepreneurship motivations for graduates and non-graduates in Estonia*
Source: Authors' calculations based on GEM 2023 data

Men also outnumber women in the EBO phase, a consistent gender gap observed across Europe and the Baltic states. During the EBO phase, non-graduates are primarily motivated by the need to earn a living and build wealth due to limited job opportunities. In contrast, during the TEA phase, entrepreneurs are more driven by the desire to make a difference and accumulate wealth, with family tradition and job scarcity becoming more important motivations in the EBO phase.

The results indicate that the main entrepreneurship activity indicators have changed in the expected direction when the Estonian 2023 GEM APS results are compared to 2017. The entrepreneurial activity seems to indicate a decreasing trend when the country's level of development increases and, indeed, both the TEA and EBO rates have decreased over seven years in Estonia. The 2023 values correspond to the European average, in that the TEA rate is somewhat higher in Estonia and the EBO rate is comparable to that of Europe.

In 2023, the TEA rate in Estonia was higher for men than women, mirroring the European trend of higher male entrepreneurship. Despite a slight improvement in gender equality from a TEA ratio from 2017 to 2023, Estonia generally lags behind Europe, particularly the two Baltic countries, where women are more entrepreneurial. Men are more entrepreneurial than women in the EBO phase, a persistent gender difference is also seen across Europe and the Baltic states, with Latvia exhibiting a much higher disparity compared to Estonia and Lithuania.

In Estonia, for new businesses, the primary entrepreneurial motive is earning a living, followed by acquiring wealth, making a difference, and continuing a family tradition, with similar trends observed across Europe, though in middle- and low-income countries, earning a living and acquiring wealth are even more dominant motives. In the EBO phase, non-graduates are more motivated by earning a living and building wealth due to scarce job opportunities, while in the TEA phase, entrepreneurs are driven more by the desire to make a difference and accumulate wealth, with family tradition and job scarcity becoming more significant motivations in the EBO phase.

4 CHANGES IN PERCEPTIONS, CHALLENGES, AND ENABLERS OF ENTREPRENEURSHIP OVER TIME

Regarding societal perceptions of entrepreneurship, a nuanced and complex picture emerges. The rate to which extent good opportunities are perceived for starting with entrepreneurship has decreased (49.5% in 2023 and 61.0% in 2017) (Table 4.1.). It is, however, like Europe on average, higher than in Latvia, but significantly lower than in Lithuania as discussed in Ch 2. Regarding the possession of capabilities necessary for starting with entrepreneurship, the rate has also decreased (46.8% and 49.7% respectively). It is also lower than in Europe on average and in the other Baltic states. On the other hand, the fear of failure in starting entrepreneurship has increased (49.82% and 31.8% respectively) and is comparable to the European average, but higher than in the other Baltic states.

Although fewer opportunities and capabilities are perceived for starting with entrepreneurship and fear of failure is higher in Estonia in 2023 than in 2017, it is interesting that the entrepreneurial intentions rate has been relatively stable (18.3% in 2023 and 18.4% in 2017). It is higher in Estonia than in Europe on average, and higher than in Lithuania, but lower than in Latvia. As indicated in Ch 3.2. the main motive for starting entrepreneurship is to earn a living because jobs are scarce, so the necessity-based component of entrepreneurship might explain the stable entrepreneurial intentions.

Table 4.1. *Perceived opportunities, capabilities, fear of failure and entrepreneurial intentions in Estonia in 2017 and 2023, %*

	Perceived Opportunities Rate		Perceived Capabilities Rate		Fear of Failure Rate		Entrepreneurial Intentions rate	
	2023	**2017**	**2023**	**2017**	**2023**	**2017**	**2023**	**2017**
Estonia	49.5	61.0	46.8	49.7	49.8	31.8	18.3	18.4

Source: Authors' calculations based on GEM 2017 and 2023 data

4.1 Business status and opportunities

Regarding societal values, the rate to which extent high status is attributed to successful entrepreneurs is 71.3% in Estonia in 2023 and has increased since 2017 (64.7%) (Table 4.2.). It is also higher than in Europe on average and Latvia and Lithuania. The rate to which extent entrepreneurship is considered a good career choice is 55.7% in 2023, and this has remained relatively stable since 2017 (54.2%). It is lower than in Europe on average, a bit higher than in Latvia, but considerably lower than in Lithuania. It follows that regardless of decreased perceived opportunities and capabilities for starting with entrepreneurship and increased fear of failure, the social status of entrepreneurs continues to be high.

Table 4.2. *Perceptions about the status of successful entrepreneurs and entrepreneurship as a good career choice in Estonia in 2017 and 2023, %*

	High Status to Successful Entrepreneurs Rate		**Entrepreneurship as a Good Career Choice Rate**	
	2023	**2017**	**2023**	**2017**
Estonia	71.33	64.74	55.7	54.22

Source: Authors' calculations based on GEM 2017 and 2023 data

Regarding the change of perceptions over time about the ease of starting a business, fewer Estonian respondents believe that starting a business is more difficult now than a year ago compared to other country groups – in Europe and high-income economies on average (Figure 4.1.). Compared to Europe, the Estonian indicators are about 7% lower and compared to high-income countries these are about 10% lower. At the same time, there appear to be no notable differences regarding the phases of entrepreneurship (TEA and EBO) in Estonia and in-country groups. More difficulties are perceived in low and middle-income economies than in high-income economies.

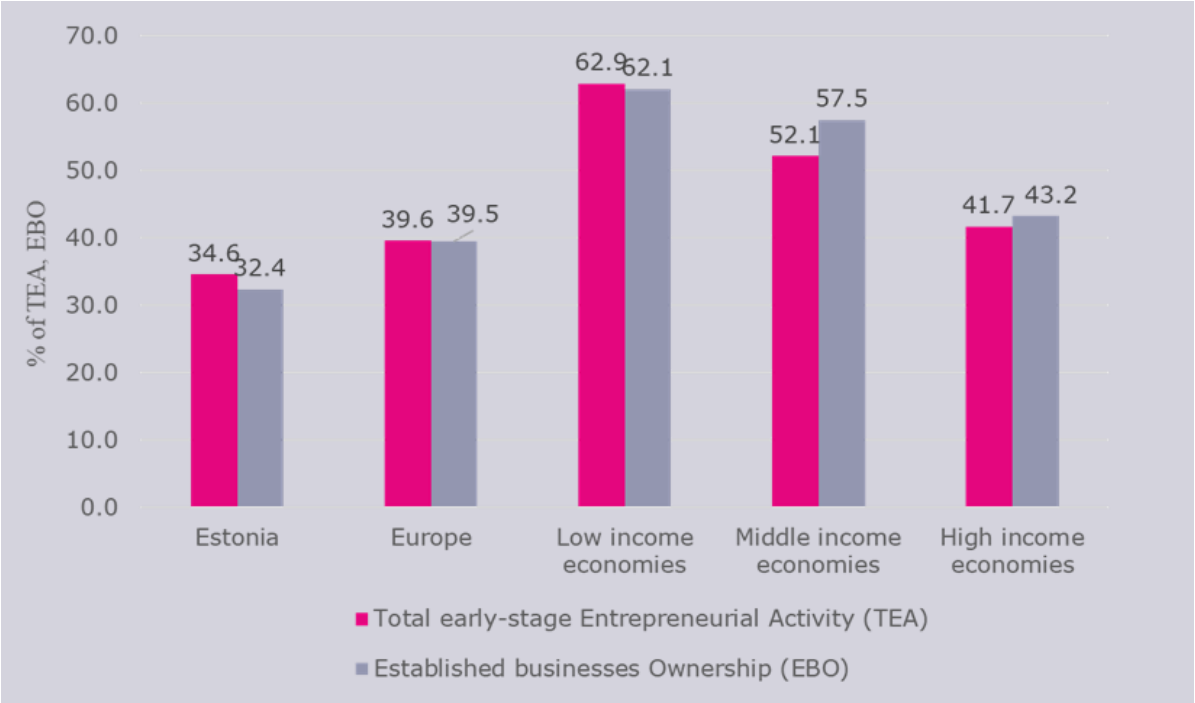


Figure 4.1. *The percentage of early-stage entrepreneurs (TEA) and established business owners (EBO) who think starting a business is more difficult compared to one year ago*
Source: Authors' calculations based on GEM 2023 data

Regarding regional comparison, more difficulties in starting a business than a year ago are perceived in North-Eastern Estonia (54.5% for TEA and 50% for EBO) than is the Estonian average indicator (Figure 4.2.). North Estonia exhibits somewhat higher levels of difficulties (35.8% for TEA and 33.8% for EBO), and West Estonia (35% for EBO).

Figure 4.2. *The percentage of early-stage entrepreneurs (TEA) and established business owners (EBO) who think starting a business is more difficult compared to one year ago*
Source: Authors' calculations based on GEM 2023 data

In the post-pandemic era in 2023, respondents were asked to which extent the pandemic has led to new entrepreneurial opportunities (Figure 4.3.). In Estonia, 28.8% of early-stage entrepreneurs and 18.1% of established business owners perceived new opportunities. This indicator is lower than in Europe and high-income countries. When observing country groups, most new opportunities are seen in middle-income countries, followed by high-income countries, while the fewest new opportunities have emerged in low-income countries.

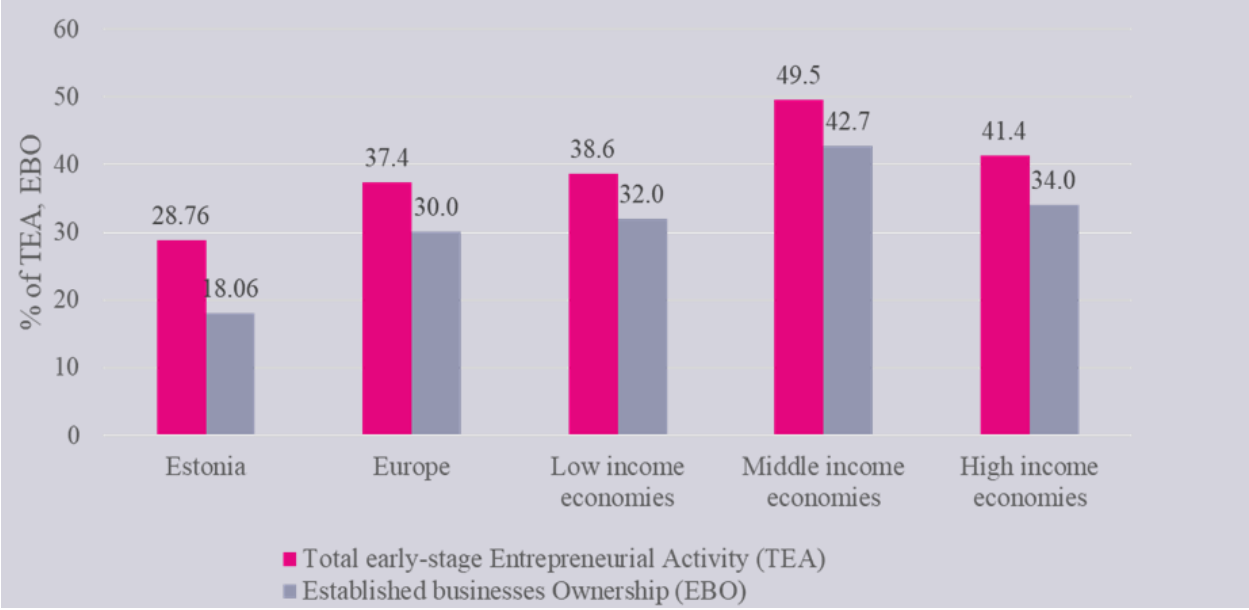


Figure 4.3. *The percentage of early-stage entrepreneurs (TEA) and established business owners (EBO) who agree that the pandemic has led to new opportunities they wish to pursue*
Source: GEM Adult Population Survey 2023

Regarding regional differences in Estonia, a higher level of new opportunities than the Estonian average is perceived in the early-stage entrepreneurship phase in Western Estonia, Northern Estonia and Southern Estonia (Figure 4.4.). In the established business ownership phase, more opportunities than the Estonian average are seen in Central Estonia and Southern Estonia. There are striking differences between the entrepreneurship phases in most regions, particularly in Western Estonia and North-Eastern Estonia (where the TEA phase is more optimistic), and Central Estonia (where the EBO phase is more optimistic).

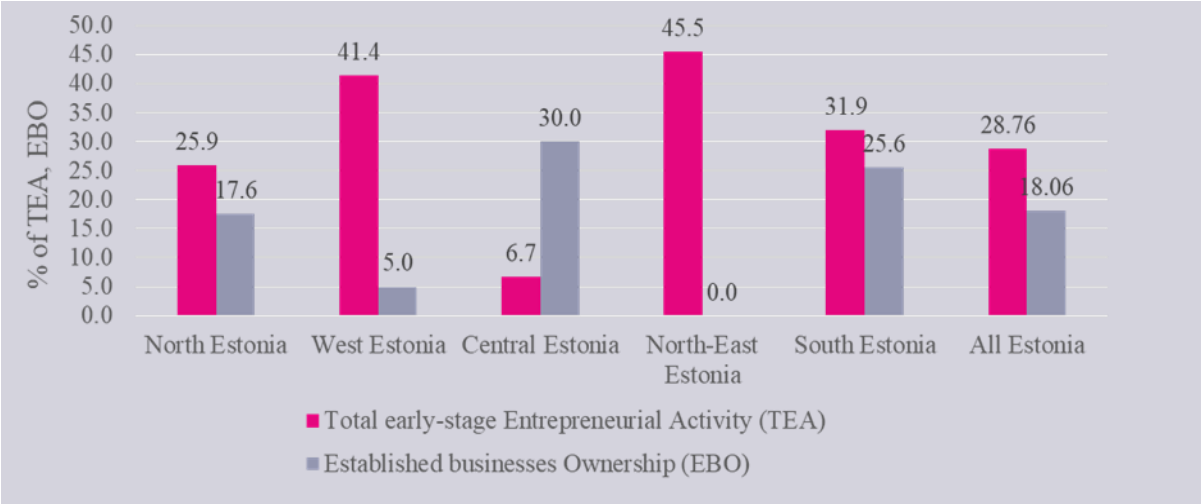


Figure 4.4. *The percentage of early-stage entrepreneurs (TEA) and established business owners (EBO) who agree that the pandemic has led to new opportunities they wish to pursue in Estonia*
Source: Authors' calculations based on GEM 2023 data

Regarding societal attitudes, although fewer opportunities for starting a business are perceived and the fear of failure has increased in Estonia by 2023 compared to 2017, the rate of entrepreneurial intentions has remained relatively stable over time. As to societal values, the perception of high status attributed to successful entrepreneurs has risen since 2017, while the view of entrepreneurship as a good career choice has remained stable. Respondents were also asked to which extent they agree that the pandemic has created new opportunities they wish to pursue, and that indicator is lower in Estonia than in Europe and other high-income countries. This reflects mixed attitudes and values toward entrepreneurship.

4.2 Business growth expectations

Individuals starting and running a new business impact society depending on the number of people they expect to employ in five years besides having the founder of the business (GEM 2023/2024, 2024). In Estonia 5.9% of early-stage entrepreneurs out of the adult population of 18–64 years old expect to create no jobs, 5% plan to create 1–5 jobs and 2.1% plan to create six or more jobs (Figure 4.5.). This overall trend is like that of Europe on average in that job creation expectations are comparatively low. Compared to Europe on average, and other Baltic states, Estonia has the highest share of new businesses that plan to create no new jobs. In Lithuania, the intentions to create new jobs are lower than in Estonia, whereas Latvia has a higher proportion of entrepreneurs (4.2%) who plan to create six or more jobs in the next five years compared to the other Baltic states.

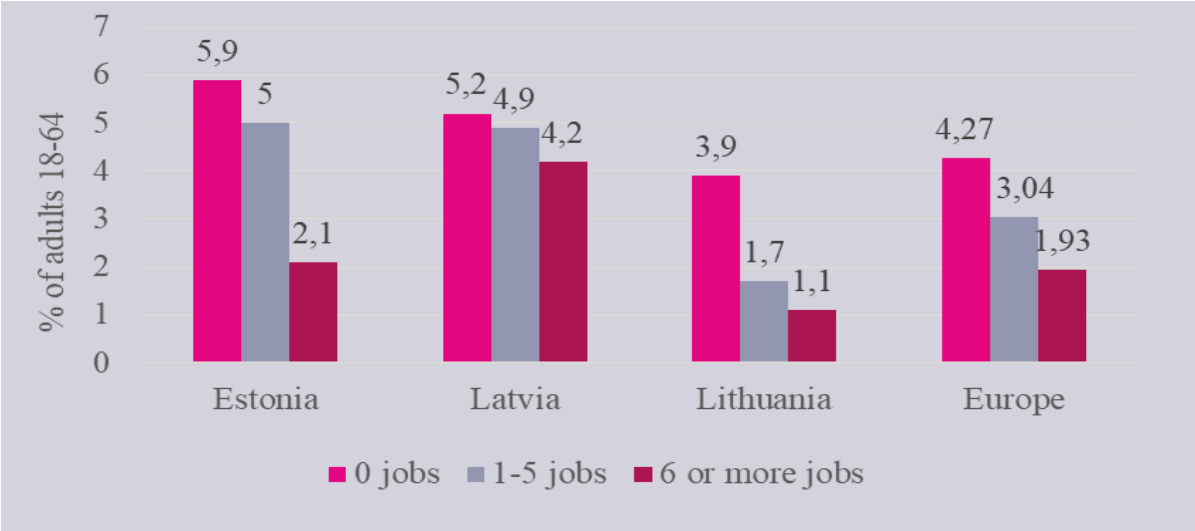


Figure 4.5. *Job growth expectations among early-stage entrepreneurs expecting to employ 0, 1–5 or 6 more people in five years (% adults)*
Source: GEM Adult Population Survey 2023

Regarding the TEA and EBO, about half of the entrepreneurs expect to create one to five jobs in the next five years (57.1% and 54% respectively) (Figure 4.6.). And about a quarter plan to provide six or more jobs (23.6% and 24.1% respectively). When exploring TEA more closely, the nascent entrepreneurs are somewhat more positive about job creation than new business owners.

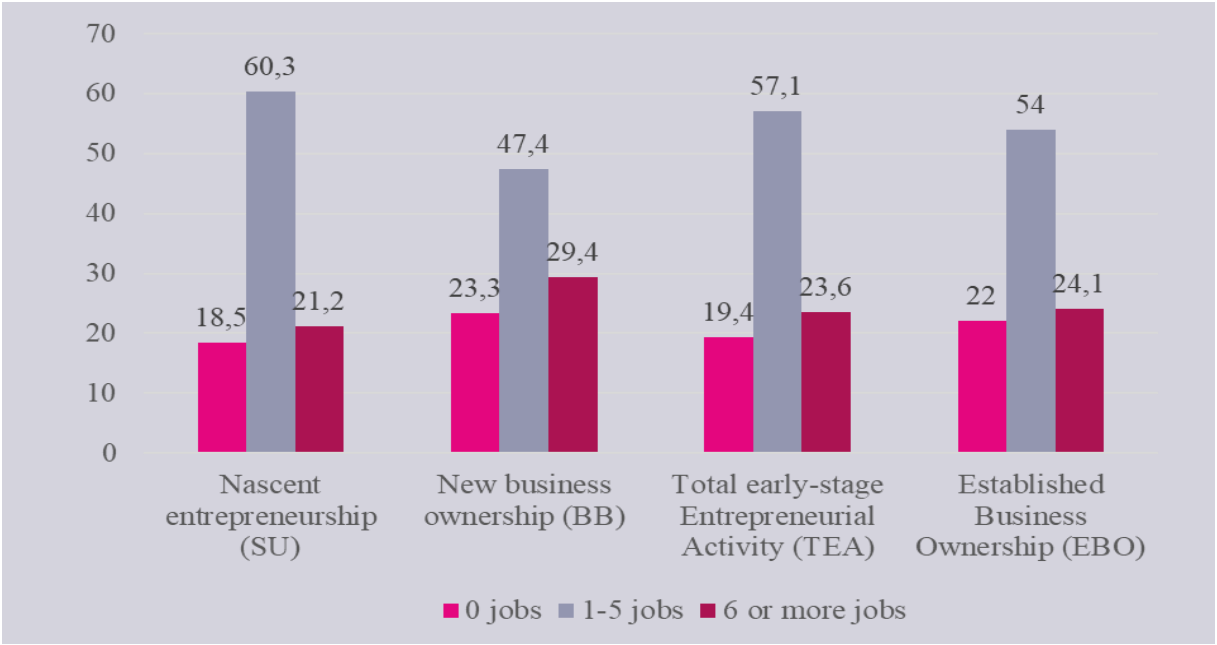


Figure 4.6. *Job growth expectations among Estonian entrepreneurs expecting to employ 0, 1–5 or 6 more people in five years (%)*
Source: GEM Adult Population Survey 2023

Concerning regional comparison in Estonia, in most regions, the stage of entrepreneurship does not create a difference regarding job expectations (Figure 4.7.). There are two exceptions.

In Central Estonia, the EBO businesses expect to create more jobs than those in the TEA phase. In North-Eastern Estonia the trend is reversed, in that early-stage entrepreneurs (TEA) plan to provide more new jobs.

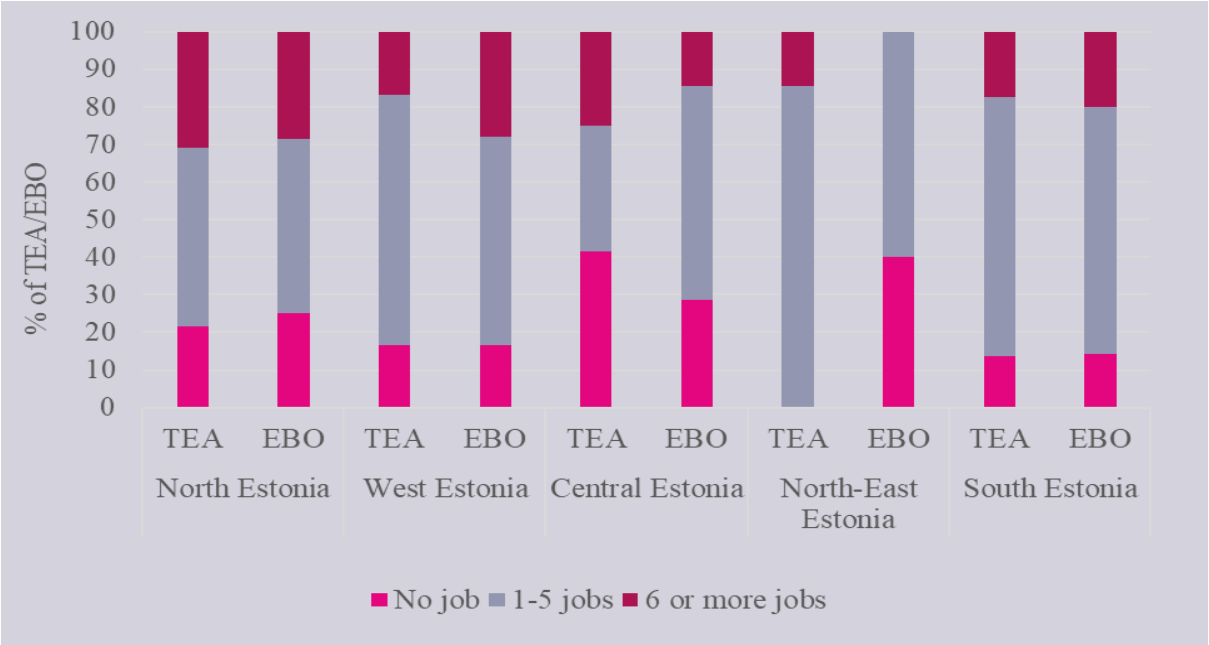


Figure 4.7. *Job growth expectations of early-stage entrepreneurs (TEA) and established business owners (EBO) among entrepreneurs in Estonian regions expecting to employ 0, 1–5 or 6 more people in five years (%)*
Source: GEM Adult Population Survey 2023

Regarding high expectations of revenue coming from customers outside of the specific economy (25% or more), early-stage entrepreneurs (TEA) have higher expectations than established business owners (EBO) both in Estonia and in other countries (Figure 4.8.). The figures for these two phases of entrepreneurship are higher in Estonia than in Europe and other Baltic states.

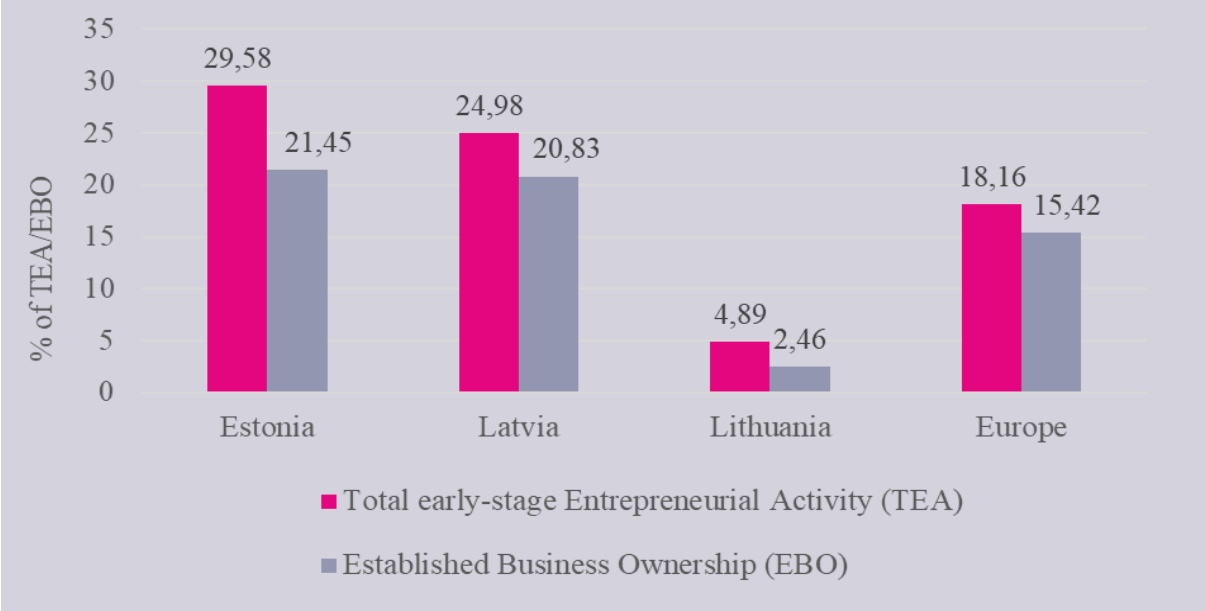


Figure 4.8*. The percentage of early-stage entrepreneurs (TEA) and established business owners (EBO) in selected countries and anticipating 25% or more of revenue coming from customers outside that economy*
Source: GEM Adult Population Survey 2023

Looking at high revenue expectations from customers outside of the specific economy in a wider international comparison at the TEA stage, the Estonian indicator is the highest (Figure 4.9.), followed by Slovenia and Latvia, while the lowest figures are in Poland and Lithuania.

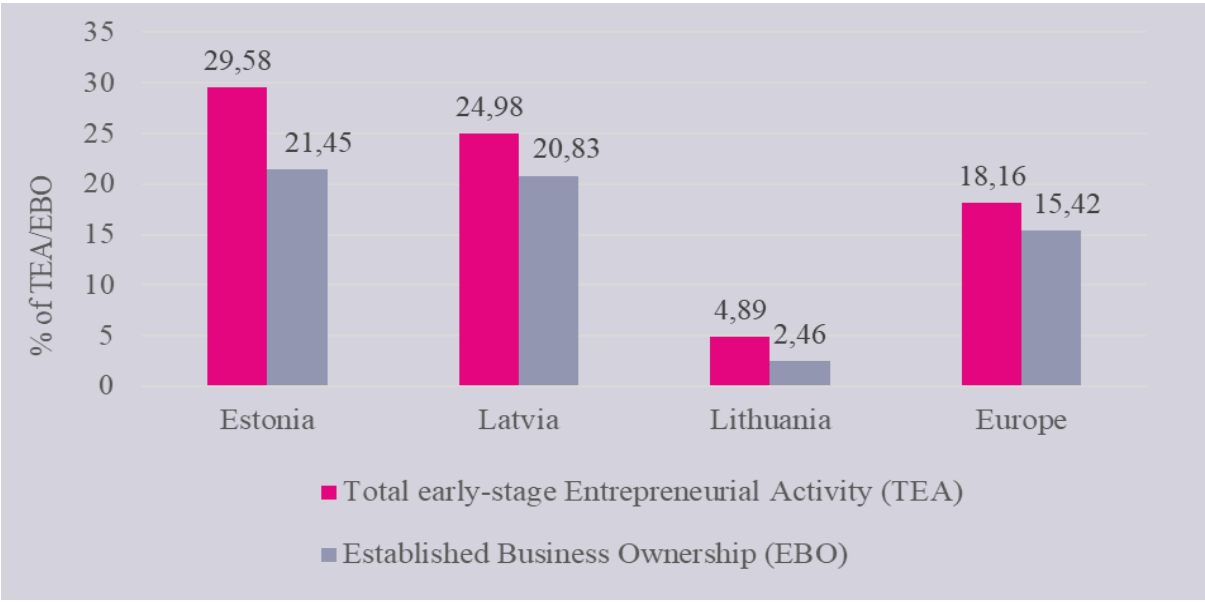


Figure 4.9. *The percentage of those starting or running new businesses in selected European countries and anticipating 25% or more of revenue coming from customers outside that economy*
Source: GEM Adult Population Survey 2023

Regarding business growth intentions among Estonian new businesses, there is a significant intention to create one to five jobs over the next five years, indicating cautious growth expectations. Additionally, the intention to create six or more jobs is low in international comparison. At the same time, these new businesses are highly international, with the highest expectation of revenue from customers outside the domestic market (25% or more) among the compared regions.

4.3 Sustainability beliefs and activity

According to Schaltegger and Wagner (2011), sustainable entrepreneurship involves pursuing business opportunities that contribute to sustainable development by generating social, environmental, and economic gains. This approach goes beyond traditional entrepreneurship by embedding sustainability into the core mission and operations of the enterprise. Sustainable entrepreneurship involves launching new sustainable firms and maintaining and modifying current ones to make them more sustainable (Sreenivasan and Suresh, 2023). Studies on entrepreneurship have noted the importance of sustainable entrepreneurship (Muñoz and Cohen, 2018), at the same time, it has been found that they focus more on how entrepreneurship can contribute to economic growth and less on how it could be integrated into economic, social, and environmental issues (Acs et al., 2018; Nakamura, 2019). The GEM study explores sustainability-related awareness and activities, exploring also to which extent the entrepreneurs are aware of United Nations sustainable development goals (SDGs).

The 2023 GEM data shows one-fifth of entrepreneurs in Estonia (21.3%) are aware of the 17 United Nations SDGs, compared to 31.2% in Europe. In Latvia the overall awareness is similar to that of Estonia, in Lithuania, it is higher (39.3%). About one-fifth of entrepreneurs in Estonia (21.9%) have identified any of the goals which are a priority for their business, compared to the European average of 54.2%. This indicator is also much higher in Latvia and Lithuania.

While established business owners are more aware of SDGs than early-stage entrepreneurs in Estonia (Figure 4.10.), early-stage entrepreneurs have more frequently identified SDG goals to work towards. Still, in international comparison, this is rather low as the lowest levels of entrepreneurs starting or running a new business who had identified any SDGs as a priority for their business, were in 2023 in the Republic of Korea, Estonia, and Colombia.

While the highest levels were in South Africa, China, Thailand, Canada, Lithuania, and Mexico. (GEM 2023/2024, 2024).

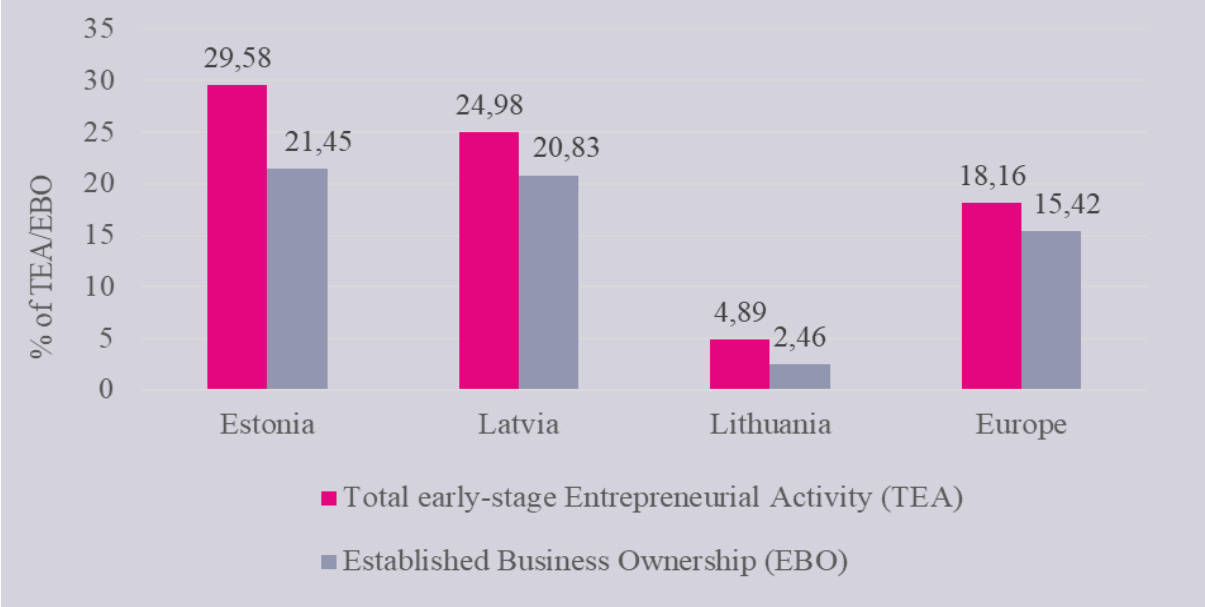


Figure 4.10. *Sustainability awareness, priorities, and practices of early-stage entrepreneurs (TEA) and established business owners (EBO) in selected countries (%)*
Source: GEM Adult Population Survey 2023

The values of people living in Estonia have been rather stable during the past two decades (2004–2021) according to the European Social Survey, with comprehensiveness (considering and protecting people and the environment, which is related to sustainability) ranking the highest in 2021 (Rämmer, 2023). However, when we look at the business settings, there is a need to balance the aspirations of economic gains with environmental and social motives. A study of metal and wood industries conducted in 2023 in Estonia indicated that the motivations of business owners to undertake sustainable practices fall mostly in the middle of the extrinsic-intrinsic motivation scale (Gerstlberger et al., 2023a; Gerstlberger et al., 2023b) and emphasis on sustainability as a solely intrinsic value is not so widespread.

The GEM study explores whether new and established entrepreneurs consider environmental and social implications when making decisions about their businesses. The data indicates that entrepreneurs in Estonia consider environmental sustainability the most when making decisions about the future of the business (59.3%), followed by social sustainability considerations (55.9%) and prioritising social and/or environmental impact above profitability (30.1%). While social sustainability becomes more important when the business has been active longer, both, environmental sustainability and prioritising social and/or environmental impact above profitability decrease in time, being lower for established business owners than for early-stage entrepreneurs. The difference with the European average when looking at all businesses is highest for prioritising social and/or environmental impact above profitability (30.1% in Estonia and 49.5% in Europe).

The first trend where prioritising social and/or environmental impact above profitability is valued less than environmental and social sustainability is also apparent in the neighbouring countries Latvia and Lithuania and Europe. The second trend, where established businesses tend to place less

emphasis on sustainability considerations than early-stage entrepreneurs holds for Latvia and Europe in general. In Lithuania, on the other hand, the established business owners place more value on the social and environmental implications of their activities and prioritise social and/or environmental impact above profitability.

Regarding sustainability practices, 41.2% of entrepreneurs in Estonia have taken steps to minimise the environmental impact of their businesses and 21.9% have tried to maximise their social impact. These indicators are lower than in Europe in general (60.0% and 41.6% respectively) and also in reference countries Latvia and Lithuania. While the indicator for taking steps to minimise the environmental impact of their businesses is in Estonia more like that of other countries, the indicator for maximising social impact is low in international comparison. Estonia, France and Norway had the lowest proportions of new entrepreneurs agreeing with the statement about maximising social impact, while Sweden and Estonia had the lowest proportions of established business owners in agreement (GEM 2023/2024, 2024). Furthermore, when looking at entrepreneurs who have taken steps to minimise the environmental impact of their businesses, there are no significant differences between the TEA and the EBO phases of entrepreneurship in Estonia. When looking at the businesses that have tried to maximise their social impact, entrepreneurs in the TEA phase have been more active compared to the EBO phase. (Ibid.)

Regarding gender differences, women tend to be more aware of SDG goals at early and established stages of entrepreneurship (Figure 4.11.). At the established entrepreneurship phase, women are over four times more likely to set one of the SDG goals as their target to follow, while at the early stage of entrepreneurship, there are no notable differences. As to practising sustainability, women tend to practise more environmental sustainability in both phases of entrepreneurship.

They tend to show a stronger focus on the social pillar of sustainability at the established phase of entrepreneurship, while men tend to be more socially conscious in the early phase of entrepreneurship.

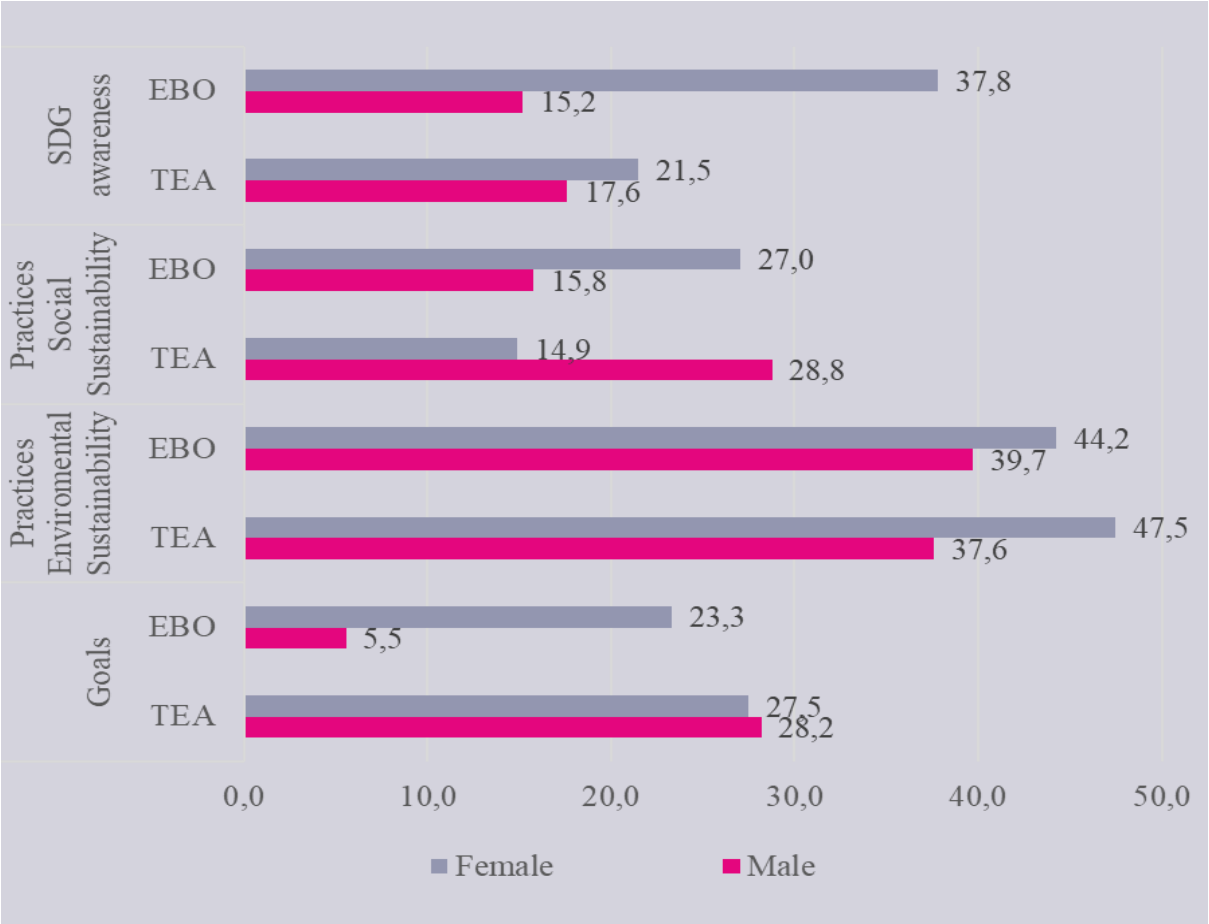


Figure 4.11. *Sustainability awareness, priorities, and practices of early-stage entrepreneurs (TEA) and established business owners (EBO) by gender in Estonia (%)*
Source: GEM Adult Population Survey 2023

The data on businesses suggest that while environmental and social considerations are valued in Estonian society, there is significant potential for further developing sustainable business activities compared to target countries and the European average. Established businesses are aware of sustainability considerations but are less likely to set and practise these goals compared to early-stage entrepreneurs. Women tend to be more aware of sustainability issues, though the data on their goal-setting and sustainable practice is more varied.

5 THE DIVERSITY OF ENTREPRENEURS

In a rapidly changing environment, it is important to pay attention to the different aspects of business diversity (e.g. race, age, ethnic origin, socio-economic status, physical abilities, religious beliefs, political beliefs, etc.) (Verheul, & van Stel, 2007; Zhou, & Rosini, 2014; Alexandre-Leclair, 2014; Karlsson et al., 2019; Prenzel et al., 2024), encouraging innovation, creativity, establishing contacts with new customers and markets, the formation of strong networks, and inspiring future generations.

In this report, we discuss the diversity of entrepreneurship in connection with the concept of an entrepreneur and the age and gender aspects. We will analyse data from Estonia and some European countries in 2014 and 2023. We will highlight which motivating factors Estonia and Europe consider important opportunities and need-based early-stage entrepreneurs.

5.1. Who are entrepreneurs

Throughout the ages, attempts have been made to define an entrepreneur through several definitions. Some authors think an entrepreneur is looking for the biggest possible profit; others think an entrepreneur wants to be useful to society. Innovative thinking is important today because technology and knowledge are developing rapidly.

One of the earliest and best-known definers of modern entrepreneurship was Schumpeter. He argued in 1934 that an entrepreneur is an innovator rather than a profit seeker who takes the initiative, resulting in changes (Rae, 2007: 25) that create value. Entrepreneurs can and desire to change their organisation from within. They may not be the leaders of an organisation, but they have a willingness to try new things that create value. (Neck et al., 2024). However, Kirzner (1973, cited in Rae, 2007: 26) and Shane and Venkataraman (2000) believe that the entrepreneur is still motivated by profit and constantly seeks new opportunities.

The aspirations of entrepreneurs affect all aspects of everyday life (e.g. electricity, music, transport, agriculture, manufacturing, technology, etc.). Although pandemics, unemployment, recession, war, and natural disasters can make it difficult to see entrepreneurial opportunities, they often create new alternatives for economic development and encourage the discovery of solutions to emerging problems. (Neck et al., 2024)

Community and networking play an important role in business. Strong networks enable better access to finance, emotional support and knowledge, and multilateral learning and exchange of information. It is important to create consistent, purposeful contacts to find new ideas or increase existing options. (Cope, Jack, & Rose, 2007)

Sarasvathy (2008) believes that effective entrepreneurs take the initiative to create new opportunities and markets and recognise failures to learn from them. They build relationships with employees, customers, suppliers, shareholders, communities and networks affected by the company's performance. Rosen (2015) adds that cooperation and information sharing with other entrepreneurs and potential investors are more important than skills when testing new ideas and gaining trust.

Regardless of the obstacles, some entrepreneurs are ready to change the world. For example, Alexander Graham Bell invented the telephone (1875); Josephine Cochrane invented, manufactured and sold the first modern dishwasher (1893); John Blankenbaker created the first personal computer (1971); Henry Ford introduced the moving assembly line (1920); Vinton Cerf and Bob Kahn developed the data transfer protocol, TCP/IP, which gave rise to the Internet (1980), and Andrew Weinreich created the first social networking platform, Six Degrees (1996). Today, the introduction of the iPhone (2007), blockchain (2008), various cryptocurrencies (starting with Bitcoin in 2009), the mainstreaming of augmented reality (originally developed in 1968), and artificial intelligence. (Cited in Neck et al., 2024)

Total Early-Stage Entrepreneurial Activity (TEA) refers to the proportion of the adult population actively involved in starting a new business or managing a business less than 42 months old. On the other hand, established Business Ownership (EBO) measures the proportion of the adult population that owns and manages an established business over 42 months old. Research by Shane and Venkataraman (2000) highlights that entrepreneurship is not just limited to creating new businesses but encompasses a broader set of activities related to innovation, risk-taking, and opportunity exploitation. High levels of TEA often indicate an environment where individuals are motivated and equipped to start new ventures. As these ventures mature over time, they contribute to an increase in EBO. Therefore, there is a positive relationship between TEA and EBO, with high levels of TEA potentially leading to higher levels of EBO in the future. Cooney (2012) suggests that high levels of TEA indicate that policies encouraging entrepreneurship, such as access to funding, enabling access to markets, mentorship programs, and regulatory support, effectively stimulate new business creation. Conversely, a low transition rate from TEA to EBO may indicate barriers to business sustainability and growth that must be addressed.

5.2 Age differences

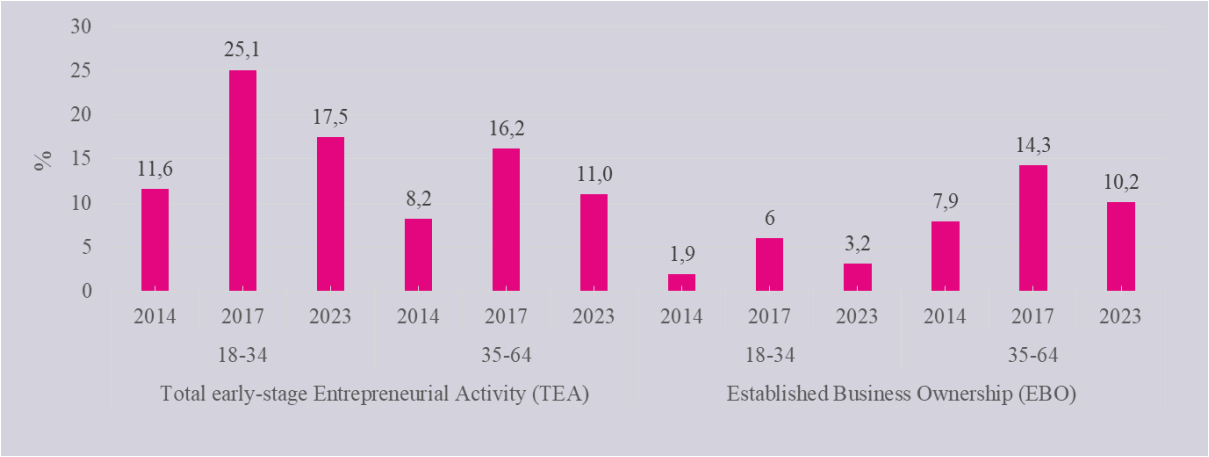


Figure 5.1. *Entrepreneurial activity for age groups in Estonia*
Source: Authors' calculations based on GEM 2023 data

Baycan et al. (2003) found that age, generation, gender and social network affect entrepreneurship. Figure 5.1. reveals that according to the level of entrepreneurial activity in the early stage (TEA), the younger age group (18–34 years old) surveyed are more likely to create new companies. The proportion of the younger age group was the highest (25.1%) in 2017. On the other hand, for the respondents of the older age group (EBO, 35–64 years old), it is important to have an already operating company. As with the younger age group, the share of entrepreneurial activity in the older age group was also the highest (14.3%) in 2017.

The level of total early-stage entrepreneurial activity (Figure 5.2.) can vary across regions and sectors due to differences in economic conditions, industry dynamics, and support structures for entrepreneurship. Wennekers et al. (2005) highlight the importance of considering regional and sectoral variations in entrepreneurship to tailor policies and interventions effectively. Younger individuals may have higher levels of entrepreneurial activity due to factors such as higher risk tolerance and greater access to resources like education and mentorship. Conversely, older individuals may engage in entrepreneurship as a second career or to leverage their accumulated expertise and networks (Aldrich & Cliff, 2003). Youth unemployment rates, for example, can drive younger individuals towards entrepreneurship as an alternative to traditional employment.

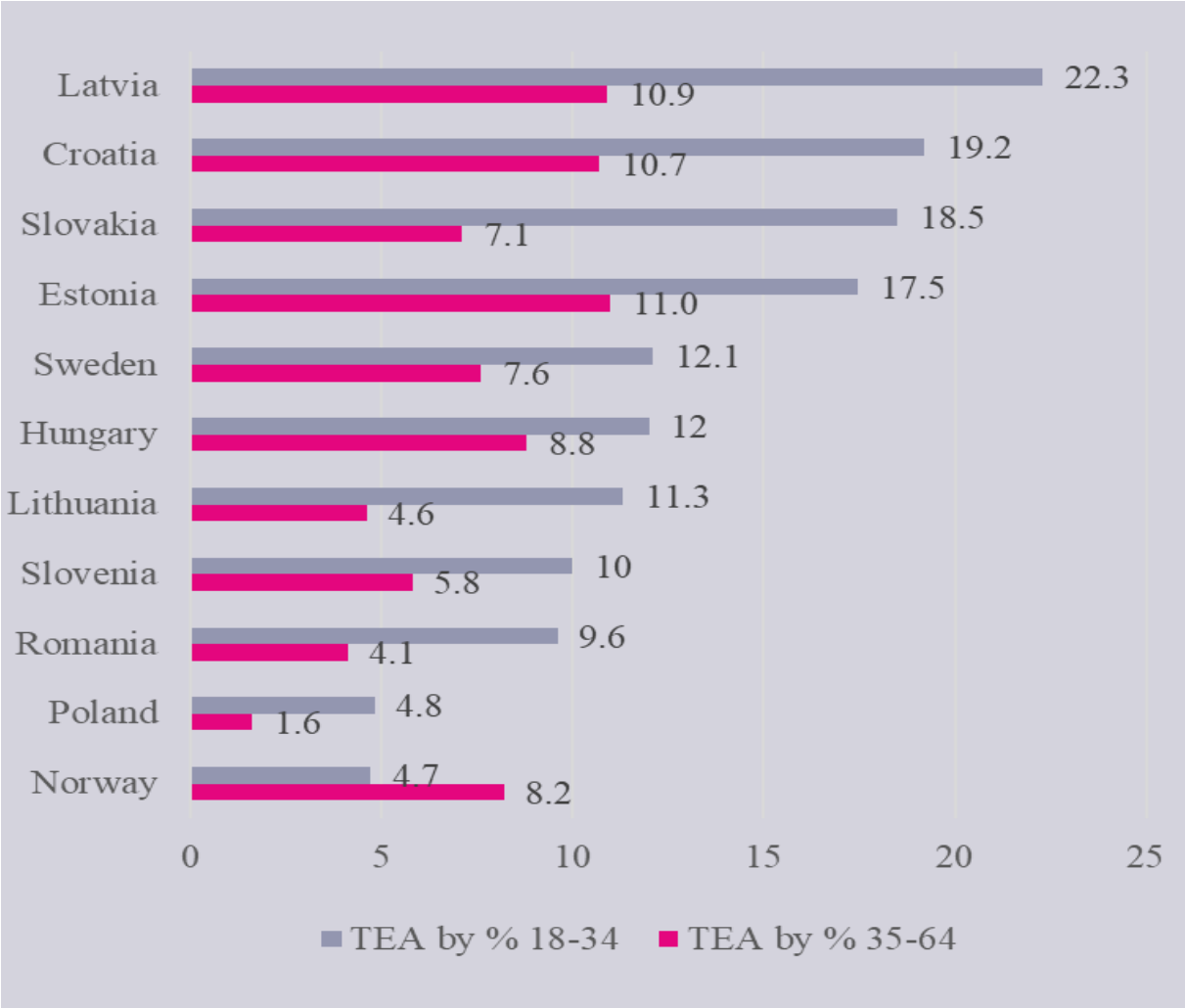


Figure 5.2. *The level of total early-stage entrepreneurial activity (% adults in each age group) for age groups in European countries*
Source: Authors' calculations based on GEM 2023 data

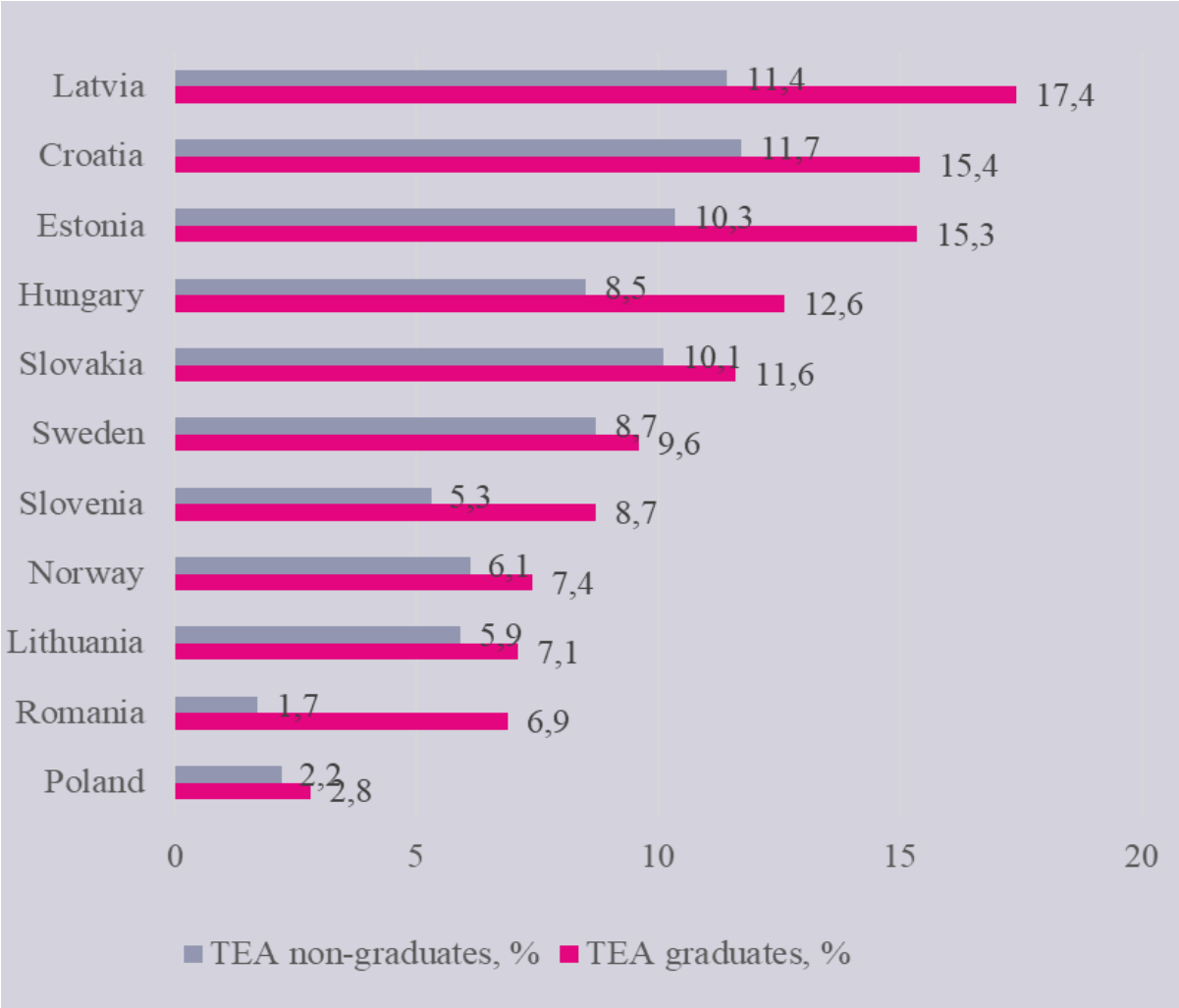


Figure 5.3. *The level of total early-stage entrepreneurial activity (TEA) for graduates and for non-graduates (%) in 2023*
Source: Authors' calculations based on GEM 2023 data

5.3 Gender differences

Women may be better equipped to exploit diverse religious and language networks when trying to start a business and run an enterprise. Research suggests that female social networks tend to be more diverse than men's since women must rely on multiple contacts to advance professionally or socially (Ibarra, 1993). In addition, the heterogeneity of female networks implies that women maintain weaker ties and are more likely to channel novel ideas and information (Miller & Triana, 2009). Likewise, it may be easier for women to reap the benefits of diversity since they tend to be more concerned than men about the consequences of their behaviour on others. For example, in group lending arrangements, women are more sensitive to the threat of social sanctions and are, therefore, less disposed to renege on their loans (Armendariz & Morduch, 2005: 218–19).

Women's entrepreneurship is considered a factor in economic development, especially in developing countries. Indeed, by creating their own companies, women help reduce the unemployment rate in their countries and even increase the employment rate

by recruiting other people. So, women can contribute to their country's economic growth and diversify the different sectors. However, women and men entrepreneurship differ in their personal and business profiles: they start and run businesses in different sectors, develop different products, pursue different goals and structure their businesses differently (Brush, 1992; Fischer et al., 1993; Chaganti & Parasuraman, 1996; Carter et al., 1997; Verheul, 2003)7. Increasingly, research is considering the difference between men and women in entrepreneurship., We regard women, in general, as less keen than men to choose entrepreneurship to make a living for different reasons such as risk aversion, culture, financial issues, etc.

Research shows that men are more involved in early-stage entrepreneurial activity than women across various countries. This gender disparity in TEA is attributed to a multitude of factors, including cultural norms and access to resources. Studies suggest that men and women may have different motivations for entrepreneurship. While men often cite opportunity recognition and wealth creation as primary motivations, women may be more influenced by work-life balance and flexibility factors.

Table 5.1. *Gender differences in early-stage and established businesses*

	TEA23 (%)		**EBO23 (%)**	
	male	**female**	**male**	**female**
Estonia	16.2	9.9	9.7	6.1
Latvia	16.5	12.2	13.9	7.5
Lithuania	6.1	7.2	16.5	12.7
Slovenia	9.0	5.0	12.8	4.6
Slovakia	12.6	8.9	4.4	3.5
Croatia	16.4	9.9	6.6	3.8
Hungary	12.7	7.1	9.7	5.1
Poland	2.8	2.4	12.4	10.9
Romania	6.8	4.9	6.3	3.9
Sweden	11.1	7.3	8,.0	2.8
Norway	8.8	4.9	8.2	6.9
Europe average	11.0	7.7	9.2	5.8

Source: Authors' calculations based on GEM Global report 2023

Gender differences in early-stage entrepreneurial activity and established business ownership reflect broader societal norms, structural inequalities, and institutional barriers impacting women's entrepreneurship participation. Addressing these challenges requires a multifaceted approach, including policy reforms, cultural shifts, and targeted support programs aimed at promoting gender equality and fostering an inclusive entrepreneurial ecosystem.

Table 5.2. *Gender differences in Estonian regions*

	Involved in TEA (%)	
	male	**female**
North Estonia	17.6	10.4
West Estonia	16.0	11.1
Central Estonia	11.8	5.2
North-East Estonia	7.9	3.6
South Estonia	18.1	13.0
All Estonia	16.2	9.9

Source: Authors' calculations based on GEM Global report 2023

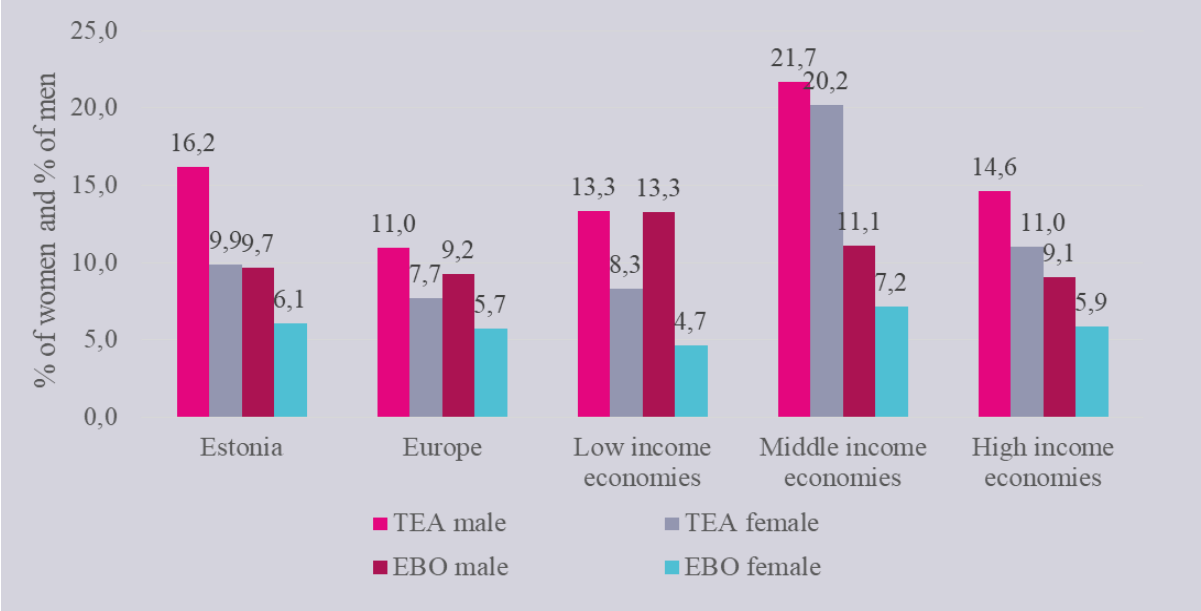


Figure 5.4. *Gender differences in global comparison*
Source: Authors' calculations based on GEM Global report 2023

Women's entrepreneurship contributes to the growth in economic development, especially in developing countries, helping to reduce the unemployment rate and diversifying different sectors (Alexandre-Leclair, 2014).

5.4 Regional differences

Regarding the regional division of entrepreneurial activity in Estonia while looking at five regions, Western Estonia and Southern Estonia stand out as the most entrepreneurial (Figure 5.5.), followed by Northern Estonia. In Central and North-Eastern Estonia, however, the overall entrepreneurial activity is lower than in Estonia on average. The high entrepreneurial activity rate in Western Estonia is due to the high TEA rate and EBO rate, while the high entrepreneurial activity rate in Southern Estonia is mainly due to the high TEA rate.

The potential entrepreneurship rate is almost equally high in Northern Estonia and Western Estonia, followed by Southern Estonia. It is the lowest in Central Estonia. While the actual entrepreneurship rate is comparatively low in North-Eastern Estonia, their potential entrepreneurship rate is relatively high compared to other Estonian regions. The exit rates in different regions are almost similar and do not deviate much from the Estonian average rate.

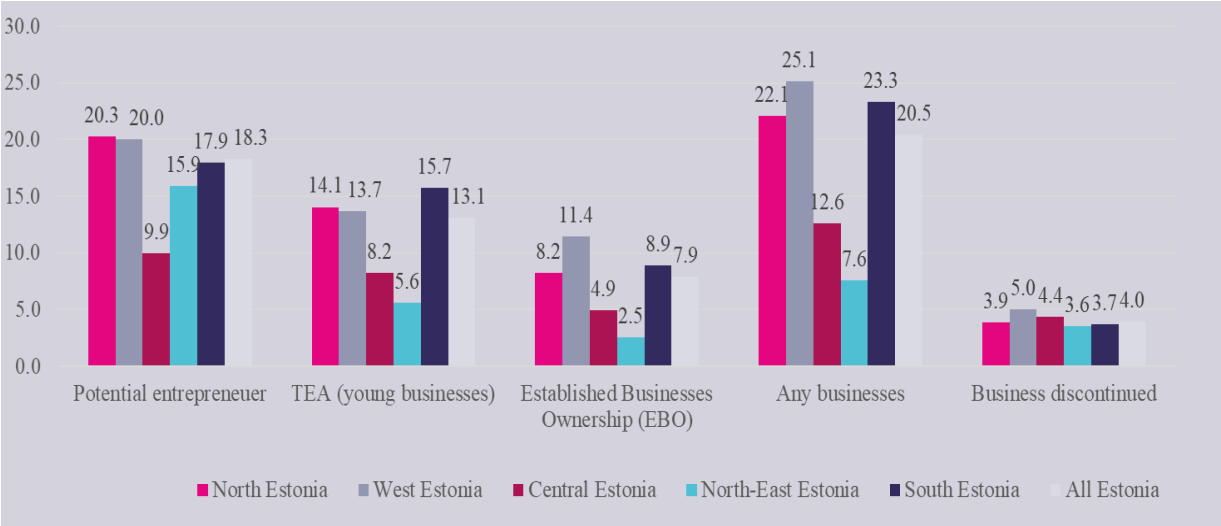


Figure 5.5. *The level of entrepreneurial activity in Estonia (% of people aged 18–64)*
Source: Authors' calculations based on GEM 2023 data

All-in-all different types of entrepreneurial activity increased from 2014 to 2017 and then decreased to 2023 (Table 5.3.). These are also the trends in most Estonian regions apparent for total entrepreneurship and the TEA and the EBO rates. There are some exceptions, e.g., the potential entrepreneurship rate has increased steadily in West Estonia and remained stable in North-Eastern Estonia (and has not decreased in 2023). The business exit rate has also remained stable in some regions, like North-Eastern and South Estonia.

Table 5.3. *Entrepreneurial activity by region in Estonia*

	Years	North Estonia	West Estonia	Central Estonia	North-East Estonia	South Estonia	All Estonia
Potential entrepreneurship rate	2014	11.5	12.2	13.7	7.0	8.6	10.6
	2017	25.6	17.9	18.4	15.0	23.4	22.3
	2023	20.3	20.0	9.9	15.9	18.0	18.3
Early-stage entrepreneurial activity (TEA)	2014	10.2	9.2	10.0	3.7	10.8	9.4
	2017	23.3	18.4	16.2	8.7	18.8	19.4
	2023	14.1	13.7	8.2	5.6	15.7	13.1
Established business ownership (EBO)	2014	5.3	8.8	3.9	2.1	7.6	5.7
	2017	11.3	14.4	13.6	8.7	10.5	11.4
	2023	8.2	11.4	4.9	2.5	8.9	7.9
Any business rate (TEA+EBO)	2014	15.4	18.0	13.3	5.8	18.4	14.9
	2017	33.5	30.0	29.7	16.9	28.4	29.7
	2023	22.1	25.1	12.6	7.6	23.4	20.5
Business exit rate	2014	5.0	4.1	1.7	5.1	2.4	4.0
	2017	5.5	3.1	3.2	3.7	3.9	4.4
	2023	3.9	5.0	4.4	3.6	3.7	4.0

Source: Authors' calculations based on GEM 2023 data

Table 5.4. provides an overview of business-related attitudes in Estonia by regions. In 2023, the degree of ease of starting a business was highest in North Estonia (81.0%) and South Estonia (79.9%), while it was significantly lower in North-East Estonia (52.4%). In Western and Central Estonia, there was also an increase by 2023, 78.0% and 72.0%, respectively. The highest rate of perceived opportunities in 2023 was in South Estonia (56.8%) and North Estonia (55.7%), compared to a significantly lower rate in North-East Estonia (17.8%). Perceived opportunity rates have changed in all regions between 2014–2023, for example in Central Estonia it dropped from 44.87% to 34.0% in 2017–2023. The highest perceived capability rate in 2023 was in North Estonia (48.9%) and South Estonia (47.9%), while it was lower in North-East Estonia (34.8%). In Central Estonia, the rate of perceived capability decreased from 2017 to 2023, falling from 47.21% to 45.0%. The rate of entrepreneurial intentions in 2023 was the highest in Central Estonia (18.26%) and Western Estonia (16.3%). In Northern Estonia, the rate of entrepreneurial intentions decreased in the years 2017–2023, falling from 25.67% to 16.2%.

Table 5.4. *Business related attitudes in Estonia by regions*

	Easy to Start a Business			Perceived Opportunities Rate			Perceived Capabilities Rate			Entrepreneurial Intentions Rate		
	2014	**2017**	**2023**	**2014**	**2017**	**2023**	**2014**	**2017**	**2023**	**2014**	**2017**	**2023**
North Estonia	-	79.9	81.0	8	75.0	55.7	47.0	51.7	48.9	11.5	25.7	16.2
West Estonia	-	69.8	78.0	31.79	47.6	50.3	42.4	47.6	47.1	12.2	18.1	16.3
Central Estonia	-	69.7	72.0	28.68	44.9	34.0	35.7	47.2	45.0	13.7	18.3	8.2
North-East Estonia	-	60.7	52.4	36.81	34.6	17.8	31.8	38.2	34.8	7.0	15.2	12.6
South Estonia	-	70.9	79.9	41.82	57.7	56.8	41.6	53.5	47.9	8.6	23.4	14.5
All Estonia	-	73.7	77.3	49.44	61.0	49.5	42.5	49.7	46.8	10.6	22.3	14.7

Source: Authors' calculations based on GEM Global report 2023

In the case of early stage entrepreneurship (TEA), the TEA rate of university graduates was highest in Western Estonia (19.6%), followed by Northern Estonia (16.8%) and Southern Estonia (15.4%) (Table 5.5.). In Northeast Estonia, the TEA rate of university graduates is the lowest (4.4%). Regarding non-university graduates, the highest TEA rate was in South Estonia (15.9%), while it was the lowest in Central Estonia (4.1%). In the established entrepreneurship (EBO) phase, the EBO rate for university graduates was also the highest in Western Estonia (18.0%), followed by Southern Estonia (13.3%) and Northern Estonia (10.8%). In Northeast Estonia, the EBO rate of university graduates was the lowest (2.4%). Regarding non-university graduates, the highest EBO rate was in Western Estonia (5.4%), while it was the lowest in Central Estonia (1.6%).

The general trend is that in all regions university graduates show higher rates of TEA and EBO compared to non-university graduates. Western Estonia stands out especially with high indicators in both categories. For non-university graduates, the TEA rate in South Estonia is higher than in other regions, but the EBO rates are generally low in all regions.

Table 5.5. *Entrepreneurial activity by education level in Estonian regions*

	Total early-stage Entrepreneurial Activity (TEA)		Established Business Ownership (EBO)	
	Graduates	**Non-graduates**	**Graduates**	**Non-graduates**
North Estonia	16.8	10.3	10.8	4.5
West Estonia	19.6	8.1	18.0	5.4
Central Estonia	13.9	4.1	9.0	1.6
North-East Estonia	4.4	7.2	2.4	2.6
South Estonia	15.4	15.9	13.3	3.5
All Estonia	15.3	10.3	11.1	3.9

Source: Authors' calculations based on GEM Global report 2023

In summary, in the regional distribution of Estonian business activity, the most active regions are Western Estonia and Southern Estonia, followed by Northern Estonia. Entrepreneurial activity in Central and North-East Estonia is lower than the average in Estonia, although the potential for entrepreneurship is relatively high in North-East Estonia. The high entrepreneurial activity in Western Estonia results from high rates of both TEA and EBO, while in South Estonia the main factor is the high rate of TEA. In Estonia as a whole, the activity of various entrepreneurial phases has increased from 2014 to 2017 and then, unfortunately, decreased until 2023, and such trends are also noticeable in most regions of Estonia.

The indicators of Northern Estonia and Southern Estonia continue to be strong in perceptions and intentions related to entrepreneurship, especially in the ease of starting a business and perceived opportunities. Northeast Estonia stands out with lower indicators, especially in the rates of perceived opportunities and capabilities, which may indicate regional challenges in business development. In Central Estonia, there has been a decline in entrepreneurial intentions and perceived opportunities, which may indicate the need for additional entrepreneurial initiatives or a supportive environment. In Western Estonia, indicators related to entrepreneurship are generally stable, but no noticeable increase in entrepreneurial intentions has been observed.

In Western Estonia, university graduates are particularly active both in the early phase and in established entrepreneurship, which indicates strong entrepreneurship opportunities and support in this region. In Northern Estonia, university graduates are also active, but the entrepreneurial activity of non-graduates is lower. In Central and North-Eastern Estonia, the entrepreneurial activity of both graduates and non-graduates is lower, which may indicate regional challenges in the development of entrepreneurship. In South Estonia, the TEA rate of non-graduates is high, but the EBO rates remain low, which may indicate more early-stage entrepreneurial activity, but less established entrepreneurship.

6 ENTREPRENEURSHIP AS A CHOICE

Entrepreneurship is driven by individual choices, conditions of the entrepreneurial ecosystem, entrepreneurs' personality and their motivations. The decision to start a business is affected by courage, multiplying income, solving environmental, technology or societal challenges, or simply earning income and struggling with unemployment (Eggers & Macmillan, 2013; Kacou, 2010). The reasons behind the entrepreneurial choices influence business objectives, organisational structure, product and process orientations, the potential for growth, development and collaboration choice, also an inclination toward sustainability and economic performance (Haldar, 2019; Hooi et al., 2016). Entrepreneurs' motivation is an important indicator for policymakers, stakeholders and the ecosystem, as it ensures the stable emergence of new businesses in the economy (Guerrero et al., 2021; Mason & Brown, 2014; Cao & Shi, 2021). Estonian entrepreneurs' motivations are formed under specific operations in the digital entrepreneurial ecosystem (Dorjnyambuu, 2023), and internationalisation orientation of the ecosystem (Velt, 2020; Velt et al., 2018) and pressure towards sustainability excellence (Kekkonen et al., 2023) and orientation towards a circular economy (Küttim et al., 2023; Manea et al., 2021).

The tendency and motivation to stop business are also important economic indicators characterising the ability to optimise resources and ensure evolutional growth and better productivity by establishing new successful businesses instead of closing the old ones (Srimulyani & Hermanto, 2021).

There are several reasons to exit the business, either negative or positive: from business losses to retirement or moving to new challenges. Entrepreneurial motivation and reasons for business exiting in Estonia are analysed in this chapter.

6.1 Why start or stop a business

The 2023 GEM study entrepreneurial motivation includes the following indicators: 1) making a difference in the world; 2) achieving substantial wealth; 3) continuing a family tradition, and 4) earning a living due to job scarcity.

Those starting or running a new business select from a five-point scale (strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree and strongly disagree), and can choose one or more of

these motivations (and many do choose more than one).

Motivations for starting and running a business in Estonia, European countries, and categories of countries by income level in 2023 (% of young business owners – TEA) are presented in Figure 6.1. The Estonian data is compared with GEM results for EU countries and low, middle and high-income countries according to the World Bank classification (Figure 6.1.)

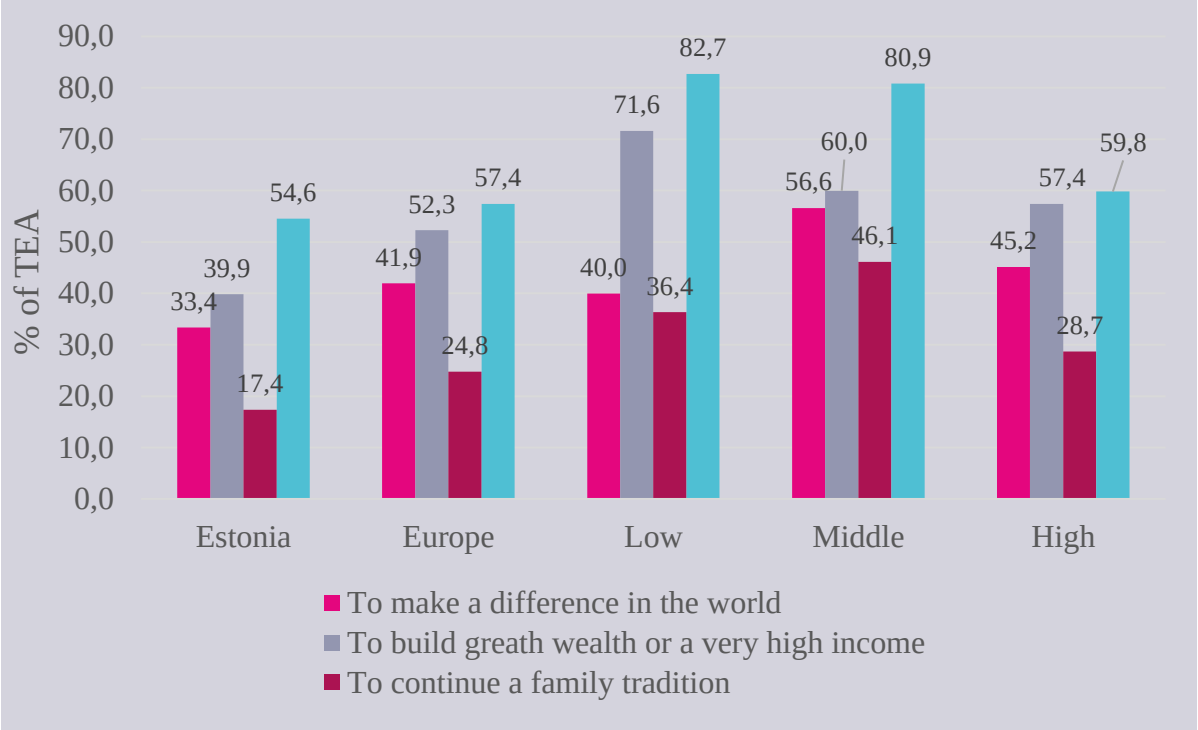


Figure 6.1. *Motivations for starting and running a business in Estonia, the European countries surveyed, and categories of countries by income level in 2023 (% of young business owners – TEA)*

There is a variation in the share of entrepreneurs starting businesses, who agree with the motivation "to make a difference in the world" (Figure 6.1.). The indicator for Estonia is lowest at 33.4%, compared to 41.9 in Europe, 40 in low, 56.6 in middle and 45.2 in high-income countries. The same situation is with the motivation "to build great wealth or very high income": 39.9% agreed in Estonia, compared to 52.3 in Europe, 71.6 in low-, 60 in middle- and 57.4 in high-income countries. The rarest motivation to start a business in Estonia is "to continue a family tradition" – only 17.4%. This motivation is also low in Europe 24.8% and 28.7 % in high-income countries. However, it is higher in low-income countries at 36.4% and the highest in middle-income countries at 46.1%. The most common motivation to start a business in Estonia is "to earn a living because jobs are scarce" – 54.6% agreed, almost the same level as in Europe 57.4% and in high-income countries 59.8%. Low- and middle-income countries reported a higher percentage of entrepreneurs, who agreed with this motivation – 82.7 and 80.9 respectively.

Motivations for starting and running a business for regions of Estonia in 2023 is presented on Figure 6.2.

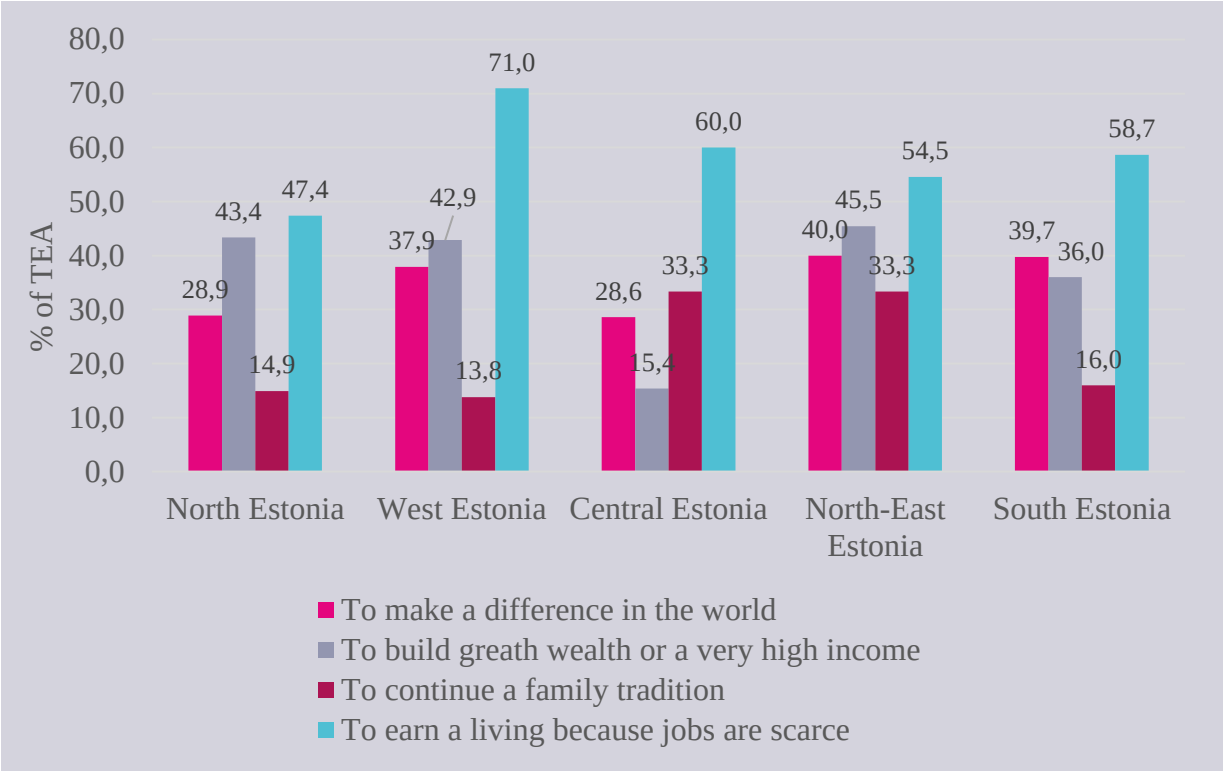


Figure 6.2. *Motivations for starting and running a business for regions of Estonia, 2023 (% of young business owners – TEA)*
Source: Authors' calculations based on GEM 2023 data

The variation between motivations is quite large between Estonian regions. The share of entrepreneurs starting a business, who agree with the motivation "to make a difference in the world" (Figure 6.2.) is lower in Northern Estonia 28.9% and Central Estonia 28.6%. It is significantly higher in Western Estonia 37.9%, Northern East Estonia 40% and Southern Estonia 39.7%. There is less variation in the motivation "to build great wealth or very high income": Northern Estonia 43.4%, Western Estonia 42.9, North-Eastern Estonia 45.5 and Southern Estonia 36%. However, Central Estonia shows a deviation – only 15.4%. The motivation "to continue a family tradition" is lower in Northern Estonia – at 14.9%, in Western Estonia at 13.8%, in South Estonia at 16%, and much higher in Central Estonia and Northern East Estonia at 33.3% in both. The motivation "to continue a family tradition" is the rarest in Estonia – only 17.4%. (Figure 6.1.). The most common motivation to start a business in Estonia is "to earn a living because jobs are scarce" – 54.6% (Figure 6.1.).

The regional distribution is as follows: the highest rate is in Western Estonia 71%, followed by Central Estonia 60%, South Estonia 58.7%, North-Eastern Estonia 54.5% and North Estonia 47.4%.

Motivations for starting and running a business in Estonia by gender in 2023 (% of young business owners – TEA) are presented in Figure 6.3. In Estonia, there are no significant gender variations in entrepreneurial motivation: both female and male entrepreneurs are more likely to agree with the motivation "earning a living because jobs are scarce" 55 and 54.2% respectively. There are

no significant variations in motivations "to make a difference in the world" (35.7 and 31.9% correspondingly) and "building great wealth or high income" (41.4 and 39% respectively). However, male entrepreneurs are more likely to "continue a family tradition" – 20.7% compared to 12.1% of female entrepreneurs.

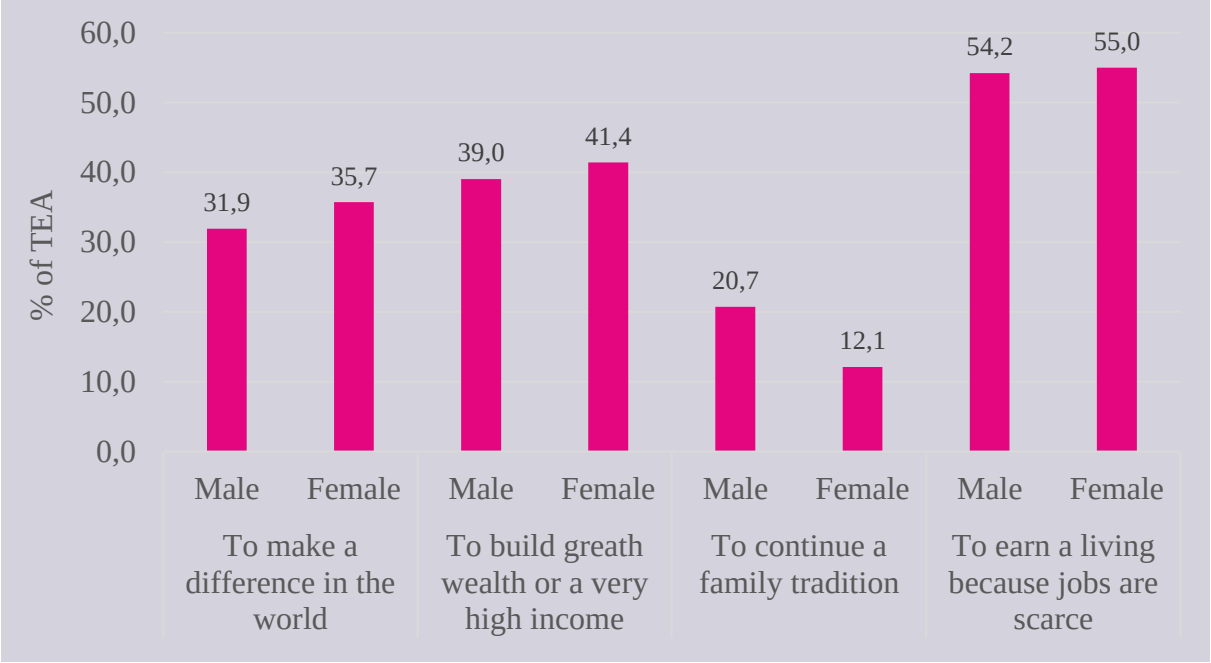


Figure 6.3. *Motivations for starting and running a business in Estonia by gender, 2023 (% of young business owners – TEA)*
Source: Authors' calculations based on GEM 2023 data

6.2 How many adults exited a business?

The respondents were asked whether, "in the past 12 months, they have sold, shut down, discontinued or quit a business they owned and managed". The proportion of adults in Estonia, compared to other European countries, responding "yes" to this question and to whether the business continued its activities after they quit, or not is shown in Figure 7.4. The height of each column shows the total exit rate. The rates were highest in Sweden, Croatia and Estonia – around 4% – a bit higher than the EU average of 3.4%. The lowest exit rate was reported in Romania at 1.41%.

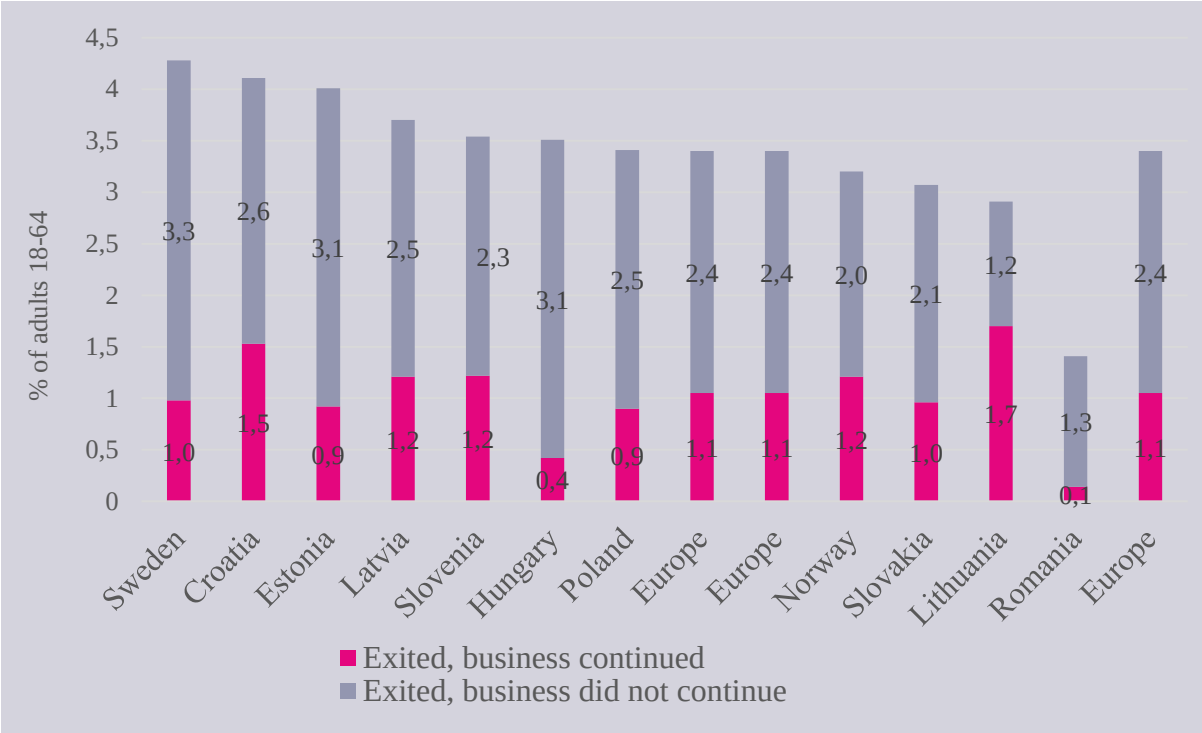


Figure 6.4. *The percentage of adults exiting a business in the past 12 months, and whether that business continued*
Source: GEM Adult Population Survey 2023

Exiting a business did not mean ceasing its activities. The pink colour in Figure 6.4 shows the share of these businesses that carried on their activities after exit, and grey is the share that did not. Accordingly, 0.9% kept going and 3.1 did not. The EU average rate of continuation is 1.1%. The highest rate is reported in Lithuania 1.7% and the lowest in Romania 0.1%.

Those exiting a business in the past year were asked to choose the most important reason among a list of 12, ranging from selling the business to family or personal reasons. Some of these reasons can be classified as positive (selling the business, another job, a business opportunity or retirement) with the rest categorised as negative. Figure 6.5. exhibits the distribution of exits as positive, negative or pandemic-related reasons. Many of the most important reasons are negative, ranging from 37.8% in Norway to 78.3% in Romania. In Estonia, more than half – 58.4% of businesses stop for negative reasons. COVID as an exit reason accounts for less than 1% of exits in Hungary, Lithuania, although it accounts for around 10% in Estonia, Croatia, and Slovakia. The highest rate is in Poland – 36.3%. The share of positive reasons for exiting a business is the highest in Norway 60.1%, Slovenia 58%, Sweden 49.3% and Lithuania 48.9%. About 30% of businesses in Estonia, Hungary and Croatia do not exit for positive reasons.

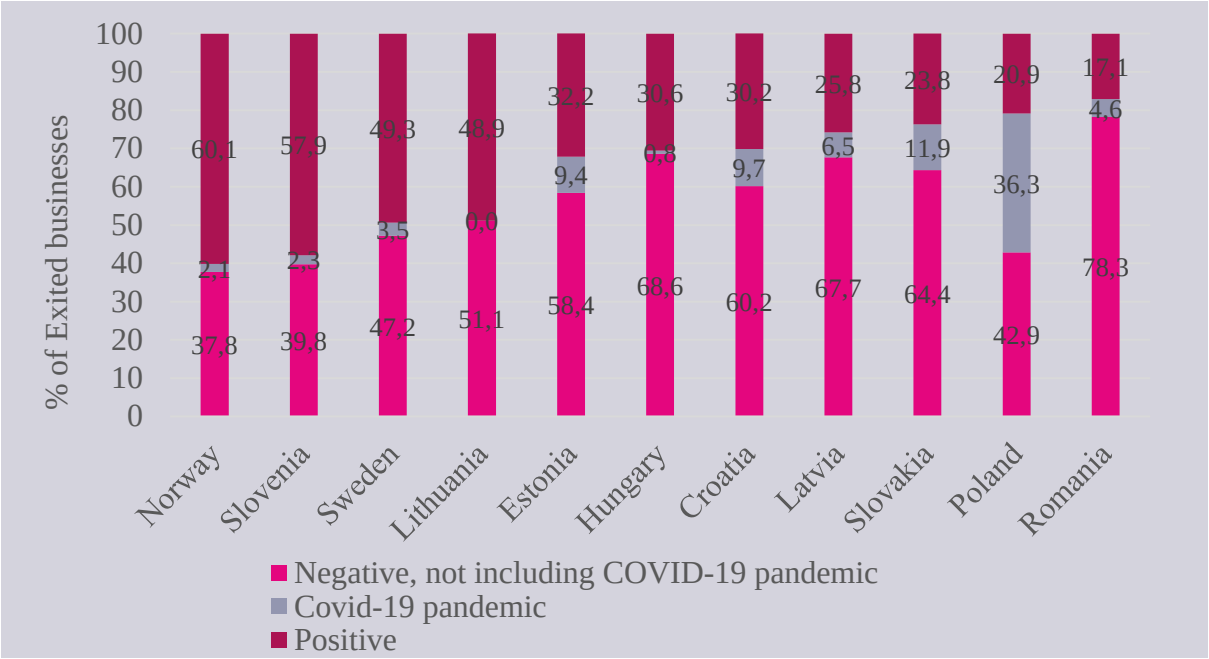


Figure 6.5. *Positive, negative and COVID-related reasons within total exits (% of exited businesses)*
Source: GEM Adult Population Survey 2023

Figure 6.6. presents the positive, negative and COVID-related reasons for total exits for Estonian regions. COVID-related reasons have been reported only in North Estonia contributing to 18.9% of all exit cases. This region also shows the lowest share of positive reasons – 27%. Positive reasons are dominant in Western Estonia – 54.5%, respectively, this region also reports the lowest rate of negative reasons to exit business – 45.5%. The situation in North-Eastern Estonia, Southern Estonia and Central Estonia is almost the same.

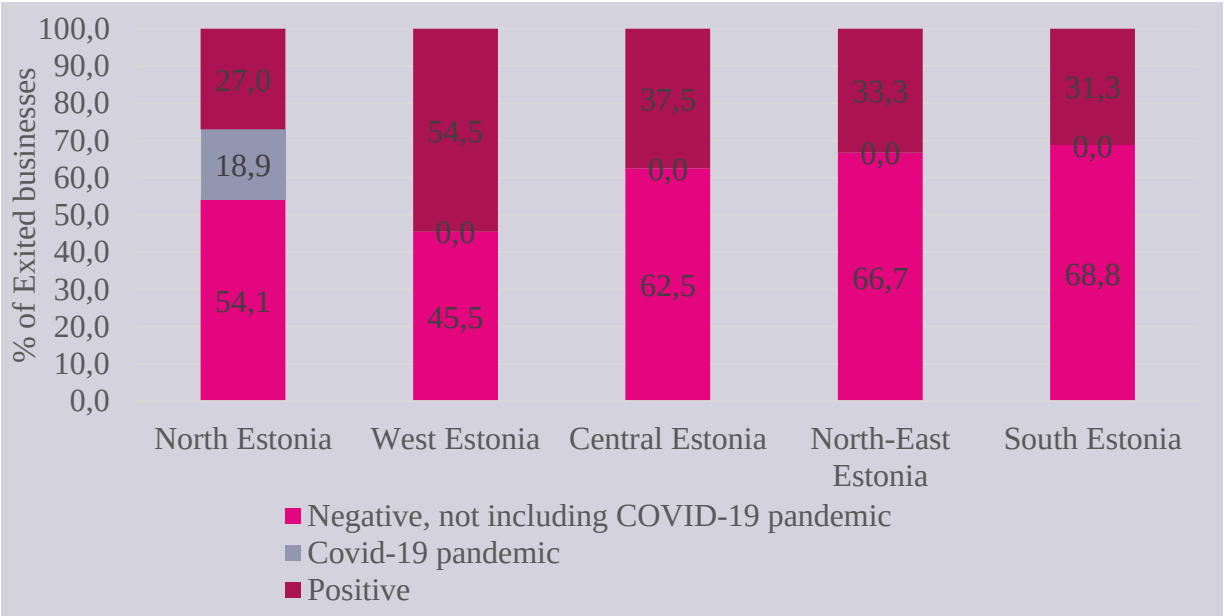


Figure 6.6. *Positive, negative and COVID-related reasons within total exits for regions in Estonia (% of exited businesses)*
Source: GEM Adult Population Survey 2023

6.3 How resilient are entrepreneurs?

Resilience as the ability to withstand or recover quickly from difficulties and crises became an important characteristic for companies operating in an unstable turbulent environment, facing uncertainty and social, economic, and political crises (Conz et al., 2023; Mihotić et al., 2023). Failing and rising again is a typical personality trait for serial entrepreneurs (Amankwah-Amoah et al., 2022; Dabic et al., 2023). Learning from failure and being ready to start new ventures are parts of the resilience concept (Ramezani & Camarinha-Matos, 2020; Korber & McNaughton, 2018) in entrepreneurship studies. Resilience enables entrepreneurs to adapt better to uncertainty and risky turbulent environments (Bullough & Renko, 2013) and provides innovation practices, tools and methods for managing such volatile situations (Conz et al., 2023). GEM study measures resilience in terms of the percentage of adult entrepreneurs, who have exited a business in the last 12 months and intend to start another business venture in the next three years. Figure 6.7 shows the comparison of Estonian regions in terms of resilience.

Figure 6.7. *The percentage of those adults who have exited a business in the last 12 months who intend to start another business in the next three years*
Source: Authors' calculations based on GEM 2023 data

In Western Estonia, 75% and in North-Eastern Estonia 66.7% of entrepreneurs who had exited a business in the last 12 months reported that they intend to start another business venture in the next three years. The same intention was expressed by 41.9% of entrepreneurs in Northern Estonia, 35.3% in South Estonia and 33.3% in Central Estonia. The average number for Estonia is 44.1 %.

The findings provide insights to policymakers in Estonia on how to enhance more people with an entrepreneurial mindset and great ideas to start new businesses. Learning more about the reasons for business closure may assist decision-makers in activating the necessary levers in the ecosystem for more innovative and sustainable entrepreneurship (Laukkanen & Patala, 2014; Colombelli et al.,

2019). The most common motivation to start a business in Estonia is "to earn a living because jobs are scarce" – 54.6% agreed, almost the same level as the European 57.4% and in high-income countries 59.8%. The fact should attract the decision-makers' attention to the Estonian job market situation, address unemployment, improve the entrepreneurial ecosystem and provide better stimuli for entrepreneurs to start businesses.

Exit rates are generally low, perhaps not an overly surprising fact as there is also quite a high level of early-stage entrepreneurial activity.

7 NATIONAL EXPERT STUDY

The entrepreneurial regional ecosystem consists of different components such as individuals, organisations, culture, infrastructure, and their interactions. The ecosystem and its components play a crucial role in fostering and supporting the development of startups and entrepreneurial ventures within a particular region or industry by nurturing the entrepreneurial mindset and culture, developing and exploiting opportunities, launching new firms, driving innovation, and contributing to the sustainability, growth or demise of small firms (Wurth et al., 2022). The investigation of the nature and role of these factors have attracted growing attention from researchers, policymakers and entrepreneurs over the last couple of decades, starting some 15 years ago with the work of Isenberg (2010) in the Harvard Business Review, where he analysed and contrasted factors in the external environment in multiple geographies that contributed to the emergence of entrepreneurial 'hot beds'. Overall, the entrepreneurial ecosystem regulates access to various resources essential for startups, including funding, mentorship, talent, infrastructure, and support services such as legal and accounting assistance, and facilitates connections among entrepreneurs (networking opportunities), investors, mentors, industry experts, and other stakeholders, creating opportunities for collaboration, partnerships, and knowledge exchange. The ecosystem also fosters a culture of learning and sharing the best practices through events, workshops, accelerators, and incubators, helping entrepreneurs acquire the skills and knowledge needed to succeed. By providing support structures and access to expertise, the ecosystem helps mitigate the risks associated with starting and growing a business, increasing the likelihood of success for startups. Effective entrepreneurial ecosystems often work with policymakers to create a conducive regulatory environment to encourage innovation, entrepreneurship, and investment. Ecosystems can also give startups access to potential customers, markets, and distribution channels, helping them scale their businesses more rapidly. A vibrant entrepreneurial ecosystem fosters a culture that celebrates entrepreneurship, risk-taking, and innovation, which can inspire and motivate aspiring entrepreneurs. Entrepreneurs within the ecosystem can receive valuable feedback and validation for their ideas and products, helping them refine their offerings and better address market needs. Overall, a robust entrepreneurial ecosystem plays a critical role in driving economic growth, innovation, and job creation by supporting the creation and development of startups and fostering a dynamic environment for entrepreneurship to thrive.

7.1 Overview of GEM National Experts Survey (NES)

The GEM national experts survey (NES) aims to collect opinions and insights from professionals actively involved in the entrepreneurship ecosystem of a certain country on its health and proper functioning. The experts represent different local stakeholders and organisations including educators, entrepreneurial support organisations (ESOs), central and local government, entrepreneurs, mentors, investors, infrastructure companies, etc.

The responses are collected against 9 Entrepreneurial Framework Conditions (EFCs) and subcategories from A till I (Table 7.1.), representing the different components of an entrepreneurial ecosystem. They reflect "the necessary oxygen of resources, incentives, markets and supporting institutions for the creation and growth of new firms" (Bosma et al., 2008, p. 40). These EFCs shape the enabling (or hindering) environment that allows the discovery of entrepreneurial opportunities, the emergence of firms as a result, and the continued performance of their operations.

Additionally, in the 2023 GEM NES Study (Table 7.1.), two more EFCs were added: Sustainable Development Goals (SDGs): the adoption of sustainable practices by new firms, and the support of investors and government to sustainability-oriented small firms and women's entrepreneurship: The societal attitudes, willingness of investors, availability of support services, and market openness towards female entrepreneurs.

Table 7.1. *Eleven Entrepreneurial Framework Conditions (EFCs) and subcategories*

A. Entrepreneurial Finance. The availability and accessibility of funding and financial support instruments
A1. Entrepreneurial Finance: there are sufficient funds for new startups. The availability and accessibility of funding and financial support instruments
A2. Ease of Access to Entrepreneurial Finance: and those funds are easy to access
B. Government Policy. The extent to which public policies, laws, and regulations support entrepreneurship
B1. Government Policy — Support and Relevance: policies promote and support startups
B2. Government Policy — Taxes and Bureaucracy: new businesses are not overburdened
C. Government Entrepreneurial Programs: quality support programs are widely available. The presence and quality of programs directly assisting SMEs at all levels of government (national, regional, municipal).
D. Entrepreneurship Education. The availability, quality, and impact of different entrepreneurship education and training courses and programs in schools and higher education institutions (HEIs)
D1. Entrepreneurial Education at School: schools introduce entrepreneurial ideas
D2. Entrepreneurial Education Post-School: colleges offer courses in how to start a business
E. Research and Development Transfers: research is easily transferred into new businesses. The transfer and commercialization of scientific knowledge from research and development institutions to new and existing SMEs
F. Commercial and Professional infrastructure: quality services are available and affordable. The availability of legal and financial professional service providers and frameworks that assist entrepreneurs and support SMEs
G. Entry Regulation. The ease of accessing new and existing markets and their degree of stability, or otherwise dynamism
G1. Ease of Entry — Market Dynamics: markets are free, open and growing
G2. Ease of Entry — Burdens and Regulations: regulations encourage not restrict entry
H. Physical Infrastructure: good-quality, available and affordable. The availability and affordance of essential infrastructure services such as communications facilities, utilities, and commercial spaces
I. Social and Cultural Norms: encourage and celebrate entrepreneurship. The prevailing societal norms which can encourage entrepreneurial orientations and activities
SDG Sustainable Development Goals (SDGs). The adoption of sustainable practices by new firms, and the support of investors and the government to sustainability-oriented small firms
P Women's entrepreneurship: The societal attitudes, investors willingness, availability of support services, and market openness towards women entrepreneurs

Source: GEM Global Survey 2023, NES methodology

Experts responded to statements organised under these 11 categories (9 EFCs + SDGs + Women's entrepreneurship). Their responses are recorded on a Likert scale from 0 to 10:

"Please assess the national conditions influencing entrepreneurial activity in your country. Please select the most appropriate option from 0 = completely false (CF) to 10 = completely true (CT)."

Moreover, experts were asked what they consider the key factor to foster entrepreneurial activity through a concise open-ended question. They also were asked to make one key recommendation for improving the context for entrepreneurial activity in Estonia.

Altogether there were 58 responses collected from experts, out of which there were 47 valid responses, the rest were not fully completed. There are 24 male respondents and 23 females. The average age of a respondent is 47, and the range of age is between 18 and 71. Eight respondents claimed to have a college or university degree, 38 had a master's degree or PhD, and only one (18-year-old) had a secondary school education. On average, respondents worked in 19 areas involved in entrepreneurship, the range is from one to 33 years.

Respondents had specialisation in finance (2), economy, economics, marketing (12), engineering (5), engineering + law (1), business management, public administration (5), anthropology, andragogy (1), entrepreneurship (1), engineering and business (2), communication (2), Forest Industry Engineer and IT Engineer (1), governance of technology (1), social scientist (1), materials technology (1), Media (1), economics (business, sales, marketing) and law (1), Innovation and Technology Management (2), IT (2), physics (1).

Among the respondents, 20 identified themselves as entrepreneurs, eight as investors, financiers, bankers, nine as policymakers, 15 as business and support services providers in the private sector, 12 as business and support services providers in the public sector, and 11 as educators, teachers, and researchers.

7.2 General findings

The results from the Estonian experts are compared to those from GEM global, across all the countries involved in the 2023 GEM survey. Additionally, they are compared against the results from the national report 2017, to identify the progression or deterioration over the years. Moreover, Estonia's NES 2023 results are benchmarked against those from neighbouring countries that participated in GEM 2023, namely: Latvia, Lithuania and the EU average.

Nine Entrepreneurial Framework Conditions (EFCs) indicators and two additional EFCs on sustainability and women's entrepreneurship in Estonia in 2023 presented in Figure 7.1. are compared with average levels in all European countries, where the GEM national survey was conducted (EU average). The means are calculated using a Likert scale of 0–10 (where 0 is completely false, 5 is neither false nor true and 10 is completely true). Estonia well exceeds EU GEM averages EFCs except for women's entrepreneurship (see details about this EFC in the corresponding chapter of this report).

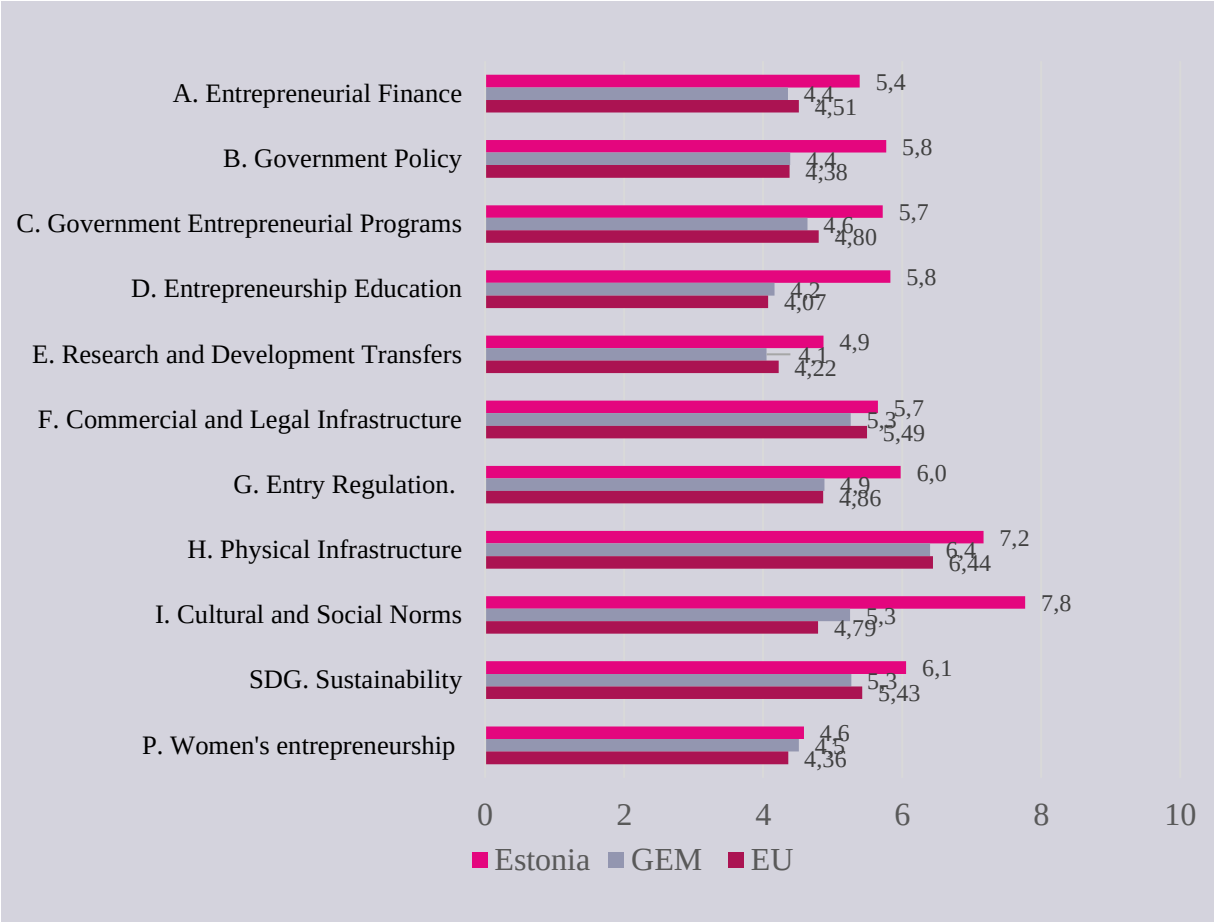


Figure 7.1. *NES survey results 2023: Estonia vs GEM global average*
Source: Authors' calculations based on GEM NES Survey data 2023

Estonian experts evaluated physical infrastructure (7.2 in Estonia, 6.4 EU GEM) and cultural and social norms (7.8 in Estonia vs 4.8 EU average) (see sections 7.3.8 on EFC H and 7.3.9. on EFC I of this report) as very supportive for entrepreneurship in Estonia. Also, governmental policies (5.8) and access to governmental entrepreneurial programs (5.7), access to entrepreneurial education (5.8), market dynamics (6.0) and sustainability indicators (6.1) received good evaluations from experts supporting the Estonian entrepreneurial ecosystem.

EFCs indicators in Estonia in 2023 compared to 2017 are presented in Figure 7.2. In comparison with the last NES carried out in 2017, three main ecosystem elements improved: governmental support policies (5.8 in 2023 vs 5.0 in 2017), entry regulation (the ease of accessing new and existing markets and their degree of stability) (6,0 vs 5,0), cultural and social norms and support for entrepreneurs (7.8 vs 6.5), and availability of entrepreneurial education (5.8 vs 5.3). Also, cultural and social norms and societal support were remarkably supportive in 2017 (6.5), but they further improved in 2023 (7.8). This could be attributed to the prevalence of startup and unicorn success stories in Estonian media (Invest in Estonia, 2021; Rang, 2019), as political promotion of entrepreneurship and innovation (Latitude59, 2017; Karis, 2022). The transfer of research outputs and scientific knowledge to small companies and their consequent commercialisation has remained consistently below the average, which can be regarded as an inherent weakness in Estonia (see details on this EFCs later in the report)

although well observed across GEM participating countries (4.1 GEM average). Experts claimed that the level of R&D transfer had been consistently low over these years (4,7 in 2017 and 4,9 in 2023). However, physical infrastructure slightly decreased compared to 2017 (7.2 in 2023 vs 7.6 in 2017) but remained high (expert evaluation on a level over 7). This could be attributed to recent inflation waves engulfing Estonia (Pert, 2022), and the rest of the world. At the same time, commercial and legal infrastructure slightly decreased since 2017 (5.7 vs 6.0).

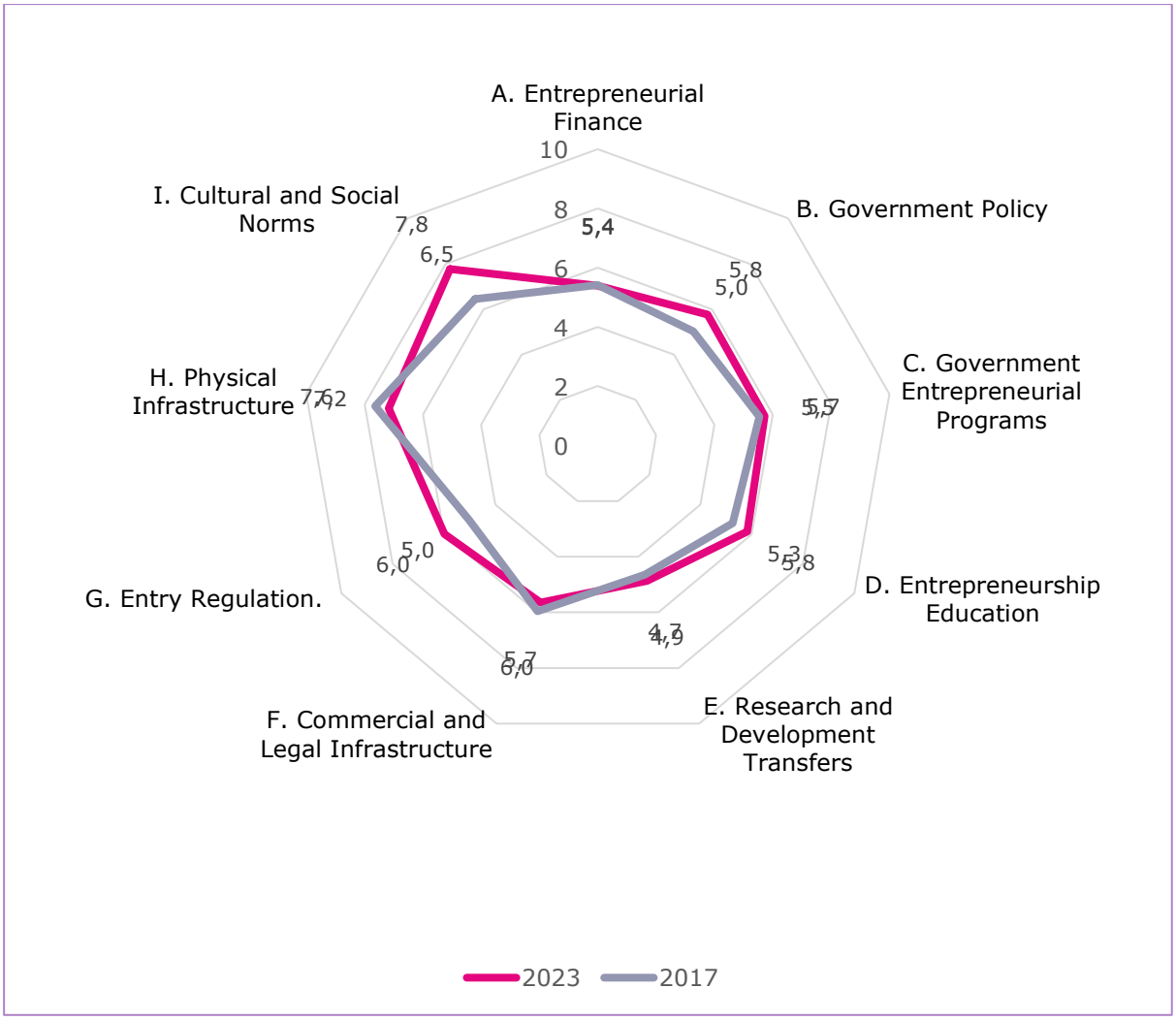


Figure 7.2. *NES survey results: nine EFCs in Estonia 2023 vs Estonia 2017, means (Likert scale 0–10)*
Source: Authors' calculations based on GEM NES Survey data 2023

Compared to the EU average, Estonia outperforms in all EFCs (Figure 7.3.). Compared to neighbouring countries (Latvia and Lithuania), Estonia performs better than Latvia. Together with Lithuania, Estonia leads the pack on funding availability and ease of access, supportive government policies and regulations, education, entry regulations, and sustainability. However, this leadership position is lost on women's entrepreneurship and government entrepreneurial programs, R&D transfer and commercial infrastructure fronts. Estonia outperforms all other neighbours in cultural and social norms. All EFCs categories in Estonia 2023 compared to the EU average are presented in Figure 7.4.

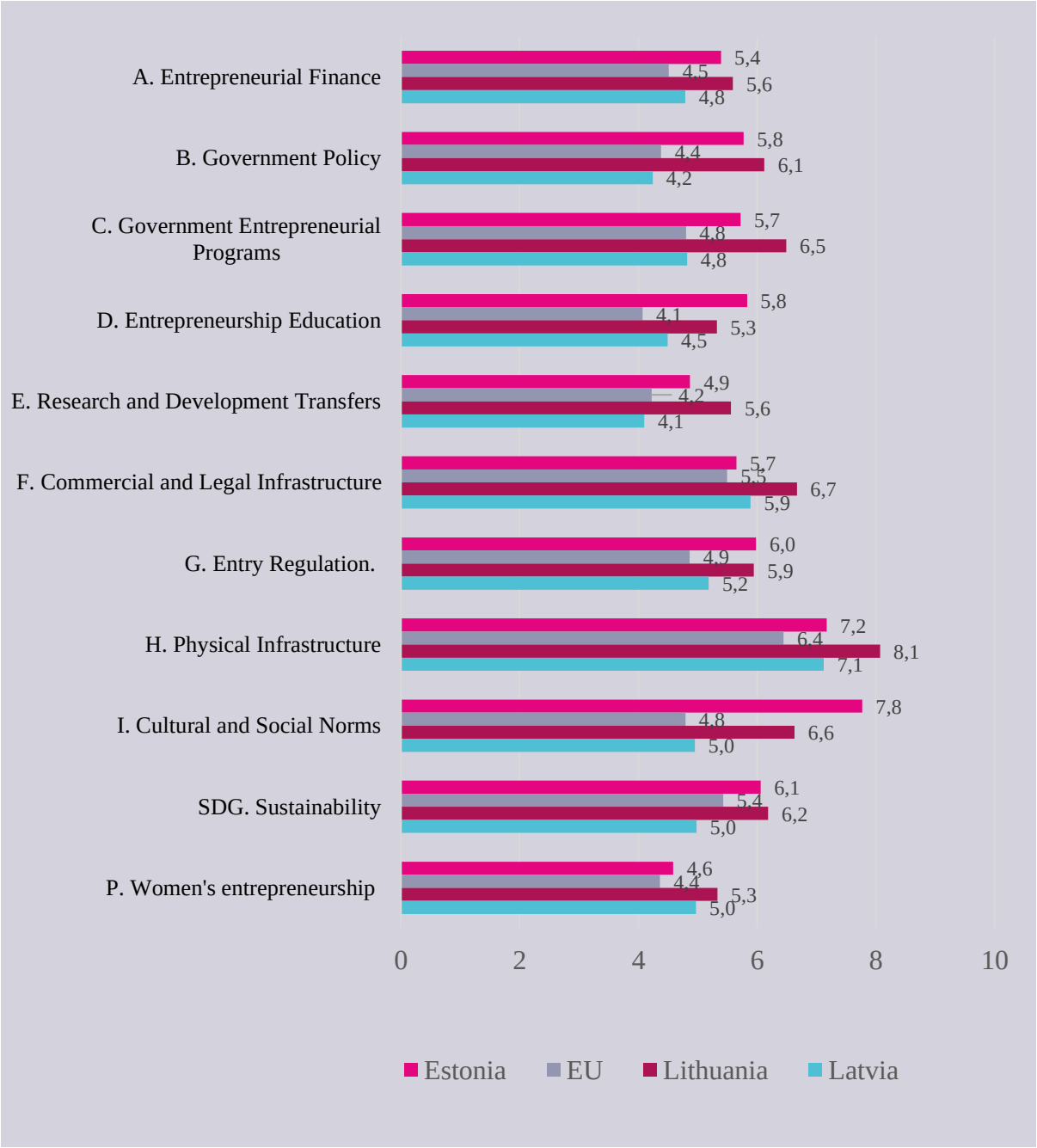


Figure 7.3. *NES survey results 2023: Estonia vs neighbouring countries and EU average*
Source: Authors' calculations based on GEM NES Survey data 2023

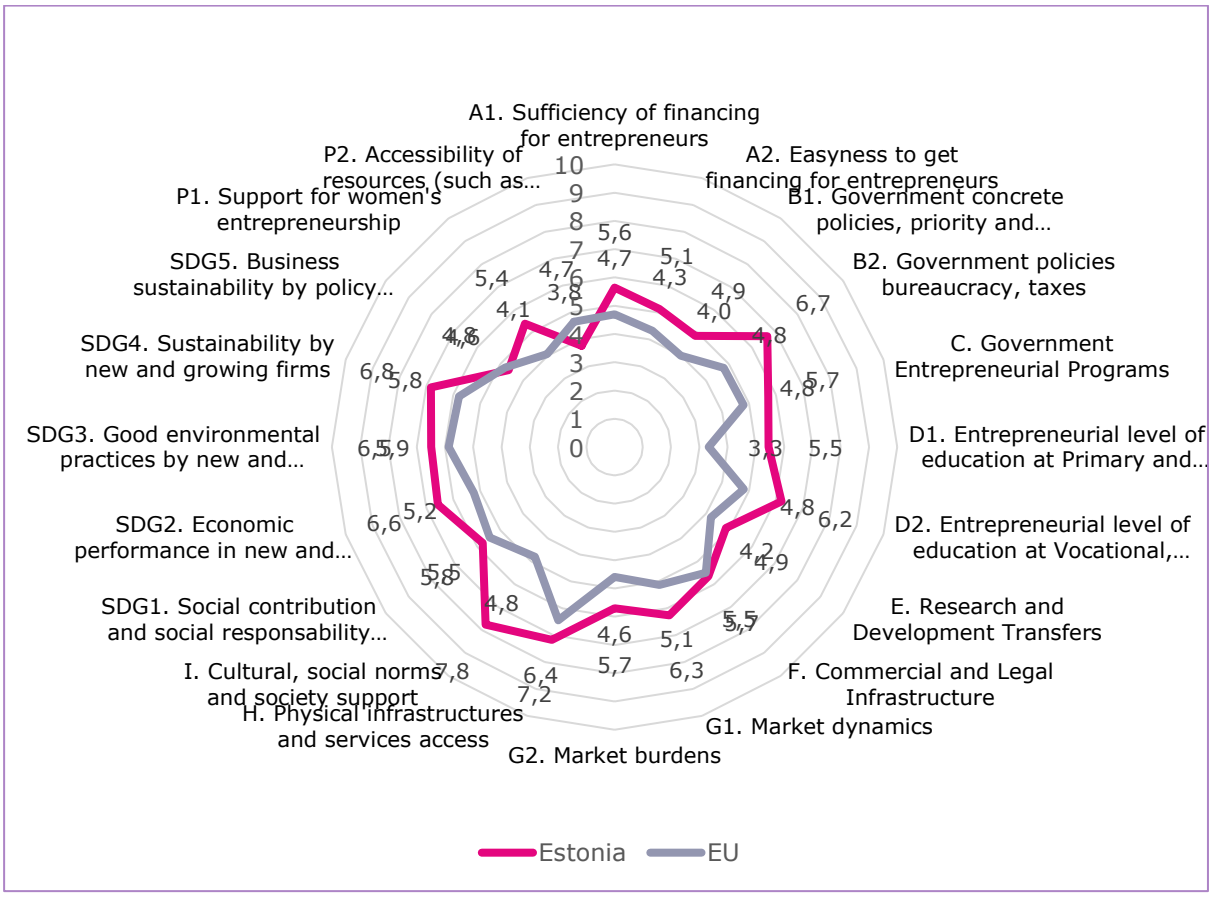


Figure 7.4. *All EFCs categories in Estonia 2023 compared to the EU average*
Source: Authors' calculations based on GEM NES Survey data 2023

7.3 Expert opinions and discussion of EFC findings

7.3.1 Entrepreneurial finance (EFC A)

Are there sufficient funds for new startups?

EFC A. Entrepreneurial Finance estimates the availability and accessibility of funding and financial support instruments and includes two indicators A1. Entrepreneurial Finance: the availability and accessibility of funding and financial support instruments and A2. Ease of Access to Entrepreneurial Finance: and those funds are easy to access. Both were rated adequately (Table 7.2.) by experts in Estonia (5.6 and 5.1, respectively).

Table 7.2. *Entrepreneurial finance (EFC A)*

		mean
	Topic A1: Finance (sufficiency) In my country there is sufficient…	
A01	equity funding (understood as entrepreneurs' own financial resources) available for new and growing firms	5,7
A02	debt funding (understood as bank loans and similar) available for new and growing firms	4,8
A03	government subsidies available for new and growing firms	5,7
A04	informal investor funding (family, friends and colleagues who are private individuals other than founders) for new and growing firms	5,2
A05	professional business angel funding (individuals who provide capital in exchange for convertible debt or ownership equity) for new and growing firms	6,5
A06	venture capital funding (pooled investment funds for private equity stakes) for new and growing firms.	6,4
A07	IPO (initial public offering) funding available for new and growing firms	5,0
A08	micro-funding (e.g. crowdfunding from many individuals contributing a relatively small amount, typically via the Internet) for new and growing firms	5,5
	Topic A2: Ease of getting financing In my country it is easy ….	
A09	to get debt funding (bank loans and similar for new and growing firms)	4,7
A10	to hire financial support services at a reasonable cost for new and growing firms	5,2
A11	for nascent entrepreneurs to get enough seed capital to cover start-up and early-stage expenses of a new business	5,0
A12	to attract investors/funds to make a new business grow once the start-up phase has been completed	5,5

Source: Authors' calculations based on GEM NES Survey data 2023

Considering the Sufficiency of financing for entrepreneurs(A1), experts were asked to reply to the set of 8 questions starting with "In my country, there is sufficient…" by marking a number from the Likert scale: from 0 – completely false, 5 – neither false nor true, to 10 – completely true. The mean of this indicator is 5.6, slightly higher than 5 on a scale of 11.

Majority of sub-questions (indicators) vary around the mean of 5: In my country there is sufficient…equity funding (understood as entrepreneurs' own financial resources) available for new and growing firms (A01, mean 5.6); debt funding (understood as bank loans and similar) available for new and growing firms (A02, mean 4.8); government subsidies available for new and growing firms (A03, mean 5.6); informal investor funding (family, friends and colleagues who are private individuals other than founders) for new and growing firms (A04, mean 5.2); IPO (initial public offering) funding available for new and growing firms (A07, mean 5.1); micro funding (for example crowdfunding from a large number of individuals contributing a relatively small amount, typically via the internet) for new and growing firms (A08, mean 5.5). Thus, experts evaluate the overall sufficiency of financing, such as equity and debt funding, governmental subsidies, informal investments (family, friends, etc), IPO and micro-funding – as not very high. The exceptions are professional business angel funding (individuals who provide capital in exchange for convertible debt or ownership equity) for new and growing firms (A05, mean 6.5) and venture capital funding (pooled investment funds for private equity stakes) for new and growing firms (A06, mean 6.4). Expert-evaluated professional business angel funding and venture capital

funding are more sufficient/available for new and growing firms in Estonia in 2023.

Evaluating the Easiness of getting financing for entrepreneurs (A2), the experts were asked to reply to the set of four questions starting with "In my country, it is easy…" by marking a number from the Likert scale: from 0 – completely false, 5 – neither false nor true, to 10 – completely true. The mean of this indicator is 5.1, slightly higher than 5 on the scale of 11. All of the sub-questions (indicators) vary around the mean of 5: In my country it is easy… "to get debt funding (bank loans and similar for new and growing firms) (A09, mean 4.7); to hire financial support services at reasonable cost for new and growing firms (A10, mean 5.3); for nascent entrepreneurs to get enough seed capital to cover start-up and early-stage expenses of a new business (A11, mean 5.0); to attract investors/funds to make a new business grow once the start-up phase has completed (A12, mean 5.5). Thus, experts in Estonia evaluated that it is slightly easier to attract investors/funds to make a new business grow once the start-up phase has been completed and to hire financial support services at a reasonable cost for new and growing firms than to get debt funding (bank loans and similar for new and growing firms) and to get enough seed capital to cover start-up and early-stage expenses of a new business. But overall, getting financing for entrepreneurs is not very easy (mean 5.1 on the scale of 11).

In Figure 7.5. Access and availability of funding sources for entrepreneurship in Estonia 2023 is presented. An interesting fact is that Regarding both Indicators, A1 and A2, the expert estimate is the lowest among other indicators concerning dept funding – Sufficiency of debt funding (understood as bank loans and similar) available for new and growing firms (mean 4.8) and easiness to get debt funding (bank loans and alike for new and growing firms) (mean 4.7).

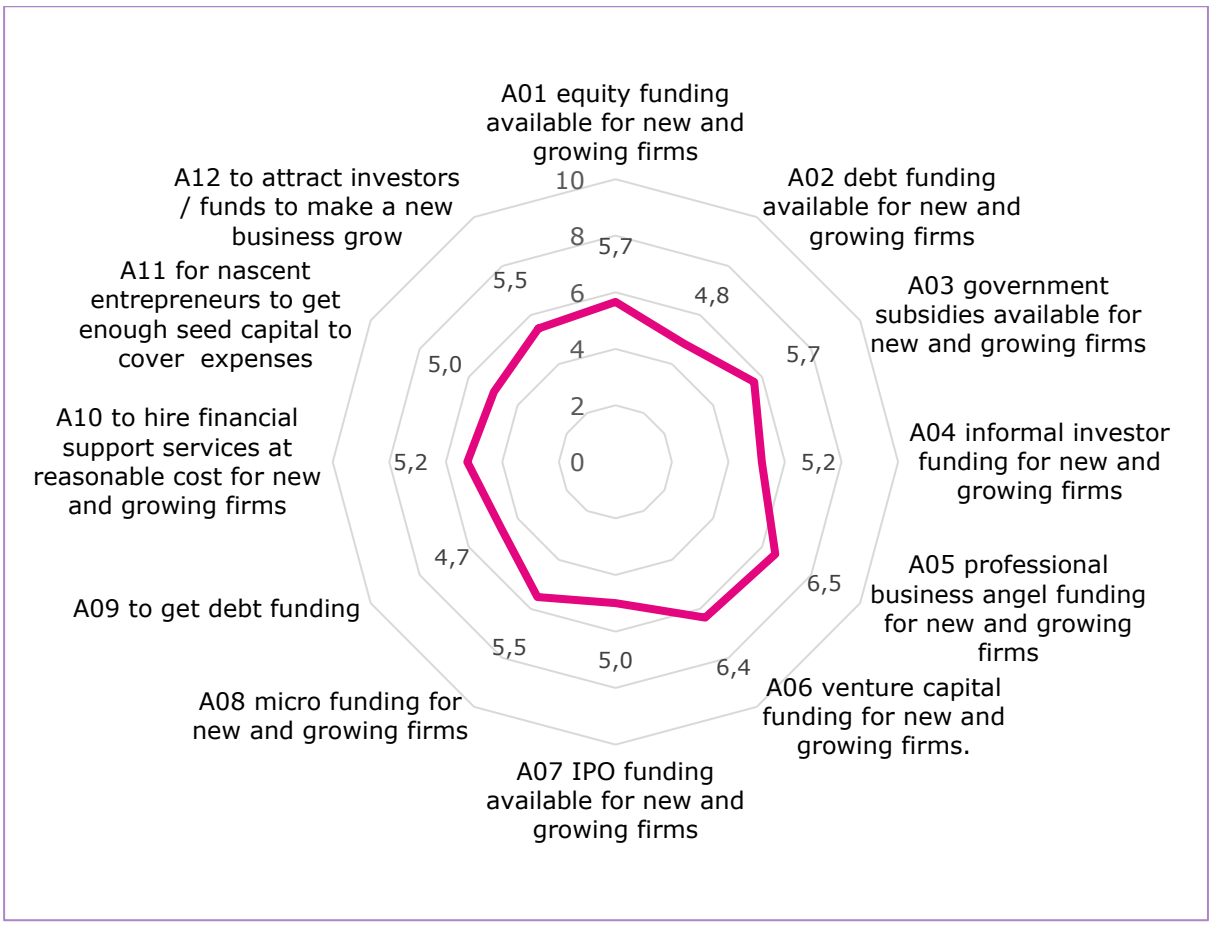


Figure 7.5. *Access and availability of funding sources for entrepreneurship: Estonia 2023*
Source: Authors' calculations based on GEM NES Survey data 2023

The role of angel investors and venture capital funds in providing adequate financial means to startups (6.5 and 6.4, respectively) was pronounced in experts' responses. A quick search on the Startup Estonia ecosystem database lists 400 entities that are active and/or have access to the Estonian startup scene (Startup Estonia, 2024a). Indeed, several organisations were formed in recent years to improve the availability of funding to startups in Estonia, such as the Estonian Business Angels Network (EstBAN)1 with nearly 300 members and the Estonian Private Equity and Venture Capital Association (ESTVCA)2, which has 750 active companies in its portfolio.

The Estonian startup investment scene has been very active in recent years. In 2021, Estonian companies raised the largest amounts of investments per capita (€1,967), compared to any other European country (Google for Startups, Atomico, & Dealroom, 2021). Estonia went even further in 2022, with investment levels at a 3.6% share of GDP (Invest in Estonia, 2022). The trend continued in 2023, with Estonian startups raising nearly €150m through 45 investment deals (Estonian World, 2023).

However, although several banks provide financial and support services tailored specifically to startups and small businesses 3.4, experts did not rate their support favourably (4.7 and 4.8). The tendency of banks to limit their loans to small businesses is not uncommon though, especially in

times of economic challenges and higher uncertainty (Cortés et al., 2020). [1,2,3,4]

Compared to neighbouring countries and the EU average, access and availability of funding sources for entrepreneurship in Estonia are better than in Latvia and the EU average, but a bit lower than in Lithuania (Figure 7.6.).

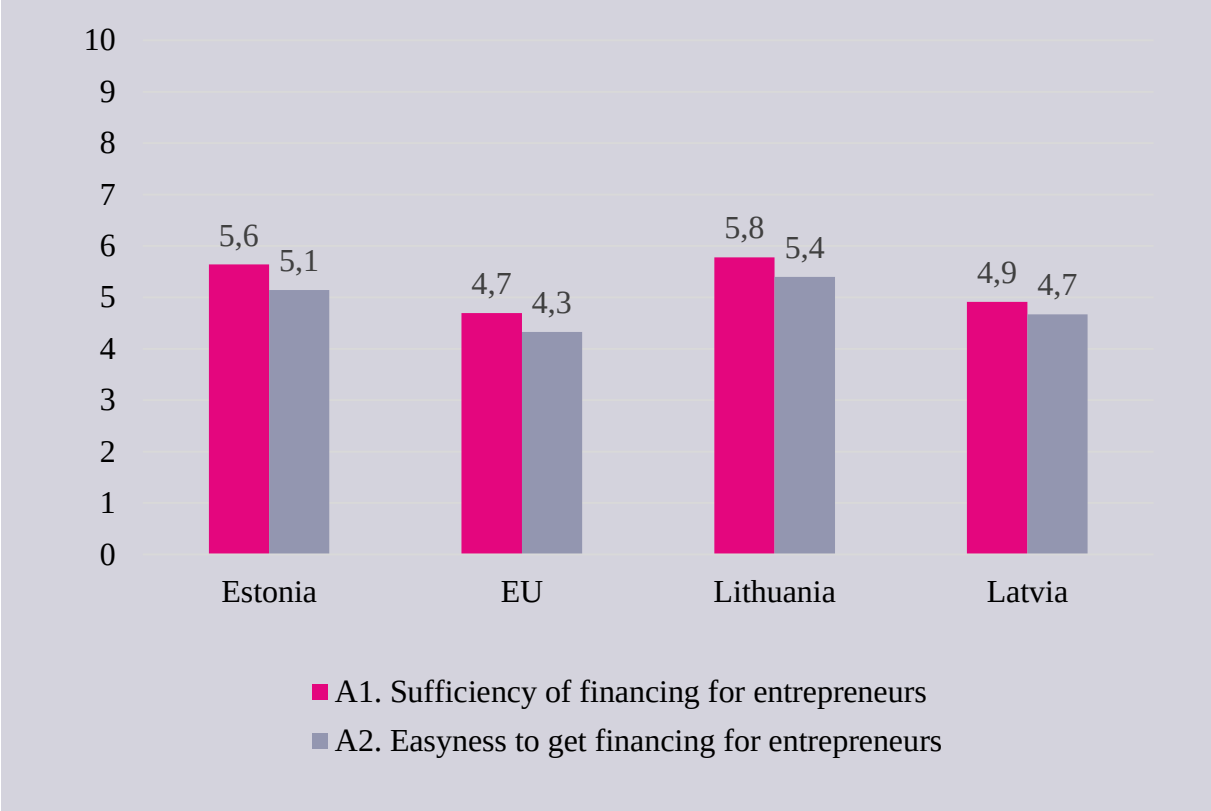


Figure 7.6. *Access and availability of funding sources for entrepreneurship in Estonia, Latvia and Lithuania, compared to EU average, 2023*
Source: Authors' calculations based on GEM NES Survey data 2023

7.3.2. Government policy, taxes and bureaucracy

Governmental policies (B) indicator (Table 7.3.) comprises two indicators: Government concrete policies, priority and support (B1, mean 4.9) and Government policies bureaucracy, taxes (B2, mean 6.7). Evaluating the Government concrete policies, priority and support (B2), the experts were asked to reply to the set of four questions starting with "In my country …" by marking a number from the Likert scale: from 0 – completely false, 5 – nor false neither true, to 10 – completely true. The mean of this indicator is 4.9, slightly lower than 5 on the scale of 11.

1. Estonian Business Angels Network (EstBAN): https://estban.ee/
2. Estonian Private Equity and Venture Capital Association (ESTVCA): https://www.estvca.ee/
3. Swedbank – Entrepreneurship: https://blog.swedbank.ee/rubriik/ettevotlus
4. SEB – Entrepreneurship and Innovation: https://www.seb.ee/en/about-seb/sustainability/entrepreneurship-and-innovation

This indicator includes such questions as "In my country …" government policies (e.g., public procurement, legislation, regulation, licensing, and taxation) consistently favour new and growing firms (B01, mean 5.2), the support for new and growing firms is a high priority for policy at the national government level (B02, mean 5.3), the support for new and growing firms is a high priority for policy at the local government level (B03, mean 4.0), and entrepreneurs can register new firms/businesses at reasonable cost (B03-2, a mean 9.4). Experts evaluated quite low the Government concrete policies, priority and support for new and growing businesses (around 5 on a scale of 11) in Estonia. Support for new and growing firms is a high priority for policy at the local government level but was graded especially low. However, experts agreed that entrepreneurs can register new firms/businesses at a reasonable cost (mean 9.4).

Evaluating the Government policies, bureaucracy, and taxes (B2, mean 6.7) the experts were asked to reply to the set of four questions starting with "In my country …" by marking a number from the Likert scale: from 0 – completely false, 5 – neither false nor true, to 10 – completely true. The mean of this indicator is 6.7, on a scale of 11. This indicator includes such questions as "In my country …" new firms can get most of the required permits and licences in about a week (B04, mean 7.1), the amount of taxes is not a burden for new and growing firms (B05, mean 5.7), taxes and other government regulations are applied to new and growing firms predictably and consistently (B06, mean 5.2) and coping with government bureaucracy, regulations, and licensing requirements is not unduly difficult for new and growing firms (B07, mean 6.4).

Estonian experts claimed that taxation and regulations as part of the entrepreneurial ecosystem can also burden new and growing firms regarding consistency and predictability. However, experts agree that firms get most of the required permits and licences to start a business in a relatively short time.

Table 7.3. *Government policy, taxes and bureaucracy (EFC B)*

	Topic B: Government policies In my country…	**Mean**
B01	government policies (e.g., public procurement, legislation, regulation, licensing, and taxation) consistently favour new and growing firms	5.2
B02	the support for new and growing firms is a high priority for policy at the national government level	5.3
B03	the support for new and growing firms is a high priority for policy at the local government level	4.0
B03_2	entrepreneurs can register new firms/businesses at reasonable cost	9.4
B04	new firms can get most of the required permits and licences in about a week	7.1
B05	the amount of taxes is not a burden for new and growing firms.	5.7
B06	taxes and other government regulations are applied to new and growing firms in a predictable and consistent way	5.2
B07	coping with government bureaucracy, regulations, and licensing requirements is not unduly difficult for new and growing firms.	6.4

Source: Authors' calculations based on GEM NES Survey data 2023

Estonia provides a one-stop portal for new business registration (E-Business register), which usually reduces the time needed to register a new company to one day (https://ariregister.rik.ee/eng). The portal allows entrepreneurs to register their new company or self-employment status, submit annual reports, and update their business information, all online. Additionally, it provides an online financial management environment (e-Financials) that helps entrepreneurs and small business owners manage their accounts, invoices, payments, and financial reports from one place (https://e-arveldaja.rik.ee/). Moreover, Estonia established the e-residency program in 2014 as a platform for entrepreneurs and self-employed people to launch an EU-based company while benefiting from digital support services (https://www.e-resident.gov.ee/). Since then, the portfolio of professional firms offering support services through the platform has expanded dramatically. Most importantly, startups on the platform have grown consistently over the years, and in 2023 they contributed 67 million in tax revenues to Estonia.

These developments are reflected in experts' feedback, rating the ease and speed of starting a business, acquiring licences and permits, and complying with regulations and reporting requirements highly (9.4, 7.1, and 6.4, respectively). However, experts see that the government can do more to support new and small businesses (4.0); they also indicated that various public functions to assist startups and small businesses, such as legislation, public procurement procedures, and taxation, can be improved. Experts evaluated government support for entrepreneurship and relevant policies as the lowest among EFCs. We could attribute their remarks to the proposed government amendments/increases to corporate taxes, VAT, and the intended review of tax exemptions on dividend payments (EY, 2023). Hence, experts earmarked having a stable and business-friendly taxation policy, and the development of clearer government support policies and initiatives as some of the crucial factors that need to be improved in the EFCs.

Government policy is estimated higher than in Latvia and the EU average, but lower than in Lithuania. Taxes and bureaucracy in Estonia in 2023 are higher than in other countries (Figure 7.7.).

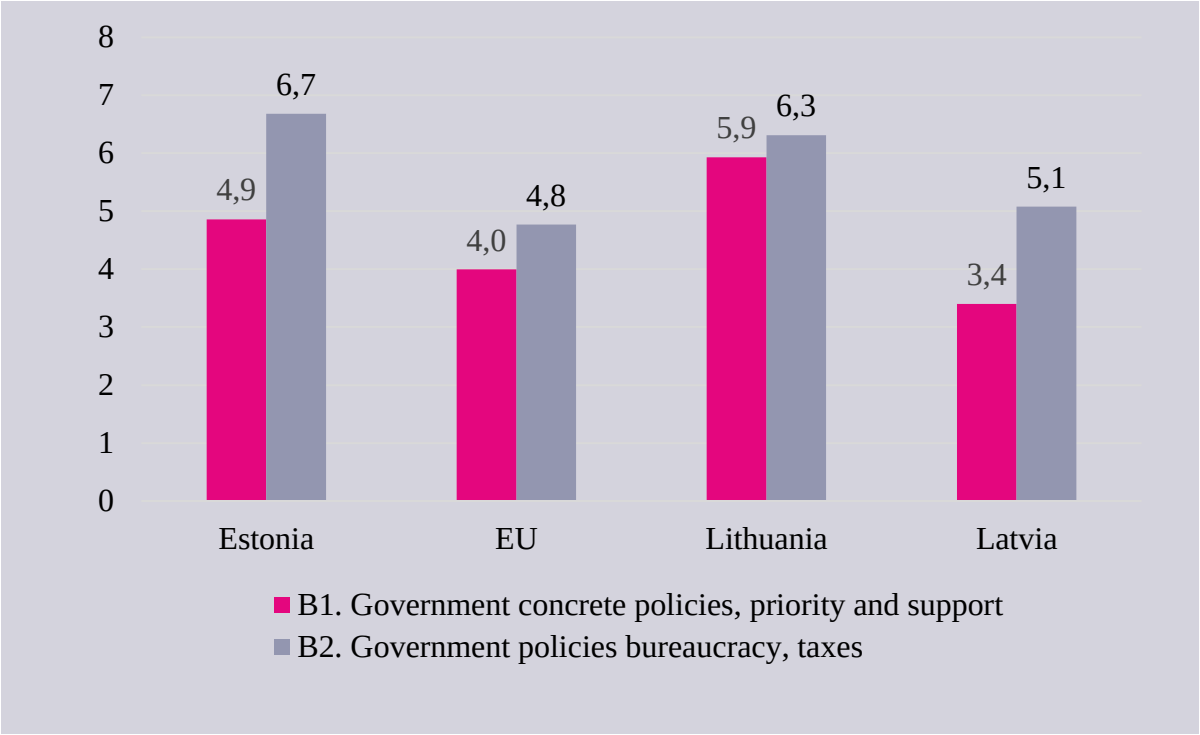


Figure 7.7. *Government policy, taxes and bureaucracy in Estonia, Latvia and Lithuania, compared to the EU average, 2023*
Source: Authors' calculations based on GEM NES Survey data 2023

7.3.3. Government support programs

Indicator Governmental programs (EFC C) is based on a set of seven questions (Table 7.4.) starting with "In my country …" by marking a number from the Likert scale: from 0 – completely false, 5 – neither false nor true, to 10 – completely true. The mean of this indicator is 5.7, on a scale of 11. This indicator includes such questions as "In my country …" a wide range of government assistance for new and growing firms can be obtained through contact with a single agency (C01, mean 5.8), science parks are available and provide effective support for new and growing firms (C02, mean 6.7), business incubators are available and provide effective support for new and growing firms (C02-2, mean 6.8), there is an adequate number of government programs for new and growing firms (C03, mean 5.7), the people working for government agencies are competent and effective in supporting new and growing firms (C04, mean 5.7), people who need help from a government program for a new or growing business can find what they need (C05, mean 4.6), government programs aimed at supporting new and growing firms are effective (C06, mean 5.8). Experts recognise the existence of science parks and business incubators in Estonia and their support for new and growing firms (means 6.7 and 6.8). Although, they do not assess governmental assistance, the availability of governmental programs, their competence and effectiveness as very high (4.6–5.8).

Table 7.4. Government support programs (EFC C)

	Topic C: Government programs In my country…	Mean
C01	a wide range of government assistance for new and growing firms can be obtained through contact with a single agency	5.8
C02	science parks and business incubators provide effective support for new and growing firms	6.7
C02_2	business incubators are available and provide effective support for new and growing firms	6.8
C03	there are an adequate number of government programs for new and growing businesses	5.7
C04	the people working for government agencies are competent and effective in supporting new and growing firms	5.7
C05	almost anyone who needs help from a government program for a new or growing business can find what they need	4.6
C06	a wide range of government assistance for new and growing firms can be obtained through contact with a single agency	5.8

Source: Authors' calculations based on GEM NES Survey data 2023

Entrepreneurship support organisations (ESOs) were shown in research on entrepreneurial ecosystems to play an important role in the development of the startup environment, especially in the early stages (Bergman & McMullen, 2020, 2022). Additionally, they play an important role in transforming innovative and research-driven ideas into viable businesses (ibid). Experts recognised the availability and the role of the science parks and business incubators in supporting Estonian new and growing firms (6.71 and 6.78, respectively). Estonia hosts nearly 30 incubators, accelerators, and science parks that form a coherent network of ESOs (Startup Estonia, 2024b). However, the current ecosystem database provided by Startup Estonia is difficult to navigate and the information regarding relevant ESOs and service providers is not readily available through it, which was reflected in experts' rating (4.6).

Compared to neighbouring countries and the EU average, government support programs for entrepreneurship in Estonia are better than in Latvia and the EU average, but a bit lower than in Lithuania (Figure 7.8.).

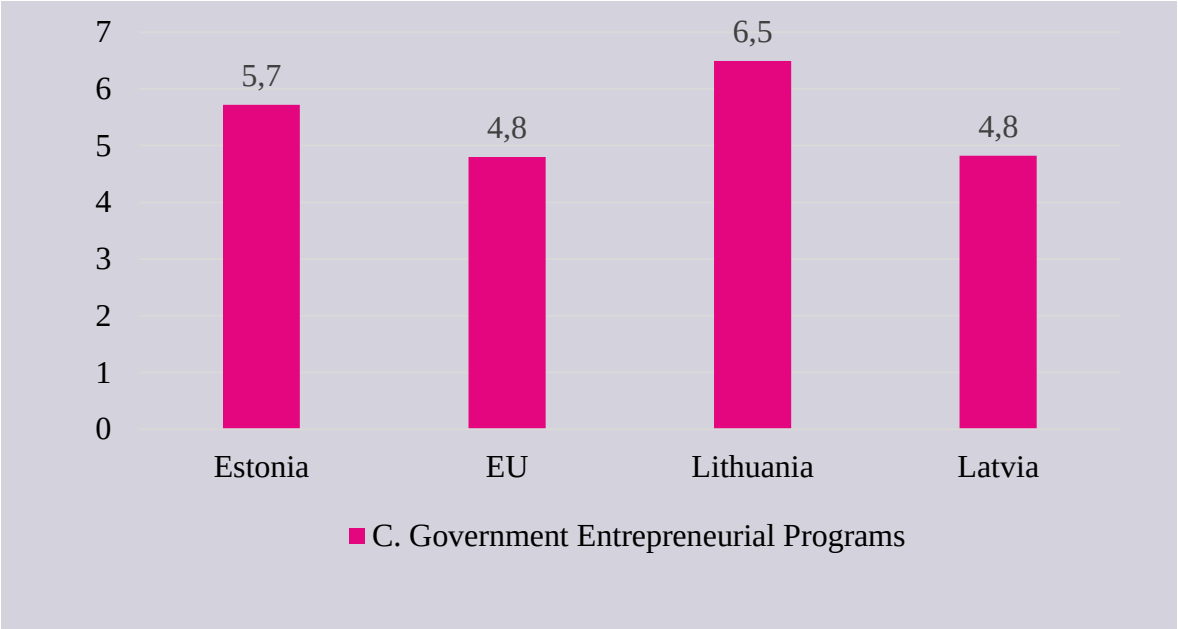


Figure 7.8. *Government support programs in Estonia, Latvia and Lithuania, compared to the EU average, 2023*
Source: Authors' calculations based on GEM NES Survey data 2023

7.3.4. Entrepreneurial education at school and post-school

EFC D. Entrepreneurship Education reflects the availability, quality, and impact of different entrepreneurship education and training courses and programs in schools and higher education institutions (HEIs) and consists of 2 indicators D1. Entrepreneurial Education at School: schools introduce entrepreneurial ideas and D2. Entrepreneurial Education Post-School: colleges run courses on starting a business (Table 7.5.).

Table 7.5. *Entrepreneurial education at school and post-school (EFC D)*

	Topic D: Education & Training In my country…	
D01	teaching in primary and secondary education encourages creativity, self-sufficiency, and personal initiative	5.7
D02	teaching in primary and secondary education provides adequate instruction in market economic principles	5.3
D03	teaching in primary and secondary education provides adequate attention to entrepreneurship and new firm creation	5.4
D04	colleges and universities provide adequate preparation for starting up and growing new firms	5.8
D05	the quality of practical business and management education provide adequate preparation for starting up and growing a new business	6.8
D06	the vocational, professional, and continuing education systems provide adequate preparation for starting up and growing new firms	5.8

Source: Authors' calculations based on GEM NES Survey data 2023

The development of entrepreneurial competencies among students was shown in research as a major contributor to nurturing entrepreneurial culture, mindsets, and actions in new generations (Fayolle, 2018; Nabi et al., 2017). Estonia's national innovation and entrepreneurship strategies[5,6,7] in the past and for future years prioritise entrepreneurship education at school and university levels. In addition, they emphasise the need to train educators and guide them on integrating entrepreneurship into their curricula. This is reflected in the experts' views, with an average mean of (5.82) across all education-related ECFs. Compared to most other countries, they positioned Estonia's educational system efforts to teach and train young people at a higher level.[2]

Compared to neighbouring countries and the EU average, Entrepreneurial Education at School and post-school in Estonia outperforms similar indicators in Lithuania, Latvia and the EU average (Figure 7.9.).

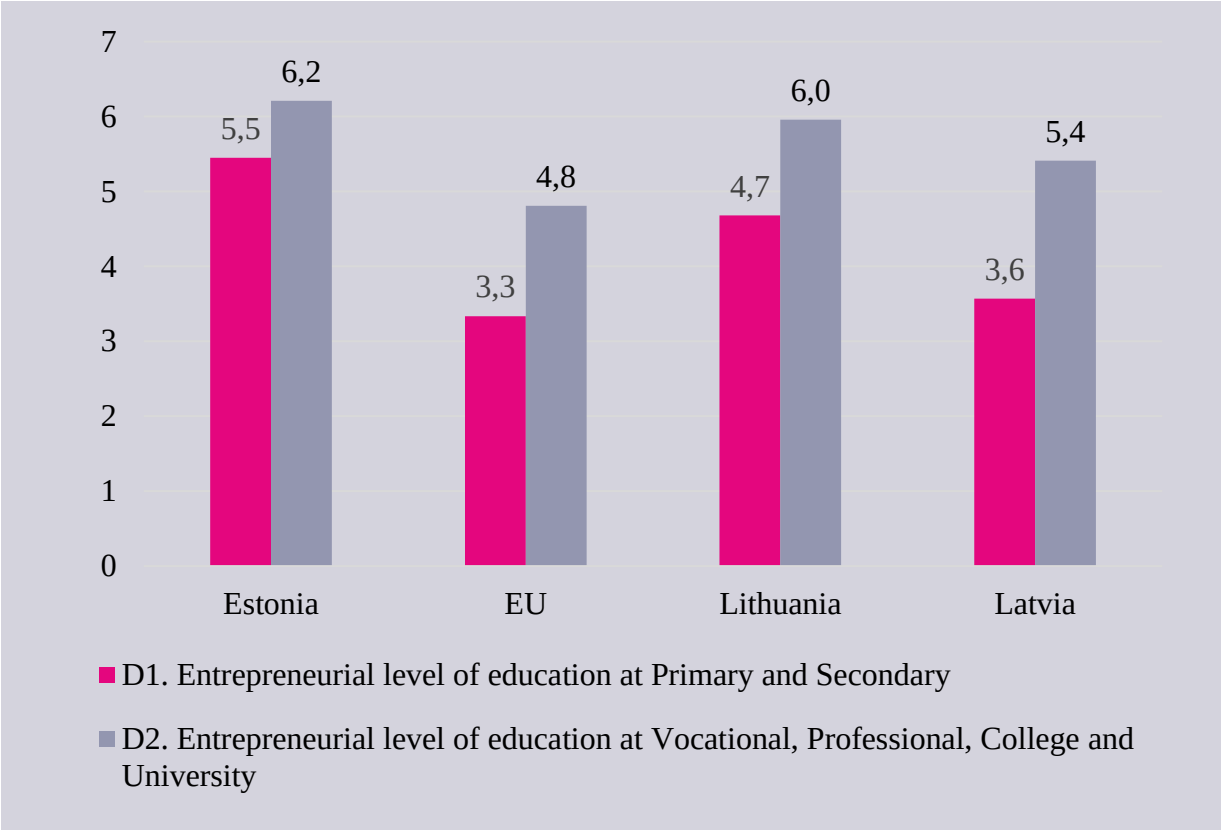


***Figure 7.9**. Entrepreneurial education at school and post-school in Estonia, Latvia and Lithuania, compared to the EU average, 2023*
Source: Authors' calculations based on GEM NES Survey data 2023

5. *Eesti ettevõtluse kasvustrateegia 2014-2020*: https://energiatalgud.ee/sites/default/files/images_sala/4/42/Majandus-_ja_Kommunikatsiooniministeerium._Eesti_ettev%C3%B5tluse_kasvustrateegia_2014-2020._2013.pdf
6. The Estonian Lifelong Learning Strategy: https://www.kogu.ee/wp-content/uploads/2014/05/Lifelong-Learning.pdf
7. *Eesti teadus- ja arendustegevuse, innovatsiooni ning ettevõtluse arengukava 2021–2035*: https://www.hm.ee/sites/default/files/documents/2022-09/3._taie_arengukava_kinnitatud_15.07.2021_0.pdf

7.3.5. Research and development transfers

EFC E. Research and Development Transfers describes if research is easily transferred into new businesses. The transfer and commercialisation of scientific knowledge from research and development institutions to new and existing SMEs (EFC E) is presented in Table 7.6.

Table 7.6. *Research and development transfers (EFC E)*

	Topic E: R&D Transfer In my country…	**Mean**
E01	new technology, science, and other knowledge are efficiently transferred from universities and public research centres to new and growing firms	4.8
E02	new and growing firms have just as much access to new research and technology as large, established firms	5.1
E03	new and growing firms can afford the latest technology	4.6
E04	there are adequate government subsidies for new and growing firms to acquire new technology	4.2
E05	the science and technology base efficiently supports the creation of world-class new technology-based ventures in at least one area	5.8
E06	there is good support available for engineers and scientists to have their ideas commercialised through new and growing firms	4.2

Source: Authors' calculations based on GEM NES Survey data 2023

Despite the relative abundance of accelerators, incubators, and entrepreneurship courses and programs, experts flagged some limitations in knowledge transfer from academia to enterprises and the commercialisation of R&D outputs (4.8 and 4.2, respectively). Moreover, experts flagged the limited financial ability of startups to afford advanced technologies, and the lack of government support in this regard (4.8 and 4.2, respectively). Across all ECFs categories, this category was rated the lowest by experts (average 4.8).

Research on technology transfer highlighted several factors that can contribute to this situation which is not peculiar to Estonia. These factors include funding limitations, lack of a strategic focus on specific scientific competence areas, or entrepreneurship training and support programs delivered to academic entrepreneurs that are insufficiently tailored to their needs (Fini et al., 2017). However, several policy directives and initiatives have been drafted in the 2021–2035 governmental strategic plan to improve R&D in Estonia[38]. These intend to improve funding availability for knowledge transfer activities, establish stronger research-enterprise collaborations, and equip scientists and researchers with the required skills and training to transform their innovations into viable businesses.

8. *Eesti teadus- ja arendustegevuse, innovatsiooni ning ettevõtluse arengukava 2021–2035*: https://www.hm.ee/sites/default/files/documents/2022-09/3._taie_arengukava_kinnitatud_15.07.2021_0.pdf

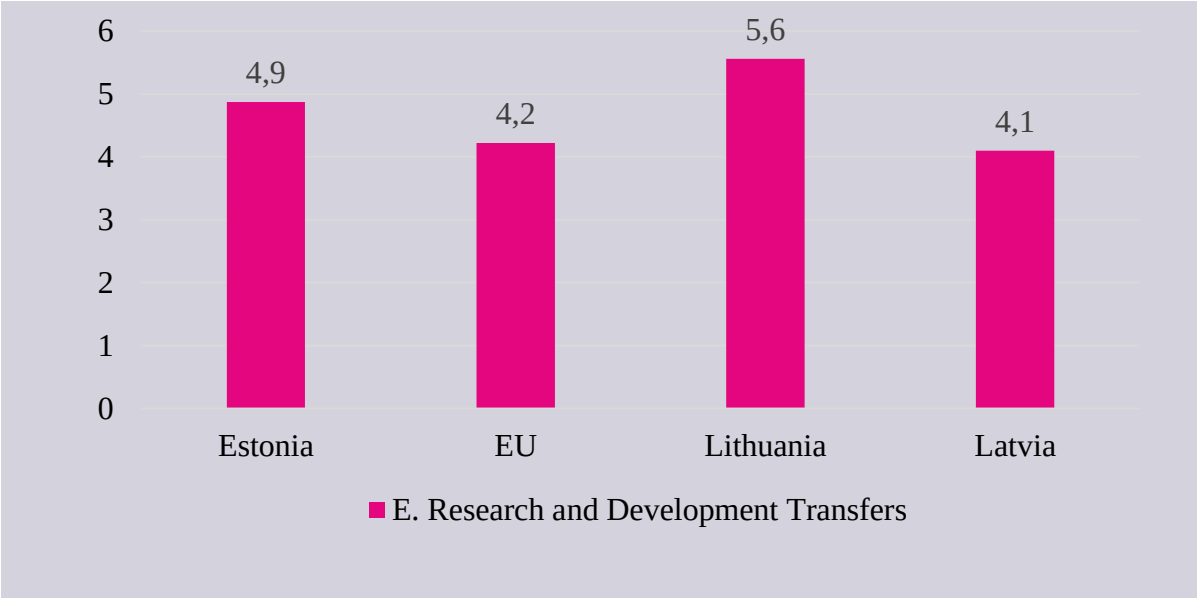


Figure 7.10. *Research and development transfers in Estonia, Latvia and Lithuania, compared to the EU average, 2023*
Source: Authors' calculations based on GEM NES Survey data 2023

To sum up, R&D is an important building block of entrepreneurship eco-system, serving innovation and enterprises' export competitiveness and therefore needs more attention. University of Technology and tech-oriented vocational education in cooperation with already established entrepreneurs can do much more for our competitiveness.

7.3.6. Commercial and professional infrastructure

EFC F. Commercial and professional infrastructure studies, if quality services are available and affordable. It analyses the avail ability of legal and financial professional service providers and frameworks that assist entrepreneurs and support SMEs (Table 7.7.).

Table 7.7. *Commercial and professional infrastructure (EFC F)*

	Topic F: Commercial & services infrastructure In my country…	
F01	there are enough subcontractors, suppliers, and consultants to support new and growing firms.	5.3
F02	new and growing firms can afford the cost of using subcontractors, suppliers, and consultants	3.9
F03	it is easy for new and growing firms to get good subcontractors, suppliers, and consultants	4.7
F04	it is easy for new and growing firms to get good professional legal and accounting services	6.4
F05	it is easy for new and growing firms to get good banking services (checking/transaction accounts, foreign exchange transactions, letters of credit, and the like)	7.3
F06	new and growing firms can get access to cloud computing services at affordable prices	6.8

Source: Authors' calculations based on GEM NES Survey data 2023

Startups in Estonia have access to quality legal, accounting, and banking advice and services, as well as cloud computing instances with relative ease (6.4, 7.3, and 6.8, respectively). One of the main facilitating reasons is that several professional and financial service providers have deep expertise in startups. They also offer specialised products and services tailored to the needs of entrepreneurs and small businesses, even in nascent fields like technology entrepreneurship[9,10,114] Moreover, the government and several government-backed organisations offer free consultations and advice regarding business plans, marketing, legal, employment, company registration, and taxation[12]. Additionally, in recent years, Startup Estonia, a governmental body concerned with the development and support of the entrepreneurship ecosystem, took the habit of collaborating with some of the leading financing, legal, and accounting firms in Estonia to produce a complete set of documents that guide entrepreneurs and small businesses[13]. These are regularly updated to reflect the latest policies and laws, pertinent to starting and managing a business in Estonia.

Commercial and professional infrastructure in Estonia is slightly higher than the EU average, but lower than in Latvia and Lithuania (Figure 7.11.).

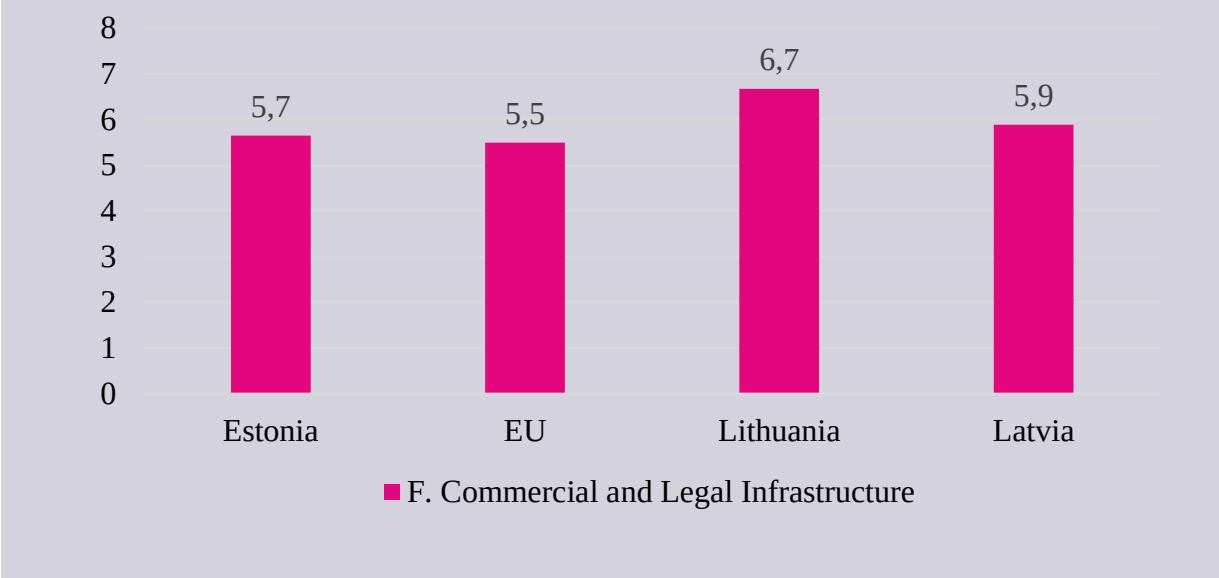


Figure 7.11. *Commercial and professional infrastructure in Estonia, Latvia and Lithuania, compared to the EU average, 2023*
Source: Authors' calculations based on GEM NES Survey data 2023

9. Hedman Legal: Startups and Fundraising: https://hedman.legal/services/startups/
10. Sorainen – Startups: https://www.sorainen.com/sector/startups/
11. Swedbank – Entrepreneurship: https://blog.swedbank.ee/rubriik/ettevotlus
12. Network of County Development Centers: https://www.arenduskeskused.ee/ [4]
13. Startup Estonia – Model Documents: https://startupestonia.ee/resources/model-documents/[4]

7.3.7. Ease of entry: market dynamics, burdens and regulation

EFC G. Entry Regulation estimates the ease of accessing new and existing markets and their degree of stability, or otherwise dynamism and consists of two indicators: G1. Ease of Entry – Market Dynamics: markets are free, open and growing; and G2. Ease of Entry – Burdens and Regulations: regulations encourage not to restrict entry (Table 7.8.).

Table 7.8. *Ease of entry: market dynamics, burdens and regulation (EFC G)*

	Topic G: Market openness In my country…	**mean**
G01	the markets for consumer goods and services change dramatically from year to year	6.3
G02	the markets for business-to-business goods and services change dramatically from year to year	6.2
G03	new and growing firms can easily enter new markets	6.0
G04	new and growing firms can afford the cost of market entry	4.9
G05	new and growing firms can enter markets without being unfairly blocked by established firms	5.7
G06	the anti-trust legislation is effective and well-enforced	6.1

Source: Authors' calculations based on GEM NES Survey data 2023

Recent and ongoing events in Ukraine, affected the global economy and the countries in the region more evidently, including Estonia[145]. Moreover, the slowdown and economic uncertainty surrounding Nordic countries have an immediate influence on small and medium-sized Estonian businesses[15]. The Nordic market is traditionally the primary destination for exporting their products and services. This is evidenced in the economic figures which showed a contraction of GDP in 2023 by 3%[16].

Among the sectors that suffered the most are those that exhibit many startups and SMEs, including technology, science-based, communications, professional services, construction, and transportation. These effects were reflected in the experts' views, highlighting the fluctuation in markets (6.3 and 6.2), and higher costs associated with entry to markets (4.9). However, they lauded antitrust and competition laws in Estonia (6.1), which came into effect in 2015 (*Riigi Teataja*, n.d.) and have been effective in several instances since then (e.g., Rodl & Partner, 2023).

Ease of Entry, Market Dynamics, Burdens and Regulation in Estonia, Latvia and Lithuania, compared to the EU average is presented in Figure 7.12. Regarding market dynamics, Estonia performs better than its neighbours and EU average. Market burdens are higher than in the EU and Latvia, but lower than in Lithuania.

14. IMF Executive Board 2023 Article IV Consultation with the Republic of Estonia: https://www.imf.org/en/News/Articles/2023/07/25/pr23275-republic-of-estonia-imf-exec-board-concludes-2023-article-iv-consult

15. Danske Bank – Uncertain times for Nordic countries: https://danskebank.com/news-and-insights/news-archive/insights/2023/04042023

16. Statistics Estonia – National Accounts: https://www.stat.ee/en/avasta-statistikat/valdkonnad/rahandus/national-accounts

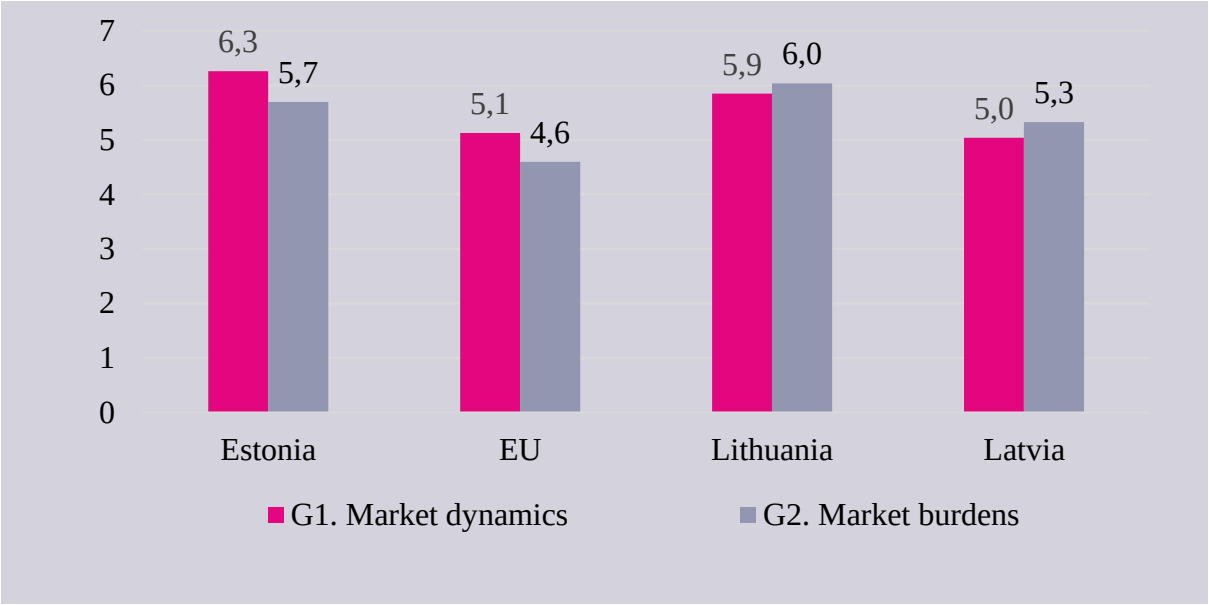


Figure 7.12. *Ease of entry: market dynamics, burdens and regulation in Estonia, Latvia and Lithuania, compared to the EU average, 2023*
Source: Authors' calculations based on GEM NES Survey data 2023

7.3.8 Physical infrastructure

EFC H. Physical Infrastructure analyses the availability and affordance of essential infrastructure services such as communications facilities, utilities, and commercial spaces (Table 7.9.).

Table 7.9. *Physical infrastructure (EFC H)*

	Topic H: Physical Infrastructure In my country…	**mean**
H01	the physical infrastructure (roads, utilities, communications, water disposal) provides good support for new and growing firms	6.7
H02	it is not too expensive for a new or growing firm to get good access to communications (phone, internet, etc.)	7.5
H03	a new or growing firm can get good access to communications (telephone, internet, etc.) in about a week	8.5
H04	new and growing firms can afford the cost of basic utilities (gas, water, electricity, sewer)	6.9
H05	new or growing firms can get good access to utilities (gas, water, electricity, sewer) in about a month	7.7
H06	there are plenty of affordable office spaces to rent for new and growing firms	6.4
H07	There are plenty of affordable production spaces to rent for new and growing firms	5.4

Source: Authors' calculations based on GEM NES Survey data 2023

Based on the experts' feedback, among the best-performing ecosystem components are those related to the entrepreneurship infrastructure such as coworking/ manufacturing spaces, communication facilities, digital infrastructure, internet, and utilities,

with an average mean of (7.2) for the entire category.

Estonia positions itself as a digital-first nation. Indeed, fast broadband coverage stands at 90% with fibre connections coverage at 73%, both are considerably higher than the EU averages[176]. Overall, in the Digital Economy and Society Index (DESI) which tracks and benchmarks the digital performance of EU countries, Estonia ranks 9th across the EU[18]. Experts echoed these digital and connectivity infrastructure advancements in the response. The country aims to continue to improve its digital services and infrastructure as highlighted in the "Digital Economy 2030" manifesto[19]. The strategy highlighted three core areas of focus: 1) developing further digital public services; 2) focusing on cybersecurity and 3) improving connectivity across the country.

Physical infrastructure and services supporting entrepreneurship in Estonia, Latvia and Lithuania, compared to the EU average are presented in Figure 7.13.

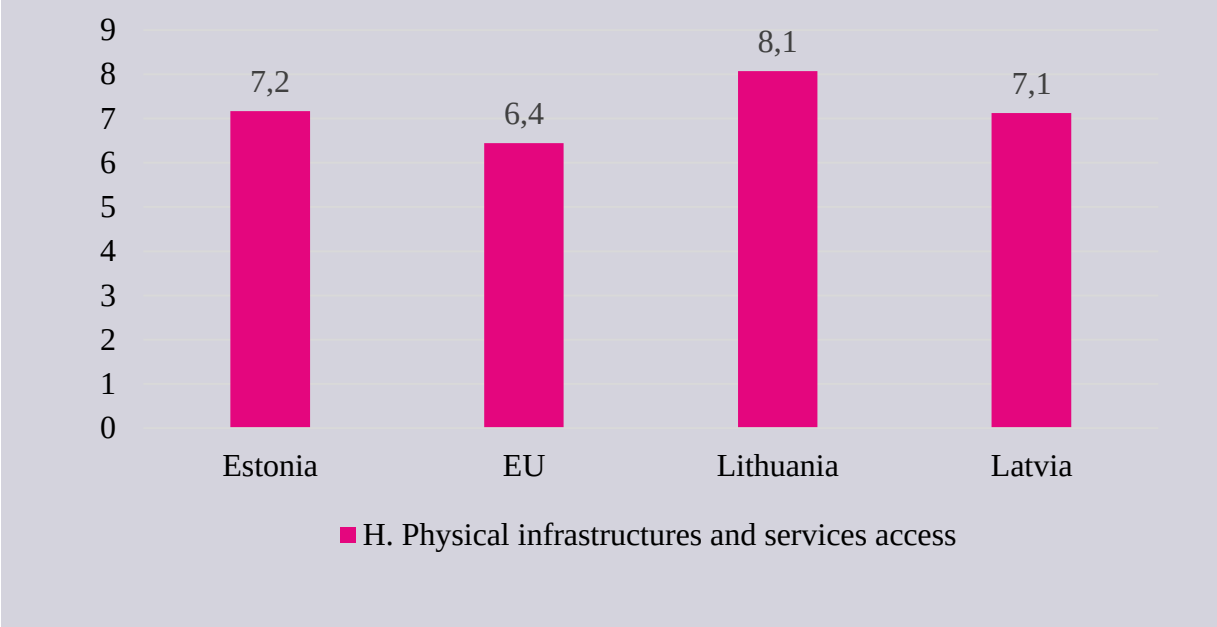


Figure 7.13. *Physical infrastructure and services supporting entrepreneurship in Estonia, Latvia and Lithuania, compared to the EU average, 2023*
Source: Authors' calculations based on GEM NES Survey data 2023

7.3.9 Social and cultural norms

EFC I. Social and Cultural Norms analyses the prevailing societal norms which can encourage entrepreneurial orientations and activities (Table 7.10.).

17. European Commission: Shaping Europe's digital future – Broadband in Estonia: https://digital-strategy.ec.europa.eu/en/policies/broadband-estonia
18. European Commission: Shaping Europe's digital future – Estonia in the Digital Economy and Society Index: https://digital-strategy.ec.europa.eu/en/policies/desi-estonia
19. Republic of Estonia – Ministry of Economic Affairs and Communication: Digital Agenda 2030: https://www.mkm.ee/en/e-state-and-connectivity/digital-agenda-2030

Table 7.10. *Social and cultural norms (EFC I)*

	Topic I: Cultural and social norms In my country…	
I01	the national culture is highly supportive of individual success achieved through personal efforts	7.8
I02	the national culture emphasises self-sufficiency, autonomy, and personal initiative	8.0
I03	the national culture encourages entrepreneurial risk-taking	7.3
I04	the national culture encourages creativity and innovativeness	7.6
I05	the national culture emphasises the responsibility that the individual (rather than the collective) has in managing his or her own life	8.1

Source: Authors' calculations based on GEM NES Survey data 2023

The aspect of the EFCs valued most by experts as contributing to a healthy startup ecosystem in Estonia was the entrepreneurial culture, with an average mean of (7.8) across all included indicators. Indeed, Estonia is brimming with entrepreneurial enthusiasm across the different regions, sectors, and events. That was a crucial element in the Estonian startup ecosystem establishing itself as one of the hotbeds for entrepreneurial activity on the world scene, according to the Global Startup Ecosystem Report 2023[207]. The country nurtures a culture that highly regards entrepreneurs, innovative thinking, and scientific and technological developments. This ingrained an entrepreneurial mindset among its residents and led to the entrepreneurial revolution that the country has been witnessing for the last 20 years[21].

Cultural and societal support of entrepreneurship: in Estonia, Latvia and Lithuania, compared to the EU average is presented in Figure 7.14. Estonia significantly outperforms neighbouring countries and the EU average.

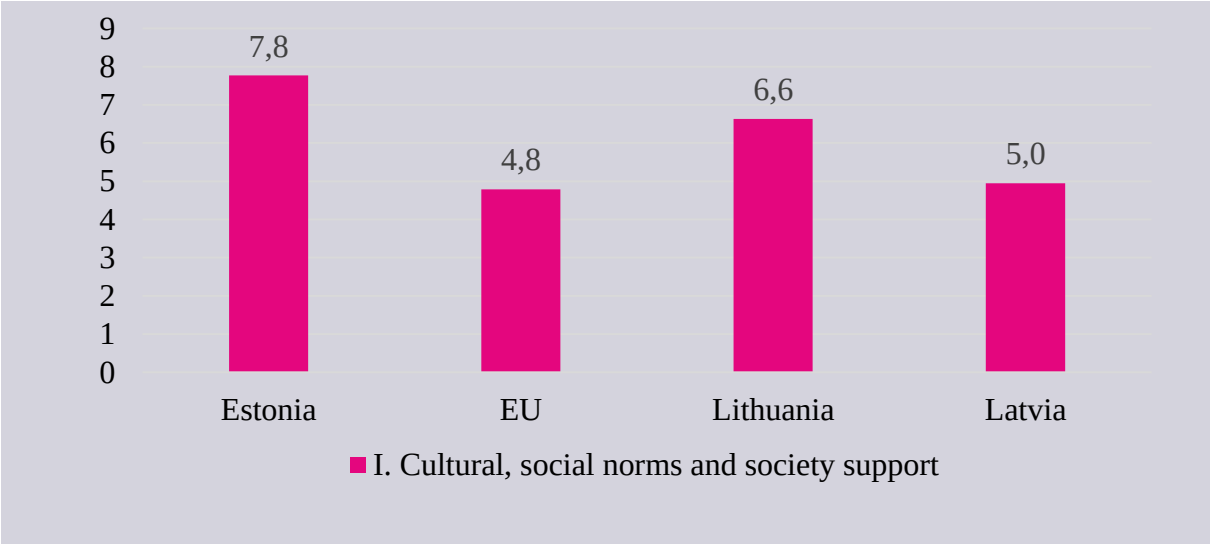


Figure 7.14. *Cultural and societal support of entrepreneurship in Estonia, Latvia and Lithuania, compared to the EU average, 2023*
Source: Authors' calculations based on GEM NES Survey data 2023

20. Startup genome: Global Startup Ecosystem Report 2023: https://startupgenome.com/reports/gser2023
21. Forbes - Starting From Zero: What Can Estonia Teach Us About Building A Startup Ecosystem?: https://www.forbes.com/sites/trevorclawson/2022/09/22/starting--from-zero-what-can-estonia-teach-us-about-building-a-startup-ecosystem/

7.3.10 Sustainable Development Goals (SDGs)

EFC SDG Sustainable Development Goals (SDGs) analyses the adoption of sustainable practices by new firms and the support of investors and government to sustainability-oriented small firms (Table 7.11.)

Table 7.11. *Sustainable Development Goals (SDGs)*

	SDGS **Social contribution and social responsibility in new and growing firms**	
SDGS_1	New and growing firms increasingly prioritise their social contribution rather than solely focusing on profit and wealth creation	5.5
SDGS_2	New and growing firms integrate social responsibility principles into their business operations	6.1
SDGS_3	Investors are particularly interested in funding new firms that focus on social responsibility	5.6
	SDGE **Economic performance in new and growing firms**	
SDGE_1	Firms see paying taxes as part of their social responsibility	6.1
SDGE_2	Investors and stakeholders are satisfied with the economic performance of companies they have invested in	6.1
SDGE_3	New and growing firms founded by members of minority groups have the same economic opportunities as other new firms	7.4
	SDGN **Good environmental practices by new and growing firms**	
SDGN_1	Most new and growing firms implement environmentally conscious practices when producing products or supplying services	6.4
SDGN_2	Most new and growing firms prioritise energy efficiency practices in their operations	6.8
SDGN_3	Most new and growing firms see environmental problems as a potential opportunity	6.2
	SDGC **Sustainability by new and growing firms**	
SDGC_1	Sustainability practices are seen as very important within the national culture	6.6
SDGC_2	There are prominent examples of entrepreneurial activities related to Sustainable Development Goals (SDGs) within the business sector	7.0
	SDGG **Business sustainability by governments/policy makers through new regulations/laws**	
SDGG_1	The national government has specific regulations that support sustainability-focused startups	5.0
SDGG_2	The national government supports sustainability-focused firms through grants, special rights and/or tax cuts	4.3

Source: Authors' calculations based on GEM NES Survey data 2023

Experts rated Estonia's entrepreneurial firms positively on different aspects related to sustainability. The highest rank among them is Estonia's openness and support to entrepreneurship from underrepresented groups (7.4). Foreigners residing abroad can launch an EU business, based out of Estonia without having to move here. Thanks to the e-residency program (https://www.e-resident.gov.ee/) which just celebrated its 10th anniversary. It allows entrepreneurs to benefit from comprehensive digital services to launch and manage their businesses as an EU company, without an obligation to reside in Estonia.

Moreover, Estonia has established a clear pathway for foreign startups that want to move their business activities to Estonia

through the Startup Visa program. Since its launch in 2017, nearly 1,000 entrepreneurs have benefited, establishing/ relocating 250+ companies to Estonia. The startups founded by foreign entrepreneurs had a collective turnover of €84m, contributing over €9m in taxes in 2022 only (Startup Estonia, 2023). Through the program, there are two types of business permits offered. For self-employed people (solopreneurs, freelancers, etc.), €16,000 is required to start a business. The sum increases to €65,000 if they are to establish or invest in a company in Estonia (Invest in Estonia, n.d., a), which is still considerably lower than the capital requirements for business residencies in other European countries. The support of underrepresented groups extends to refugees as well. As the tug of war increased in Ukraine with tens of thousands of refugees fleeing to Estonia, several programs emerged aiming to support female refugees from Ukraine's economic and social welfare. The programs started in 2022 and are supported and delivered by public, private, and third-sector organisations. They aim to train and empower female Ukrainian refugees to launch their businesses in Estonia (Estonian Refugee Council, n.d.).

Furthermore, the experts lauded entrepreneurs and SMEs for making more responsible and sustainable choices and prioritising societal and environmental impact (6.1, 6.1, 6.4, 6.8, and 6.2), eventually contributing to Estonia's sustainable development. Indeed, the Sustainability Development Report 2023 (Sachs et al., 2023) placed Estonia in the 10th position globally, in terms of achieving sustainable development goals (SDGs) targets. This is a considerable leap forward from the 21st place achieved in 2016 (Invest in Estonia, n.d., b). Additionally, the report put Estonia within a group of five countries on track to achieve the SDGs targets. Experts voiced Estonia's sustainability-oriented culture and exemplary efforts to achieve the SGDs targets in their ratings (6.6 and 7.0 respectively).

Moreover, the report "Future of Emerging Europe" (Emerging Europe, 2024) included a sustainability index, covering 100 different indicators focused on innovation, entrepreneurship, and sustainability. It rated Estonia as the leading country, among 22 others, in sustainability practices in Eastern and Central Europe. Sandra Särav, the Deputy Secretary General for Economy and Innovation in the Estonian Government, explains this orientation towards sustainability, commenting on the Emerging Europe report:
"Our journey towards sustainability is not just a passing trend. It is deeply rooted in our cultural ethos. As a nation, we have always cherished our connection with nature, reflected in our pristine urban air quality and the verdant forests that cover half of our country. This profound respect for the environment has guided our approach to innovation and efficiency" (Invest in Estonia, 2024).

Despite the positive indicators of Estonia's progress towards achieving the SDGs targets, experts implicitly highlighted that more can be done by the government to propel this transition, especially among small businesses through better regulatory guidance and financial support (5.0 and 4.3, respectively). Indeed, small businesses can play an important role in sustaining green and responsible practices in Estonia. Ahmadov (2023), however, argues that the government is expected to develop more initiatives and guiding frameworks that facilitate SMEs' implementation of sustainable and circular practices.

Concerning sustainable business practices, Estonian startups and small businesses are among the most socially, environmentally, and economically sustainable in the Nordics and Baltics and well above the GEM average (Figure 7.15.).

- Social contribution and social responsibility in new and growing firms indicate that new and growing firms increasingly prioritise their social contribution rather than solely focusing on profit and wealth creation and integrating social responsibility principles into their business operations. At the same time, investors are particularly interested in funding new firms focusing on social responsibility.
- Economic performance in new and growing firms indicates that the firms which see paying taxes as part of their social responsibility, investors and stakeholders are satisfied with the economic performance of companies they have invested in, and new and growing firms founded by members of minority groups have the same economic opportunities as other new firms.
- Good environmental practices by new and growing firms indicate that most new and growing firms implement environmentally conscious practices when producing products or supplying services, prioritise energy efficiency practices in their operations and see environmental problems as a potential opportunity.
- Sustainability by new and growing firms means that sustainability practices are seen as very important within the national culture, and the business sector provides prominent examples of entrepreneurial activities related to Sustainable Development Goals (SDGs).

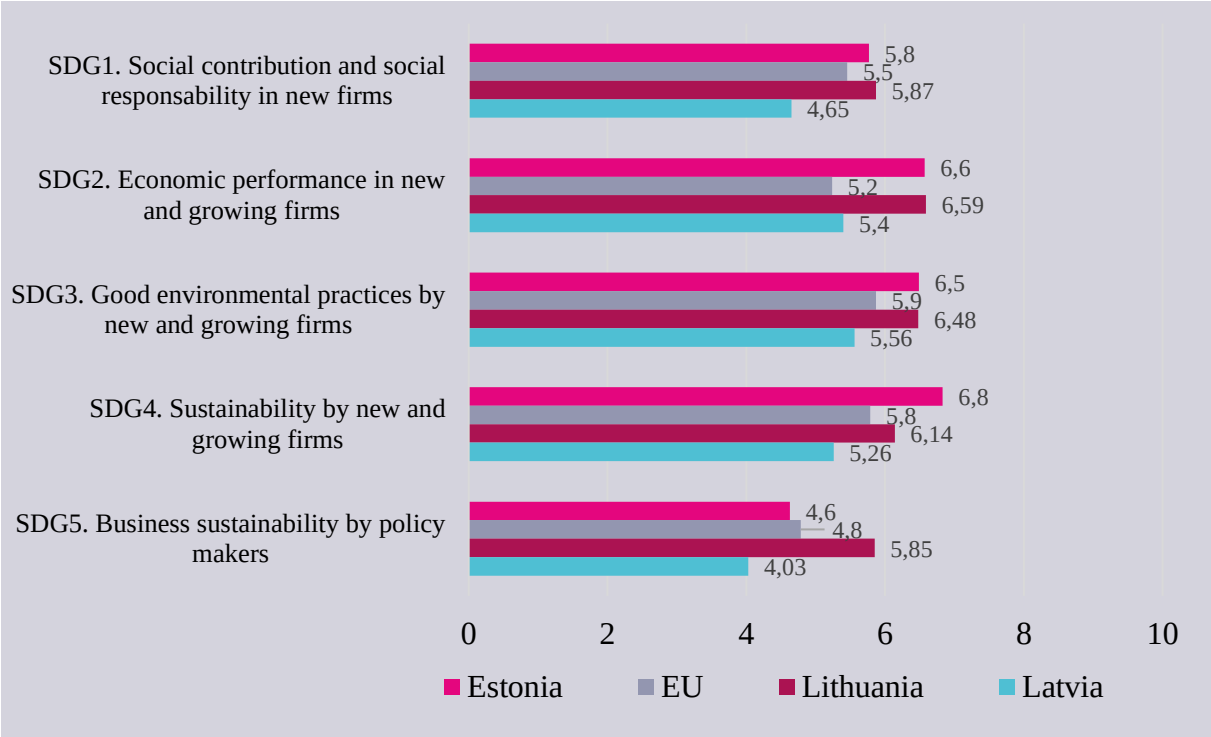


Figure 7.15. *Sustainability practices and support in small firms in Estonia, Latvia and Lithuania, compared to the EU average, 2023*
Source: Authors' calculations based on GEM NES Survey data 2023

7.3.11 Women's entrepreneurship

EFC P Women's entrepreneurship analyses the societal attitudes, investors' willingness, availability of support services, and market openness towards female entrepreneurs (Table 7.12.).

Table 7.12. *Women's entrepreneurship (EFC P)*

	Topic P: Women's entrepreneurship In my country…	
P1	**Support**	
P01	there are sufficient support services (i.e., child-care, home services, after-school programs, elder care …) so that women can continue to run their businesses even after they have started a family	5.1
P01b	the support services (i.e., child-care, home services, after-school programs, elder care …) are affordable so that women can access them, so they help them run their businesses even after they have started a family	5.0
P02	regulations for entrepreneurs are so favourable that women prefer becoming an entrepreneur instead of becoming a public or private employee	5.0
P03	the national culture encourages women as equally as men to become self-employed or start a new business	6.5 6.5
	P2 Resource availability	
P04	markets are usually more accessible for male than for female entrepreneurs	4.5 4.4
P04b	public procurement is usually more accessible for male than for female entrepreneurs	2.9 2.8
P05	Access to financing (of any type of financing source) is usually easier for male than for female entrepreneurs	3.9 3.8
P05b	Getting seed funds (from any type of financing source) is usually easier for male than female nascent entrepreneurs	4.2 4.1

Source: Authors' calculations based on GEM NES Survey data 2023

Support for women's entrepreneurship in terms of services, regulations, and cultural norms includes support services (i.e., child-care, home services, after-school programs, elder care) which are sufficient so that women can continue to run their businesses even after they have started a family (rated by expert 5.1) and are affordable so that women can access them, thus they help them to run their businesses even after they have started a family (rated by expert 5.0). Support measures also include regulations for entrepreneurs that are so favourable that women prefer becoming an entrepreneur instead of becoming a public or private employee (rated by expert 5.0) and the national culture encouraging women as equally as men to become self-employed or start a new business (rated by expert 6.5).

Accessibility of resources (such as financing and markets) for women compared to men in developing entrepreneurial activities is rated the lowest in the region. However, in the case of a set of reverse questions, it means that female and male entrepreneurs have equally good or bad accessibility to finances, markets or procurement. This means that experts evaluated a higher rate of gender equality in Estonia but do not give estimates of whether resources are available or not.

Accessibility of resources (such as financing and markets) for women compared

to men in developing entrepreneurial activities include statements that markets (rated by expert 4.4), public procurement (2.8), financing (of any financing source) (3.8), and seed funds (from any financing source) (4.1) – are usually more accessible for male than for female entrepreneurs.

The share of female founders of startups in Estonia was 16% in 2022, which is similar to the European average. However, this percentage has consistently increased over the past decade (SheAtWork, 2023). Female entrepreneurs have shown particular interest, however, in certain sectors, such as healthcare (30%), educational technology (24%), and communications (21%) (KredEx, 2022). Overall, women currently represent 28% of all entrepreneurs in the country, of whom 72% are solopreneurs (SheAtWork, 2023).

The Estonian culture is rather supportive of women in business, as noted by experts (6.5). They also highlighted that female entrepreneurs in Estonia have relatively equitable access to markets, financing, funding, and public procurement opportunities (4.4, 3.8, 4.1, and 2.8, respectively). Indeed, several organisations and initiatives work towards empowering women with needed skills and knowledge through business mentoring, networking, education, and training[22,23,24,25]. These include BPW Estonia, i.e., the Estonian chapter of the International Federation of Business and Professional Women (BPW) established over 30 years ago. It aims to "… develop the professional, business, and leadership potential of women through mentoring, networking, skill-building, advocacy as well as to empower projects on regional, national and international level." (BPW Estonia, n.d.).

Moreover, several government initiatives and strategies include gender equality and women's support as a key item. These include the Welfare Development Plan 2023–2030 by the Ministry of Social Affairs. (Ministry of Social Affairs, 2023), which aims to reduce the gender pay gap, improve access to resources, and promote women's entrepreneurship. However, there is no dedicated national strategy for supporting female entrepreneurship (SheAtWork, 2023). The initiatives and programs are rather fragmented across different ministries strategies and support organisations as referred to earlier.

Figure 7.16. shows Support for women,s entrepreneurship and resource availability in Estonia 2023 in Estonia, Latvia and Lithuania, compared to the EU average. The support measures are higher in Estonia than the EU average but lower than in Latvia and Lithuania. Regarding the accessibility of resources, the expert rating in Estonia is lower than in other countries, but, most likely, due to the nature of the questions, it can show a higher level of gender equality in Estonia. Estonia shows pioneering efforts to support female entrepreneurs, shaping the landscape of women-led businesses in this Baltic nation.

22. *Eesti Ettevõtlike Naiste Assotsiatsioon (EENA)* (Business and Professional Women Organisation in Estonia): https://bpw-estonia.ee/
23. *ETNA Eestimaal* (The Association of Rural Women Entrepreneurs): https://fem.ee/
24. *Eesti Naisuurimus- ja Teabekeskus* (The Estonian Women's Studies and Resource Centre): https://enut.ee/en/
25. *Naisinvestorite Klubi MTÜ* (Women Investors Club): https://naisinvestoriteklubi.ee/

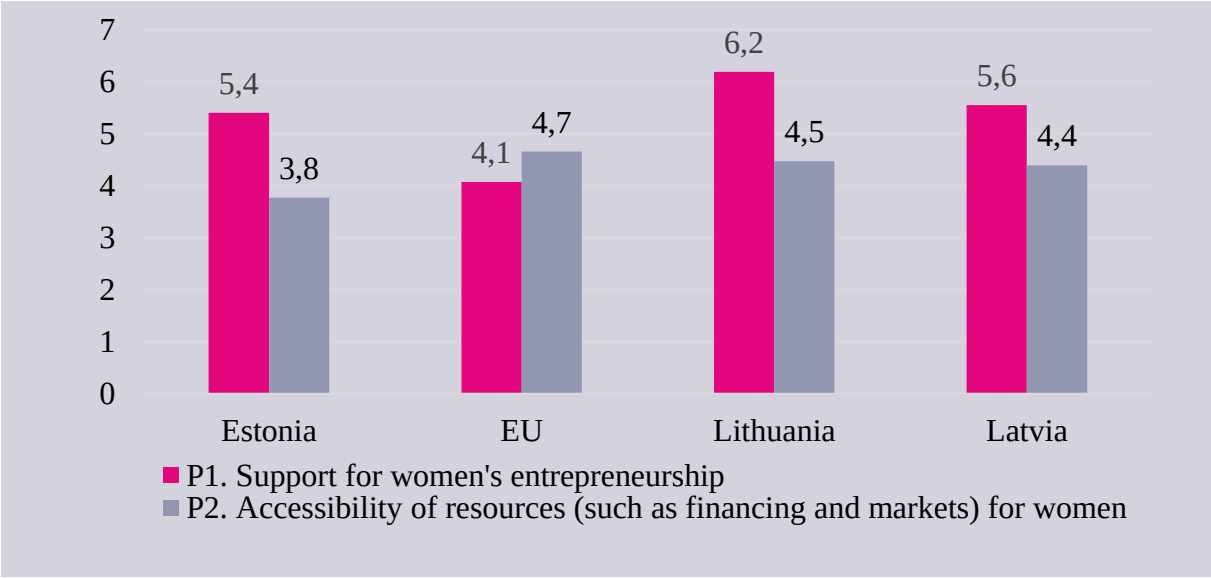


Figure 7.16. *Support for women's entrepreneurship in Estonia, Latvia and Lithuania, compared to the EU average, 2023*
Source: Authors' calculations based on GEM NES Survey data 2023

8 CONCLUSION

In 2023, after a long period of not being part of GEM, plus considering the hectic times since Covid and the war in Europe, this study set a focus firstly to evaluate the differences over time with pre-crises data available from 2017 and where available, also from 2014. Secondly, the focus is to compare neighbouring countries and their policies to learn the best policy practices for recovery.

Entrepreneurship and entrepreneurs' behaviour is influenced by many factors (e.g. economic, cultural, social). Among these factors, attitudes and perceptions hold a distinct significance. For example, low self-esteem may be associated with decreasing life satisfaction in Estonia, as indicated in the "Estonian Human Development Report. Mental Health and Well-Being" (2023), lower satisfaction may be related to COVID and the negative effects of the pandemic. Hence, it is no surprise that entrepreneurship as a good career choice demonstrates the lower marks in Estonia (56%) being even below the EU average (61%). Interesting though is the remarkably higher score (79%) for Lithuania. Negotiating with the Lithuanian team they revealed among other reasons immigration from Ukraine and also Belarus, where many immigrants shifted their lives together with their businesses.

Similar patterns are seen in perceived opportunities where Estonia (49%) lands under the EU average (51%) while Lithuania leads with 61%. However, Estonia is still a leader of easiness to start (77%) with understandable regional discrepancies of leading North-Estonia (81%) up to the lowest evaluation coming from North-East Estonia (52%). This pattern has remained the same for a decade. But the same applies to the entrepreneurial mindset of Estonians having continuously higher intentions (18.3) compared to the EU (15.7). In intention scores, we see surprises from our Baltic neighbourhood, where Latvians with modest scoring everywhere else, demonstrate a rather high score (24.4) in this concrete factor, while the leader in most, Lithuania, declares a comparatively low intention rate (12.0) this time. That does not correlate with fear of failure which again in Lithuanian scoring comes the lowest (38.4) while Estonia (49.8) is slightly overscoring EU (49.1) average. It is logical, with the perceived capabilities rate in favour of Lithuania (57.1) and lower for Estonia (46.8). In the Estonian case, there are positive developments in the Central region where the perceived capabilities have substantially improved from 2014 (35.7) to 45.0 by 2023, while improvements in the rest regions are marginal. An increase was nice everywhere by 2017 but landed back by 2023.

The developed level of entrepreneurial culture in the country is evidenced by the "High Status to Successful Entrepreneurs Rate", which can be attributed to the significant efforts invested in developing entrepreneurial culture since the 1990s, including the

widespread integration of entrepreneurial education across all educational levels, as well as the implementation of incubator and entrepreneurial programs, yielding favourable outcomes.

However, even considering all the achievements, there are certain concerns. For instance, indicators such as "Entrepreneurship as a Good Career Choice Rate" and "Perceived Capabilities Rate" fall below the European average. Consequently, there is a pressing need to enhance Regional imbalances…

The results indicate that the main entrepreneurship activity indicators have changed in the expected direction when the Estonian 2023 GEM APS results are compared to 2017. The entrepreneurial activity seems to indicate a decreasing trend when the country's level of development increases and, indeed, both the TEA and EBO rates have decreased over seven years in Estonia. The 2023 values correspond to the European average, in that the TEA rate is somewhat higher in Estonia and the EBO rate is comparable to that of Europe.

In 2023, the TEA rate is higher in Estonia for men than women mirroring the European trend of higher male entrepreneurship. Despite a slight improvement in gender equality from a TEA ratio from 2017 to 2023, Estonia lags behind Europe in general, and the two Baltic countries in particular, where women are more entrepreneurial. Men are more entrepreneurial than women in the EBO phase, a persistent gender difference is also seen across Europe and the Baltic states, with Latvia exhibiting a much higher disparity compared to Estonia and Lithuania.

In Estonia for new businesses, the primary entrepreneurial motive is earning a living, followed by acquiring wealth, making a difference, and continuing a family tradition, with similar trends observed across Europe, though in middle- and low-income countries, earning a living and acquiring wealth are even more dominant motives. In the EBO phase, non-graduates are more motivated by earning a living and building wealth due to scarce job opportunities than in the TEA phase, entrepreneurs are driven more by the desire to make a difference and accumulate wealth, with family tradition and job scarcity becoming more significant motivations in the EBO phase.

Regarding societal attitudes, although fewer opportunities are perceived for starting with entrepreneurship and fear of failure is higher in Estonia in 2023 than in 2017, the entrepreneurial intentions rate has been relatively stable over time. Regarding societal values, the rate to which extent high status is attributed to successful entrepreneurs has increased since 2017, and the rate to what extent entrepreneurship is considered a good career choice has remained stable since 2017. The respondents were also asked to what extent they agree the pandemic has led to new opportunities they wish to pursue. This indicator is lower in Estonia than in Europe and high-income countries, which indicates mixed attitudes and values regarding entrepreneurship.

As to the intentions to grow business, there are more new businesses in Estonia than in Europe on average and in the Baltic states that plan to create no new jobs in the next five years. Also, the intentions to create six "Neither false nor true." or more jobs are low in international comparison. What stands out, is the intention to create one to five jobs, so Estonian new businesses are cautious with their growth expectations. At the same time, the new businesses are very international, when looking at high revenue expectations from customers outside of the specific economy (25% or more), the Estonian indicator is the highest.

The data for businesses indicate that although environmental and social considerations are valued in society, there is potential for developing considerably more sustainable business activities in Estonia compared to target countries and Europe on average. The established businesses are aware of sustainability considerations but set these as goals and practise these somewhat less than early-stage entrepreneurs. Women tend to be more aware of sustainability issues; while when it comes to setting goals and practising, the data is more mixed.

Learning more about the reasons for business closure may assist the decision-makers in activating the necessary levers in the ecosystem for more innovative and sustainable entrepreneurship (Laukkanen & Patala, 2014; Colombelli et al., 2019). The most common motivation to start a business in Estonia is "to earn a living because jobs are scarce" – 54.6% agreed, almost the same level as in Europe 57.4% and in high-income countries 59.8%. This fact should attract the attention of the decision-makers to the situation in the job market in Estonia, address unemployment, improve the entrepreneurial ecosystem and provide better stimuli for entrepreneurs to start businesses.

Exit rates are generally low, perhaps not surprisingly as there is also quite a high level of early-stage entrepreneurial activity (add ref and chapter).

8.1 Policy implications

Entrepreneurship is crucial for economic well-being, but it is a complex phenomenon. The term "entrepreneurial eco-system" is widely used to indicate how enterprises can evolve or suffer under environmental events. But as simple as it sounds, interdependencies of various factors and regional specifics provide challenges to local experts and experienced scholars. As this chapter intends to direct policymakers, experts and scholars are brought together to carry it out according to our best knowledge and experiences.

On the academic side, we use state-of-the-art research and the well-established concept of entrepreneurial eco-system as a framework where expert opinions are situated. From experts, we used open-ended responses which were part of the GEM study. Before responding to the interview questions, respondents were asked two questions: "In your opinion, what is the key factor that is fostering entrepreneurial activity in your country (Region or City)"; and: "Please make one key recommendation for improving the context for entrepreneurial activity in your country (Region or City)". The expert was free to give more than one opinion.

First, the structure of the entrepreneurial ecosystem (Figure 8.1.) is shown for a systematic approach addressing research results of GEM 2023. The model from Grigore & Dragan (2020) is chosen as one of the latest developments based on earlier widely accepted models from expert scholars such as Isenberg (see his 2010).

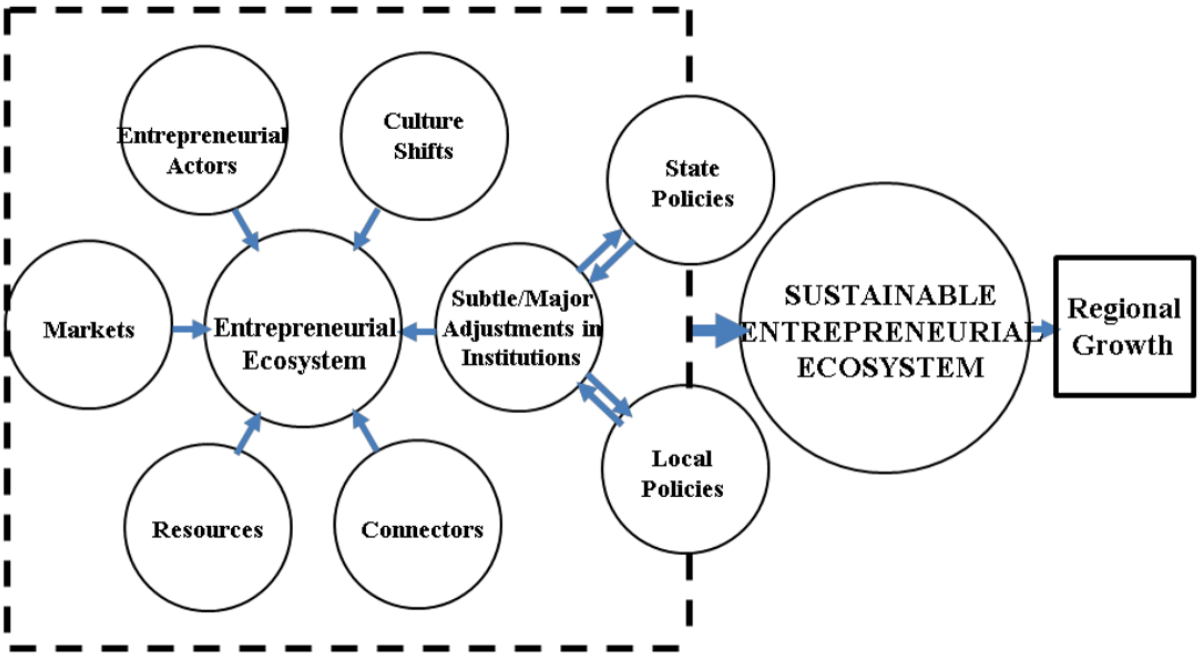


Figure 8.1. *Sustainable entrepreneurial ecosystem*
Authors: Grigore & Dragan, 2020 (By Isenberg, Stam, Spiegel, Brown & Mason)

These models are often used as a theoretical ground for empirical studies of the local entrepreneurial environment similar to what Grigore & Dragan do for Romania.

Before the recommendations, the experts gave their favourite aspects of the Estonian entrepreneurial eco-system (Figure 8.2.) which is the best to demonstrate as a word cloud. It depicts different ways in which the experts appreciate the digital developments of our country: digital infrastructure mentioned by 10 and Digi-services 7 times. The second important supporter is our stable tax system appreciated by nine experts and low taxes, marked twice. These seem to be the most important positive influencers. Furthermore, the simplicity of company establishment and not too much bureaucracy, entrepreneurial community, attitude and support system have been mentioned. To sum up, infrastructure components and governmental support including a favourable tax environment and ease of paperwork have been mentioned most.

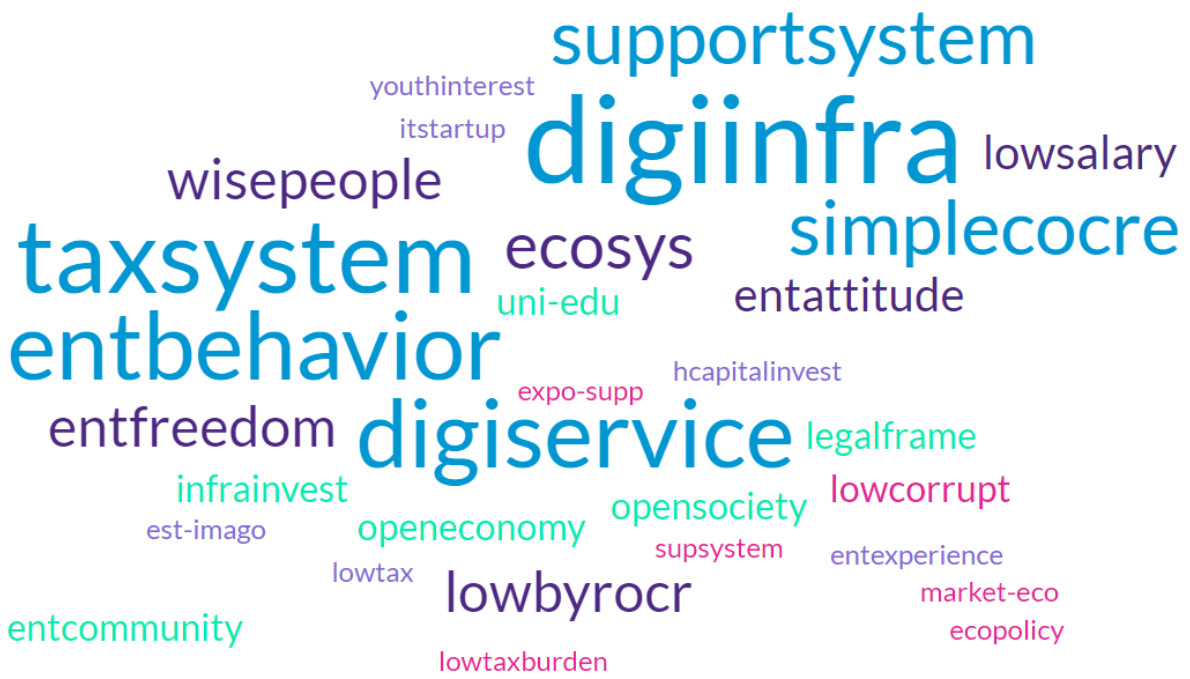


Figure 8.2. *Expert' opinions (NES) on advantages of Estonian entrepreneurship ecosystem*
Source: Autor's calculation using free word cloud generator

When development and support experts generally agree on positive, it is not so when it concerns advising future developments. Interestingly, because these recommendations were given first, before filling out the survey, the recommended areas of development widely overlap with the survey topics. The thematic analysis results that all recommendations can be categorised under seven themes (Figure 8.3.), also well suited to the framework of the entrepreneurial ecosystem model from Grigore & Dragan (2020).

The culture of a region, especially the openness to entrepreneurship and public mentality will favour entrepreneurial activities. The structure, number, and quality of enterprises reflect the maturity of the entrepreneurial ecosystem and growth potential (Achs et al., 2014). Hence, not everyone should be encouraged to take up self-employment, but those capable and motivated.

Estonian experts saw positively our entrepreneurial behaviour, and growing community of entrepreneurs and evaluated their reputation as high. The experts, though, recommend cultivating an entrepreneurial mindset further to attract the younger generation (Figure 8.3.). The focus should be on vocational education and involve more research and technology. One expert specifically recommends looking into our IP (inventions) through the lenses of commercialisation.

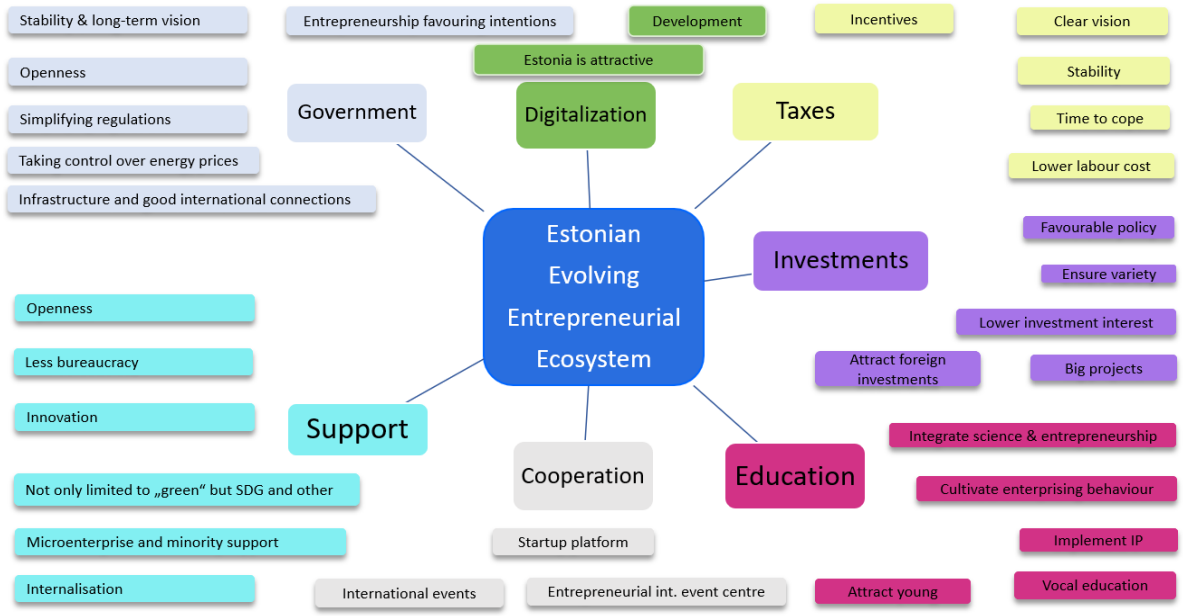


Figure 8.3. *Experts' opinions on further development of the Estonian entrepreneurship ecosystem*
Source: Author's thematic analysis of expert opinions

We can make some recommendations based on expert scores for educational statements of the survey. When practical entrepreneurship and management education, in general, is evaluated rather highly (6.8), other items remain around 50%. Hence, encouragement of creativity, self-sufficiency, and personal initiative, including an introduction to the basics of the market economy, should be widely available in our school system. It confirms the results from a population where indicators such as "Entrepreneurship as a Good Career Choice Rate" and "Perceived Capabilities Rate" fall below the European average. There is a pressing need to enhance entrepreneurial education further and inspire and raise potential entrepreneurs.

Resources are often seen as a primary need for entrepreneurship growth. Here we consider access to finance, human resources and physical infrastructure. Studies show that entrepreneurial ecosystems benefit from a pool comprising a diverse and skilled workers' group (Brown & Mason, 2017). The problem lies in the micro-population of Estonia lacking specialists in many areas, especially IT and engineering. Many experts mention labour tax, five of them recommending lowering labour taxes, few also suggest providing tax incentives for the technology field.

According to Isenberg (2010), successful EEs in urban regions have an infrastructure functioning through several layers. Business incubators and accelerators have rapidly grown in recent years. On the other end, there is increasing evidence in the literature that, despite many successful cases and public policies supporting business incubation, most BIs are not successful at all (e.g. Tavoletti, 2013) and serious doubts are emerging about the general effectiveness of business incubation and the advisability of investing public money in it. Our experts do not mention those at all. They recommend fostering (international) cooperation to invest in a solid start-up platform, create a decent international entrepreneurship event centre and support more international entrepreneurial events here in Estonia. ISPIM conference in Tallinn in June 2023 is just one example.

Early-stage entrepreneurship, ownership of a new business (who run a business for less than 3.5 years) is three times lower than nascent entrepreneurship (who are still taking the first steps to run a business) for more businesses to reach the mature phase. There is still a need for a format of initiatives specifically tailored to support businesses in the early stages of entrepreneurship, offering mentorship, training, and financial assistance. But in which form? The efficiency and outcomes of accelerators and incubators, supporting early-stage entrepreneurial activity meet the educational key questions: how entrepreneurs grow, how they learn, and what is entrepreneurship readiness.

Then, the finance. Foreign investments, and how to be more attractive seem to be the main concern for our experts. Again, tax incentives are recommended, specifically, focusing on bigger projects. One expert emphasises investigating variety – not having "all eggs in one basket" such as focusing only on the IT sector which is globally fiercely on the agenda. From the support system perspective, there is, to some extent, a similar recommendation to open support fairly to businesses which do not yet have to have the "green" or "high-tech" label. Business models evolve.

Digital infrastructure gained experts' positive feedback. They recommend pushing further, being known and led by something important for entrepreneurship – resources. Moreover, not lose our *e-country* image.

Estonian experts in the year of the study 2023 were mostly worried about policies and regional support systems. Most recommendations were given in those areas: First, have a long-term vision, an agenda to create a healthy and effective support system, and a vision for the tax system. Stability, transparency and predictability are key words from entrepreneurship experts. Secondly, mentioned as a positive aspect, but as a recommendation for the future – keep the system KISS *(Keep It Simple, Stupid)* – less bureaucracy and simplified regulations. Even digitalisation can have the *vice-versa* effect whereas entrepreneurs are forced to invest in systems or people which brings either zero or even negative effects.

Stability and predictability are particularly essential for export-oriented enterprises, which our economy relies on. So, Lithuania took care of the energy price increase, introducing incentives for the business sector and we see very different results in the GEM 2023 study. Our experts also indicate that energy prices immediately affect our entrepreneurial ecosystem and should be under governmental control.

To sum up, the experts of the Estonian entrepreneurship ecosystem mostly want to see (in order of priority):

1) A long-term tax vision
2) Support (show it)
3) Legal stability

This report assessed separate ecosystem factors of entrepreneurship in Estonia. However, the major limitation and subject for future research is missing understanding of cooperation and connectors, and the quality of interdependencies of those factors. The system only works when healthy synapses between different resource areas run smoothly. Going deeper how Estonian essential components of entrepreneurial eco-system work together, are not in the scope of GEM study but can be subject of interest to our researchers.

LIST OF REFERENCES

Acs, Z., & Szerb, L. (2017). *Global Entrepreneurship Index 2018*. Global Entrepreneurship and Development Institute.

Acs, Z.J.; Autio, E.; Szerb, L. (2014). National systems of entrepreneurship: Measurement issues and policy implications. *Research Policy*, 43, 476–494.

Adsera, A., & Chiswick, B. R. (2007). Are there gender and country of origin differences in immigrant labor market outcomes across European destinations? *Journal of population economics*, 20(3), 495–526.

Ahmadov, T. (2023). Innovation for Circular Economy: Overview of Estonian Enterprises' Transition Journey. In Muhammed Veysel Kaya (Ed.), *Social and Economic Studies within the Framework of Emerging Global Developments* (3rd ed., pp. 103–116). Peter Lang.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.

Aldrich, H. E., & Cliff, J. E. (2003). The pervasive effects of family on entrepreneurship: toward a family embeddedness perspective. *Journal of Business Venturing*. Volume 18, Issue 5, September 2003, 573–596.

Alexandre-Leclair, L. (2014). Diversity as a motive for entrepreneurship? The case of gender, culture and ethnicity. *Journal of Innovation Economics & Management*, 2014/2, No 14. DOI: 10.3917/jie.014.0157

Amankwah-Amoah, J., Khan, Z., Ifere, S.E., Nyuur, R.B. and Khan, H. (2022). Entrepreneurs' learning from business failures: An emerging market perspective. *British Journal of Management*, 33(4), 1735–1756.

Anthias, F., & Cederberg, M. (2009). Using ethnic bonds in self-employment and the issue of social capital. *Journal of Ethnic and Migration Studies*, 35(6), 901–917.

Armendariz de Aghion, B., Morduch, J. (2005). *The Economics of Microfinance*. MIT Press, Cambridge, 352 p.

Baycan-Levent et al. (2003). Diversity and ethnic entrepreneurship: dialogue through exchanges in the economic arena, *Sustainable Development in a Diverse World* (susdiv.org). Burns, 2007: 9.

Bergman B. J., McMullen J. S. (2020). Entrepreneurs in the making: Six decisions for fostering entrepreneurship through maker spaces. *Business Horizons*, 63(6), 811–824.

Bergman, B.J., McMullen, J.S., (2022). Helping Entrepreneurs Help Themselves: A Review and Relational Research Agenda on Entrepreneurial Support Organizations. *Entrepreneurship Theory and Practice*, 46(3).

Bosma, N.S., Jones, K., Autio, E., & Levie, J. (2008). *Global Entrepreneurship Monitor 2007 Executive Report*. London: Global Entrepreneurship Research Association.

Brown, R.; Mason, C. (2017). Looking inside the spiky bits: A critical review and conceptualisation of entrepreneurial ecosystems. *Small Business Economy,* 49, 11–30.

Brush, C.G., Vanderwerf, P. (1992) A Comparison of Methods and Sources of Obtaining Estimates of New Venture Performance. *Journal of Business Venturing*, 7, 157–170.

Bullough, A. and Renko, M. (2013). Entrepreneurial resilience during challenging times. *Business Horizons*, 56(3), 343–350.

Cacciotti, G., Hayton, J. C., Mitchell, J. R., & Giazitzoglu, A. (2016). A reconceptualization of fear of failure in entrepreneurship. *Journal of Business Venturing*, 31(3), 302–325.

Cao, Z. and Shi, X. (2021). A systematic literature review of entrepreneurial ecosystems in advanced and emerging economies. *Small Business Economics*, 57, 75–110.

Cavicchioli, M., & Kocollari, U. (2021). Learning from failure: Big data analysis for detecting the patterns of failure in innovative startups. *Big data*, 9(2), 79–88.

Chaganti, R., & Parasuraman, S. (1996). A study of the impacts of gender on business performance and management patterns in small businesses. *Entrepreneurship Theory and Practice*, 21(2), 73–73.

Clawson, T. (September 22, 2022). *Starting From Zero: What Can Estonia Teach Us About Building A Startup Ecosystem?* Forbes. https://www.forbes.com/sites/trevor-clawson/2022/09/22/starting--from-zero-what-can-estonia-teach-us-about-building-a-startup-ecosystem/

Colombelli, A., Paolucci, E. and Ughetto, E. (2019). Hierarchical and relational governance and the life cycle of entrepreneurial ecosystems. *Small Business Economics*, 52, 505–521.

Conz, E., Magnani, G., Zucchella, A. and De Massis, A. (2023). Responding to unexpected crises: The roles of slack resources and entrepreneurial attitude to build resilience. *Small Business Economics*, 61(3), 957–981.

Cooney, T. M. (2012). *Entrepreneurship Skills for Growth-Orientated Businesses. Report for the Workshop on 'Skills Development for SMEs and Entrepreneurship', Copenhagen, 28 November 2012.*

Cope, J., Jack, S., & Rose, M. (2007). Social capital and entrepreneurship: An introduction. *International Small Business Journal*, 25, 213–219.

Cortés, K. R., Demyanyk, Y., Li, L., Loutskina, E., & Strahan, P. E. (2020). Stress tests and small business lending. *Journal of Financial Economics*, 136(1), 260–279.

Dabić, M., Vlačić, B., Kiessling, T., Caputo, A. and Pellegrini, M. (2023). Serial entrepreneurs: A review of literature and guidance for future research. *Journal of Small Business Management*, 61(3), 1107–1142.

Diandra, D., & Azmy, A. (2020). Understanding definition of entrepreneurship. International *Journal of Management, Accounting and Economics*, 7(5), 235–241.

Dorjnyambuu, B. (2023). Estonian Digital Entrepreneurship Ecosystem Based on Digital Platform Economy Index 2020. *The Journal of Entrepreneurship*, 32(2), 347–375.

Eggers, W.D. and Macmillan, P. (2013). *The solution revolution: How business, government, and social enterprises are teaming up to solve society's toughest problems*. Harvard Business Press.

Fayolle, A. (2018). *Personal views of the future of entrepreneurship Education*. Edward Elgar Publishing. Post-Print hal-02311087.

Fini, R., Fu, K., Mathisen, M. T. et al. (2017). Institutional Determinants of University Spin-Off Quantity and Quality: A Longitudinal, Multilevel, Cross-Country Study. *Small Business Economics*, 48, 361–391.

Fisher, G., Stevenson, R., Neubert, E., Burnell, D., & Kuratko, D. F. (2020). Entrepreneurial hustle: Navigating uncertainty and enrolling venture stakeholders through urgent and unorthodox action. *Journal of Management Studies*, 57(5), 1002–1036.

Eisenmann, T. (2021). *Why startups fail: A new roadmap for entrepreneurial success*. Crown Currency.

GEM 2023/2024 Global Report. (2024). 25 years and growing. Global Entrepreneurship Monitor. *Globaalne ettevõtlusmonitooring 2014 (2015). Eesti raport.*

GEM 2023/2024 Global Report. (2024). 25 years and growing. *Global Entrepreneurship Monitor*.

Gerstlberger, W.; Küttim, M.; Niine, T.; Hurt, U.; Hartšenko, J.; Tuisk, T.; Kotov, A.; Kristjuhan-Ling, K.; Otto, T. (2023a). *Metalli- ja masinatööstuse ettevõtete motiveerimise võimalused rohepöörde elluviimise kontekstis. Uuringu aruanne. Tallinn: Tallinna Tehnikaülikool*. DOI: 10.11590/taltech.metal.industry.report.2023.

Gerstlberger, W.; Küttim, M.; Niine, T.; Hurt, U.; Tuisk, T.; Hartšenko, J.; Kull, M.; Trei, M.; Kotov, A. & Kängsepp, K. (2023b). *Puidu- ja mööblitööstuse ettevõtete motiveerimise võimalused rohepöörde elluviimise kontekstis. Uuringu aruanne. Tallinn: Tallinna Tehnikaülikool.* DOI: 10.11590/taltech.wood.industry.report.2023.

Global Startup Ecosystem Report (2023). https://startupgenome.com/report/gser2023

Grigore, A-M.; Dragan, I-M. (2020). Towards Sustainable Entrepreneurial Ecosystems in Transitional Economy: An Analysis of Two Romanian City-regions through the Lens of Entrepreneurs. *Sustainability* 12(15), 6061.

Guerrero, M., Liñán, F. and Cáceres-Carrasco, F.R. (2021). The influence of ecosystems on the entrepreneurship process: a comparison across developed and developing economies. *Small Business Economics*, 57(4), 1733–1759.

Haldar, S. (2019). Towards a conceptual understanding of sustainability-driven entrepreneurship. *Corporate Social Responsibility and Environmental Management*, 26(6), 1157–1170.

Hooi, H.C., Ahmad, N.H., Amran, A. and Rahman, S.A. (2016). The functional role of entrepreneurial orientation and entrepreneurial bricolage in ensuring sustainable entrepreneurship. *Management research review*, 39(12), 1616–1638.

Ibarra, H. (1993). Personal networks of women and minorities in management: A conceptual framework. *The Academy of Management Review*, 18(1), 56–87.

Invest in Estonia (February 6, 2024). *Emerging Europe: Estonia is the most sustainable country in the region*. Invest in Estonia. https://investinestonia.com/emerging-europe-estonia-is-the-most-sustainable-country-in-the-region/

Invest in Estonia (n.d., a). *Coming and Living – Residence permit for business.* https://investinestonia.com/business-in-estonia/coming-and-living/sustainable-development

Isenberg, D. (2010). How to start an entrepreneurial revolution. *Harvard Business Review*, 88, 40–50.

Kacou, E. (2010). *Entrepreneurial solutions for prosperity in BoP markets: Strategies for business and economic transformation*. Pearson Prentice Hall.

Karis, A. (June 1, 2022). *Alar Karis riding bolt scooter.* https://www.facebook.com/photo/?fbid=430052042276602&set=pcb.430053922276414

Karlsson, C., Rickardsson, J., & Wincent, J. (2019). Diversity, innovation and entrepreneurship: where are we and where should we go in future studies? *Small Bus Econ*. DOI: 10.1007/s11187-019-00267-1

Kekkonen, A., Pesor, R. and Täks, M. (2023). Stepping towards the Green Transition: Challenges and Opportunities of Estonian Companies. *Sustainability*, 15(5), 4172.

Kelm, H., Lasek, A., & Brzozowski, J. (2019). The Determinants of Economic Integration of Immigrants in the Nordic Countries. In: Uusiautti S., Yeasmin N. (Ed) *Human Migration in the Arctic* (pp. 173–212). Palgrave Macmillan, Singapore.

Kirzner, I. M. (1973). *Competition and entrepreneurship*. Chicago, US and London, UK: The University of Chicago Press.

Korber, S. and McNaughton, R.B. (2018). Resilience and entrepreneurship: a systematic literature review. *International Journal of Entrepreneurial Behavior & Research*, 24(7), 1129–1154.

KredEx (April 25, 2022). *Estonian women establish start-ups in the health sector most.* https://www.kredex.ee/en/news/estonian-women-establish-start-ups-health-sector-most

Kuckertz, A. (2021). Standing up against crisis-induced entrepreneurial uncertainty: Fewer teams, more habitual entrepreneurs. *International Small Business Journal*, 39(3), 191–201.

Küttim, M., Gerstlberger, W., Hurt, U., Kotov, A., Kull, M., Niine, T., Ahmadov, T. and Tuisk, T. (2023). Enablers and Barriers in Circular Economy: The Case of Estonia. In *ISPIM Conference Proceedings* (pp. 1–14). The International Society for Professional Innovation Management (ISPIM).

Laukkanen, M. and Patala, S. (2014). Analysing barriers to sustainable business model innovations: Innovation systems approach. *International Journal of Innovation Management*, 18(06), 1440010.

Latitude59. (June 2, 2017). *President of Estonia, Kersti Kaljulaid @Latitude59 2017*. YouTube. https://www.youtube.com/watch?v=CHKJqOvskCQ

Linán, F. and Fayolle, A. (2015) A Systematic Literature Review on Entrepreneurial Intentions: Citation, Thematic Analyses, and Research Agenda. *Entrepreneurship and Management Journal*, 11, 907–933.

Manea, D.I., Istudor, N., Dinu, V. and Paraschiv, D.M. (2021). Circular economy and innovative entrepreneurship, prerequisites for social progress. *Journal of Business Economics and Management*, 22(5), 1342–1359.

Mason, C. and Brown, R. (2014). Entrepreneurial ecosystems and growth oriented entrepreneurship. *Final report to OECD, Paris*, 30(1), 77–102.

Mihotić, L., Raynard, M. and Sinčić Ćorić, D. (2023). Bouncing forward or bouncing back? How family firms enact resilience in times of crisis. *Journal of Family Business Management*, 13(1), 68–86.

Miller, T., Triana, M. (2009). Demographic Diversity in the Boardroom: Mediators of the Board Diversity – Firm Performance Relationship. *Journal of Management Studies*, 46(5).

Morgan, J., & Sisak, D. (2016). Aspiring to succeed: A model of entrepreneurship and fear of failure. *Journal of Business Venturing*, 31(1), 1–21.

Muñoz, P., & Cohen, B. (2018). Sustainable entrepreneurship research: Taking stock and looking ahead. *Business Strategy and the Environment*, 27(3), 300–322.

Nabi, G., Liñán, F., Fayolle, A., Krueger, N.F., Walmsley, A. (2017). The Impact of Entrepreneurship Education in Higher Education: A Systematic Review and Research Agenda. *Academy of Management Learning*. 16(2), 277–299.

Nakamura, H. (2019). Relationship among land price, entrepreneurship, the environment, economics, and social factors in the value assessment of Japanese cities. *Journal of Cleaner Production*, 217, 144–152. https://doi.org/10.1016/j.jclepro.2019.01.201

Neck, H. M., Neck, C. P., & Murray, E. L. (2024). *Entrepreneurship. The Practice and Mindset*. Third Edition. SAGE Publications, Inc.

Pert, S. (September 7, 2022). *Energy prices hit new records.* Eesti Pank. https://www.eestipank.ee/en/press/energy-prices-hit-new-records-07092022

Prenzel, P., Bosma, N., Schutjens, V., & Stam, E. (2024). Cultural diversity and innovative entrepreneurship. *Small Bus Econ*. DOI: 10.1007/s11187-024-00888-1.

Rae, D. (2007). *Entrepreneurship: from opportunity to action*. Palgrave MacMillan, Houndmills.

Ramezani, J. and Camarinha-Matos, L.M. (2020). Approaches for resilience and antifragility in collaborative business ecosystems. *Technological forecasting and social change*, 151, 119846.

Rang, A. (September 14, 2019). *Chasing Unicorns: A hilarious new movie about Estonian entrepreneurs taking on the world*. https://estonianworld.com/culture/chasing-unicorns-a-hilarious-new-movie-about-estonian-entrepreneurs-taking-on-the-world/

Rodl & Partner (February 22, 2023). *Abuse of a dominant Market Position and Claim for Damages under Estonian Law*. https://www.roedl.com/insights/antitrust-law/estonia-abuse-dominant-market-position-damages

Rosen, A. (2015, May 7). *Why collaboration is essential to entrepreneurship*. https://www.entrepreneur.com/article/245599

Rämmer, A. (2023). Millises suunas muutuvad Eesti elanike väärtused? M. Ainsaar (toim). *Muutuv ja mitmekesine Eesti Euroopa Sotsiaaluuringus*. Tartu Ülikool. https://uhiskond.ut.ee/et/sisu/millises-suunas-muutuvad-eesti-elanike-vaartused

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68.

Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, 61, 101860.

Santisteban, J., Mauricio, D., & Cachay, O. (2021). Critical success factors for technology-based startups. *International Journal of Entrepreneurship and Small Business*, 42(4), 397–421.

Sarasvathy, S. D. (2008). *Effectuation: Elements of entrepreneurial expertise*. Edward Elgar.

Sachs, J.D., Lafortune, G., Fuller, G., Drumm, E. (2023). *Implementing the SDG Stimulus. Sustainable Development Report 2023*. Paris: SDSN, Dublin: Dublin University Press, 2023.

Schaltegger, S., & Wagner, M. (2011). Sustainable entrepreneurship and sustainability innovation: categories and interactions. *Business strategy and the environment*, 20(4), 222–237.

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of Research. *Academy of Management Review*, 25(1), 217–226.

SheAtWork (October 23, 2023). *Estonia's Feminine Force: Navigating Entrepreneurship*. https://sheatwork.com/estonias-feminine-force-navigating-entrepreneurship/

Schumpeter, J. A. (1934). *The Theory of Economic Development*. Cambridge: Harvard University Press.

Spigel, B. (2017). The relational organization of entrepreneurial ecosystems. *Entrepreneurship Theory and Practice*, 41, 49–72.

Sreenivasan, A., & Suresh, M. (2023). Exploring the contribution of sustainable entrepreneurship toward sustainable development goals: A bibliometric analysis. *Green Technologies and Sustainability*, 1(3), 100038. https://doi.org/10.1016/j.grets.2023.100038

Srimulyani, V.A. and Hermanto, Y.B. (2021). Impact of entrepreneurial self-efficacy and entrepreneurial motivation on micro and small business success for food and beverage sector in east Java, Indonesia. *Economies*, 10(1), 10.

Stam, E. (2015). Entrepreneurial ecosystems and regional policy: A sympathetic critique. *European Planning Studies*, 23, 1759–1769.

Startup Estonia (March 21, 2023). *Estonian Startup Visa in 2022 – success amid true challenges.* https://startupestonia.ee/statistics-surveys/estonian-startup-visa-in-2022-success-amid-true-challenges/ Startup Estonia (2024a). *Investors.* https://ecosystem.startupestonia.ee/investors

Tavoletti, E. (2013). Business Incubators: Effective Infrastructures or Waste of Public Money? Looking for a Theoretical Framework, Guidelines and Criteria. *Journal of the Knowledge Economy*, 4(4).

Theodoraki, C. (2019). How to Build a Sustainable Ecosystem: The Relevance of Governance and Coopetition. *ICSB Gazette*, 37, 1–5. Available online: https://icsb.org/wp- content/uploads/2019/10/Gazette-37.pdf (accessed on 17 July 2024).

Vadi, M. (2022). *Let us take a peek inside the minds of Estonia's leaders*.

Velt, H. (2020). *Entrepreneurial Ecosystems and Born Global Start-ups*. https://lutpub.lut.fi/handle/10024/161895

Velt, H., Torkkeli, L., Saarenketo, S. (2018). The entrepreneurial ecosystem and born globals: the Estonian context. *Journal of Enterprising Communities: People and Places in the Global Economy*, 12(2), 117–138.

Verheul,I., van der Kuip, I. (2003). Early Development of Entrepreneurial Qualities: The Role of Initial Education, Scales Research Reports N200311, *EIM Business and Policy Research*.

Verheul, I., & van Stel., A. (2007). Entrepreneurial Diversity and Economic Growth (No. ERS-2007-070-ORG). *ERIM report series research in management Erasmus Research Institute of Management*. Retrieved from http://hdl.handle.net/1765/10619.

Zhou, W., & Rosini, E. (2014). Entrepreneurial Team Diversity and Performance: Toward an Integrated Model. *Entrepreneurship Research Journal*, January 2015. DOI: 10.1515/erj-2014-0005.

Wennekers, S., Stel, A., Thurik, R., & Reynold, P. (2005). Nascent Entrepreneurship and the Level of Economic Development. *Small Business Economics*, 24: 293–309.

Wurth, B., Stam, E., Spigel, B. (2021). Toward an Entrepreneurial Ecosystem Research Program. *Entrepreneurship Theory and Practice*. *46*(3), 729–778.