GLOBAL ENTREPRENEURSHIP MONITOR

ARMENIA NATIONAL REPORT 2024/2025

AMERIA
MANAGEMENT ADVISORY

GEM
Global Entrepreneurship Monitor

AUTHORS:

Ameria CJSC, GEM Armenia National Team

2 Vazgen Sargsyan Street, 0010 Yerevan, Armenia

Email: mas@ameria.am

www.ameriaadvisory.am

Team leader

Tigran Jrbashyan

Team members

Artashes Shaboyan
Arman Porsughyan
Karine Nikoghosyan
Galust Zakaryan
Astghik Khachatryan
Narine Gevorgyan
Vardan Baghdasaryan
Gagik Hambardzumyan
Karen Tadevosyan
Ashot Lachinyan
Anushavan Eranosyan
Nane Mkrtchyan
Kristine Vardanyan

Primary Data Collection Fieldwork:

Intagma Research Agency

Cover:

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While the final content remains the sole responsibility of the GEM Armenia National Team, we are deeply grateful for the contributions of all those involved in the expert engagement process.

FOREWORD FROM DEPUTY PRIME MINISTER OF ARMENIA

MR. MHER GRIGORYAN

The Government of Armenia positions entrepreneurship as a pivotal element and strategic driver of development - not only in terms of economic output, but as a mechanism for national and societal resilience, innovation, and opportunity creation across all regions and demographic groups. As we commit to shape a more knowledge-based, export-led and inclusive economy, access to timely, reliable and comprehensive data is essential. The Global Entrepreneurship Monitor (GEM) Armenia National Report 2024/2025 provides such a resource.

The release of this edition of the GEM report is particularly timely. It offers an objective and comprehensive assessment of the state of entrepreneurship in Armenia and benchmarks our progress within a global context. Crucially, the findings enable an assessment of the impact of recent government-led reforms through the lens of the entrepreneurial community, while also highlighting policy gaps that call for more coherent and targeted interventions to achieve inclusive, sustainable, and transformative outcomes.

Several findings reflected in the GEM Armenia 2024/2025 report are particularly noteworthy, especially from the perspective of shaping the national policies towards entrepreneurship. Several of them are truly inspiring hope; for example, the continuous increase in early-stage entrepreneurship appears to be a sound signal about ecosystem resilience. In contrast, some of them identify the areas in need of enhancement. As such, the continued prevalence of necessity-driven entrepreneurship underscores the imperative to expand access to quality employment and promote economic diversification. In parallel, the limited uptake of advanced technologies and low levels of formal investment highlight the urgency of strengthening innovation infrastructure, financing mechanisms, and the digital capacity of enterprises.

The findings of the report serve as a strategic impetus for the refinement and deeper alignment of our existing policy frameworks. They are essential for informing the entrepreneurship strategy, advancing the digital transformation agenda, and guiding education and skills development initiatives. They also reinforce the importance of expanding access to targeted, evidence-based support – particularly for women, youth, and underserved regions. We remain convinced that dynamic and competitive entrepreneurship is key to advancing inclusive growth and enhancing social mobility.

On behalf of the Government of Armenia, I extend my sincere appreciation to the GEM National team, led by Ameria CJSC, for their valuable contribution, professionalism, and commitment to advancing evidence-based policymaking. This report will serve as an important tool as we continue to build a more vibrant, innovative, and equitable entrepreneurial ecosystem in Armenia.

FOREWORD FROM GEM ARMENIA NATIONAL TEAM LEADER

Dr. TIGRAN JRBASHYAN, partner, director of Ameria management advisory services

It is my privilege to present the 2024/2025 edition of the Global Entrepreneurship Monitor (GEM) Armenia National Report – our country's second participation in this globally recognized research program. As Armenia continues its path toward inclusive economic modernization, entrepreneurship remains one of the most vital levers for ensuring resilience, competitiveness, and innovation.

The GEM framework enables us to examine entrepreneurship not merely through economic statistics, but through a multidimensional lens that incorporates individual motivations, cultural values, business lifecycle dynamics, and system-level enablers. This year's report reflects a nuanced reality: Armenia's entrepreneurial potential remains strong, but the environment is increasingly shaped by new risks, regional inequalities, and rapidly evolving digital and technological demands.

The report highlights that Armenia continues to demonstrate a robust entrepreneurial spirit, with a high level of business activity and strong societal support for entrepreneurship. A significant shift over the past five years is that entrepreneurship is now being shaped by competitive dynamics.

Although entrepreneurship in Armenia continues to be primarily necessity-driven, there is a marked rise in the influence of wealth creation as a motivating factor. At the same time, gaps in innovation adoption, digital integration, and investment readiness – especially among women, rural entrepreneurs, and smaller firms – remain significant constraints to sustainable growth.

GEM findings clearly show that entrepreneurship in Armenia requires a broader policy vision – one that goes beyond financial support and focuses on education, digital inclusion, and structural incentives that enable scaling, innovation, and long-term business survival. The Government's ongoing efforts to reform the entrepreneurship environment are critical, and this report is intended to serve as both a diagnostic tool and a roadmap for targeted action.

On behalf of the national team, I would like to thank all our partners, data contributors, and institutional stakeholders for making this study possible. Our aim is to provide Armenia with not just benchmarking data, but with insight – insight that can inform more effective, inclusive, and forward-looking policies for entrepreneurship.

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ABBREVIATIONS

AMD	Armenian Dram
Armstat	Statistical Committee of the Republic of Armenia
APS	Adult Population Survey
EAEU	Eurasian Economic Union
EEA	Entrepreneurial Employee Activity
EFC	Entrepreneurial Framework Conditions
EBO	Established Business Owner/Activity
GDP	Gross Domestic Product
GEM	Global Entrepreneurship Monitor
ICT	Information and Communication Technologies
IMF	International Monetary Fund
ISIC rev4	International Standard Industrial Classification of All Economic Activities, Revision 4
NECI	National Entrepreneurship Context Index
NES	National Expert Survey
R&D	Research and Development
SDG	United Nations Sustainable Development Goals
TEA	Total early-stage Entrepreneurial Activity
UAE	United Arab Emirates
USA	United States of America
USD	United States Dollar

EXECUTIVE SUMMARY

Entrepreneurship is widely acknowledged as a fundamental engine of economic growth, employment generation, and income enhancement. The **Global Entrepreneurship Monitor (GEM)** provides a globally standardized framework for assessing entrepreneurial activity, capturing both individual-level behavior and systemic enablers across diverse national contexts. The GEM methodology is based on two key instruments: the **Adult Population Survey (APS)**, which explores individuals' attitudes, perceptions, and entrepreneurial engagement, and the **National Expert Survey (NES)**, which evaluates the broader **Entrepreneurial Framework Conditions (EFCs)** that influence the ease and quality of entrepreneurship in a given country.

The **GEM Armenia National Report 2024/2025** presents the results of Armenia's second participation in the GEM initiative, following its initial involvement in 2019. This study was implemented by **Ameria CJSC**, a leading management advisory company and Armenia's national partner to the GEM Consortium. Armenia's participation in the 2024/2025 global study allows for meaningful comparisons over time and across countries, including with the designated "Eastern Europe+" peer group, which includes countries such as Belarus and Kazakhstan. Globally, the 2024 GEM study covered more than 161,000 adults across 51 countries and included input from over 2,400 national experts in 56 countries. In Armenia, data collection included face-to-face interviews with a representative sample of 2,000 adults aged 18 to 64 (APS) and interviews with 37 national experts (NES), conducted between April and June 2024.

This report provides an in-depth analysis of the evolution of Armenia's entrepreneurial landscape over the past five years. It highlights how entrepreneurship continues to play a central role in the country's socio-economic development, particularly in the context of job creation, income generation, and resilience amidst regional and global challenges. A significant finding from the 2024 APS is the marked increase in average household income compared to 2019, though this has been accompanied by a rise in income inequality, especially between Yerevan and other regions. Despite general economic improvements during the period 2019 to 2023, a majority of respondents reported experiencing a decrease in their income in 2024 compared to the previous year.

Armenia maintains a strong cultural appreciation for entrepreneurship, with high levels of societal respect for entrepreneurial careers and increasing recognition of entrepreneurship's role in addressing social challenges. However, the report also identifies a decline in early-stage entrepreneurial activity relative to 2019. This trend reflects the complex effects of shifting economic conditions, geopolitical uncertainties, and evolving consumer behavior. Moreover, while many entrepreneurs are now leveraging digital tools and artificial intelligence in their business operations, disparities in digital readiness persist across regions, genders, and sectors.

The GEM framework facilitates the assessment of entrepreneurial activity through key indicators such as **Total early-stage Entrepreneurial Activity (TEA)**, which includes both nascent entrepreneurs and new business owners (operating businesses less than 42 months), and **Established Business Ownership (EBO)**, which tracks entrepreneurs managing businesses older than 42 months. These indicators provide a nuanced view of the entrepreneurial lifecycle and its contribution to innovation, economic dynamism, and employment stability.

Prior to launching the study, the Armenian research team anticipated improvements in the ease of starting a business, a rise in opportunity-driven entrepreneurship, broader use of digital technologies, and a shift in motivations toward wealth generation. The findings partially confirm these expectations, while also drawing attention to persistent challenges such as underdeveloped entrepreneurial education, low levels of informal investment, and limited capacity for research and development transfer.

The broader contextual analysis reflects the lasting impact of post-COVID and post-war development, ongoing regional conflicts and uncertainty, and external economic shocks. These factors have shaped entrepreneurial perceptions, household financial well-being, and business resilience. Nonetheless, Armenia stands out for its favorable societal perceptions of entrepreneurship and the growing international orientation of early-stage ventures.

This report offers evidence-based insights to support policymaking and guide ecosystem stakeholders in strengthening Armenia's entrepreneurial capacity. It emphasizes the need for targeted interventions in areas such as education, digital inclusion, and innovation infrastructure. Furthermore, it highlights the importance of aligning entrepreneurship development with Armenia's broader national

development goals and the United Nations Sustainable Development Goals (SDGs), particularly in promoting inclusive growth, reducing inequality, and fostering sustainable economic transformation.

(i) Social and Cultural Values about Entrepreneurship

- **Strong entrepreneurial values:** Armenia's societal attitudes toward entrepreneurship remain highly supportive in 2024, with 87.6% of adults considering business creation a desirable career choice. This positions Armenia 5th among 51 GEM countries and 1st in the "Eastern Europe+" region. The perception that businesses serve a social purpose is also strong, with 74.2% of respondents agreeing that businesses primarily aim to solve social problems—again ranking Armenia 5th out of 51 countries in 2024 GEM. Furthermore, 74.0% of adults perceive successful entrepreneurs as respected individuals in society, an indicator that has remained stable since 2019. Media support is evident as well, with 76.0% of adults reporting frequent coverage of business success stories, helping to cultivate a positive public image of entrepreneurship.
- **Shifting views on income equality:** Public attitudes toward income equality have shifted notably. In 2024, 65.7% of respondents agreed that "everyone should have a similar standard of living," down from 72.8% in 2019. This brings Armenia closer to the GEM global average (65.1%) and may signal a societal trend toward greater acceptance of market-driven outcomes and merit-based achievement. The sharpest decline in support is observed among younger adults aged 18–24, where agreement fell from 70.1% to 51.6%, suggesting that the younger generation is increasingly embracing individual success over collective redistribution.
- **Cautious perceptions of entrepreneurial opportunity and networks:** Although core values remain supportive, perceptions of entrepreneurial opportunity and networks have become more conservative. The proportion of adults who personally know someone who started a business in the past two years decreased from 55.6% in 2019 to 48.8% in 2024, falling below the GEM average and ranking Armenia 33rd out of 2024 GEM 51 countries. Optimism about future business opportunities also slightly declined, with 51.4% of respondents expecting good opportunities within the next six months (down from 53.9%). The perceived ease of starting a business

remained relatively stable at 47.0%, only slightly below the 2019 indicator of 49.2%, and close to the global average.

- **More realistic self-perception of entrepreneurial capabilities:** Confidence in personal entrepreneurial capabilities has declined. In 2019, 70.0% of adults believed they had the knowledge, skills, and experience to start a business, placing Armenia 12th out of 50 countries in 2019 GEM. By 2024, this indicator had dropped to 59.6%, reducing Armenia's rank to 24th out of 51 countries in 2024 GEM. This may reflect a shift toward more grounded self-assessment or increased awareness of the complexities of entrepreneurship. Interestingly, the fear of failure as a barrier to business creation decreased slightly, from 50.8% in 2019 to 47.2% in 2024. A noteworthy trend emerged with respect to income groups: in 2024, individuals in the highest income bracket reported the lowest fear of failure (29.6%), a reversal of the 2019 pattern when they reported the highest. Conversely, the highest levels of fear were now found among low-income respondents (56.6%).
- **Mixed indicators of entrepreneurial talent:** Indicators of entrepreneurial talent present a nuanced picture. The share of individuals who say they "rarely see business opportunities" declined from 66.8% to 61.3%, suggesting a modest improvement in opportunity recognition. Proactivity—measured by those who "rarely act on profitable opportunities"—remained stable at 65.9%. However, perceived innovativeness declined, with 73.5% of adults reporting that others see them as highly innovative, compared to 80.5% in 2019, though this still exceeds the GEM average. Additionally, long-term career orientation slightly weakened: 72.7% agreed that "every decision you make is part of your long-term career plan," a small decline from 74.9% in 2019.

(ii) Levels of Entrepreneurship

- **High but decreased TEA:** Armenia's Total early-stage Entrepreneurial Activity (TEA) rate in 2024 stood at a relatively high 17.6% of the adult population, placing the country 13th among 51 GEM-participating economies. Despite this strong performance, it represents a notable decline from the 21.0% recorded in 2019, when Armenia ranked 7th out of 50 countries. This drop is primarily attributed to a reduction in nascent entrepreneurs—individuals in the process of starting a business but not yet paying wages—whose share fell from 14.1% in 2019 to 11.5% in 2024.

- **Improved EBO rate:** In contrast to the decline in early-stage activity, the rate of Established Business Ownership (EBO)—defined as owning and managing a business that has paid wages for more than 3.5 years—has increased significantly. The EBO rate rose from 7.8% in 2019 to 10.8% in 2024, elevating Armenia's global rank from 7th to 9th. This shift suggests a growing capacity for business longevity and resilience beyond the startup phase.
- **Stable overall entrepreneurship rate:** The combined rate of TEA and EBO remained relatively stable, at 27.7% in 2024 compared to 28.0% in 2019. This apparent stability, however, masks an underlying transition away from early-stage activity and toward a greater share of established ventures, pointing to a maturing entrepreneurial ecosystem.
- **Demographic patterns:** Entrepreneurial activity in Armenia shows notable demographic variation. TEA is most prevalent among younger adults aged 18–34, with over 16% engaged in nascent entrepreneurship. In contrast, EBO increases steadily with age, peaking among individuals aged 45–64. Gender differences also persist. Men continue to lead in TEA with a male-to-female ratio of 1.7 in 2024 (up from 1.5 in 2019), while the gender gap for EBOs has narrowed from 2.3 to 1.8, indicating improved survival of women-led businesses.
- **Geographic shifts:** Between 2019 and 2024, nascent entrepreneurial activity declined in Yerevan and even more sharply in rural areas, while "other urban" areas—cities outside the capital—experienced a notable increase. EBO rates, by contrast, rose across all location types, with the most substantial growth observed in "other urban" areas. These trends point to a gradual shift from rural, often necessity-driven entrepreneurship toward more opportunity-oriented ventures in regional towns.
- **Sectoral evolution:** Armenia's entrepreneurial landscape continues to evolve sectorally. The traditionally dominant Extractive sector, primarily agriculture, saw its share in total number of TEA fall from 29% in 2019 to 21% in 2024. The share of Trade sector (wholesale and retail) also declined, particularly among established businesses. Meanwhile, the Transformative sector (manufacturing, construction, etc.) increased its share in TEA, though not significantly in EBO, indicating easier entry but challenges in growth and sustainability. Business Services (e.g., ICT and professional services) gained

modest ground in both TEA and EBO, signaling a gradual, though still limited, transition toward higher-productivity sectors. Despite these shifts, low-productivity sectors—Extractive and Consumer Services—continue to dominate Armenia's entrepreneurial landscape relative to global averages.

(iii) Motivation and Aspiration

- **Predominance of necessity-driven entrepreneurship:** In 2024, the leading motivation for both early-stage (TEA) and established (EBO) entrepreneurs in Armenia remained necessity. Specifically, 79.3% of TEAs and 86.2% of EBOs stated they started their business "to earn a living because jobs are scarce." This places Armenia 15th out of 51 countries for necessity-driven TEA. The prevalence of necessity-based entrepreneurship is particularly pronounced outside Yerevan and among individuals with lower levels of education and income, reflecting structural employment challenges in these segments.
- **Rising ambition for wealth creation:** Alongside necessity, the desire to build personal wealth has gained considerable traction as a motivating factor. The share of TEAs indicating "to build great wealth or very high income" as a reason for starting a business rose significantly from 51.5% in 2019 to 63.2% in 2024. Among EBOs, this share increased from 33.6% to 51.6%. Wealth-building has now become the second most frequently cited motivation, suggesting a shift in entrepreneurial mindset toward opportunity-driven goals, particularly among urban and younger entrepreneurs.
- **Limited focus on societal impact:** Socially driven motivation remains weak among Armenian entrepreneurs. Only a small share of TEAs identified "to make a difference in the world" as a primary reason for starting a business, placing Armenia 49th out of 51 GEM countries on this indicator. This suggests that most entrepreneurs continue to prioritize economic survival or personal financial goals over broader social impact, particularly in resource-constrained settings.
- **Increasing prevalence of one-person businesses:** Entrepreneurial growth aspirations remain modest. The share of TEAs operating alone, without any employees, rose sharply from approximately 23% in 2019 to 44% in 2024. Among EBOs, the share of single-person businesses increased from 31% to 53%. This trend highlights the growing dominance of micro-enterprises, which, while flexible and low-cost, limit broader job creation potential.

Future employment expectations remain subdued, with TEAs projecting a median of two additional jobs in five years and EBOs expecting none.

- **Strong export orientation among TEAs:** Armenian early-stage entrepreneurs demonstrate a relatively high level of international ambition. In 2024, 23.1% of TEAs expected to earn more than 25% of their revenue from international markets, an increase from 20.3% in 2019. This performance places Armenia 11th out of 51 countries. The proportion of the adult population engaged in export-oriented TEA reached 4.1%, ranking Armenia 5th worldwide. Export orientation is particularly strong in the Business Services sector, and TEAs are significantly more likely to pursue international markets than EBOs (23.1% vs. 14.0%).
- **Gradual improvement in innovation activity:** Innovation indicators show modest progress. In 2024, 31.2% of TEAs reported introducing products or services new to at least their local area, up from 28.8% in 2019. Process innovation—adopting new technologies or procedures—was cited by 26.2% of TEAs, compared to 22.2% five years earlier. EBOs reported lower levels of innovation, with 19.9% introducing new products and 13.3% applying new processes, showing minimal change. Interestingly, while the self-perception of being highly innovative has declined since 2019, reported innovation activity has increased, suggesting a more realistic self-assessment. The highest innovation levels were found among entrepreneurs motivated by wealth creation or social impact, while those continuing family traditions tended to report the lowest innovation activity.

(iv) Informal Investments and Business Exits

- **Stable informal investment rate but lower global standing:** In 2024, 7.5% of Armenian adults reported having provided informal financial support to someone starting a business within the past three years—a rate that remains close to the 7.9% recorded in 2019. Despite this stability, Armenia's global rank for informal investment fell from 14th to 27th due to rising rates in other countries. This indicates that while informal investment remains an important funding source domestically, Armenia is losing relative ground globally in terms of informal financing participation.
- **Shift in investment focus toward family:** The profile of informal investment recipients has shifted significantly. In 2024, 39.1% of informal investors

directed funds to close family members, overtaking friends and neighbors, who accounted for 33.2%—a reversal from the 2019 trend. This shift suggests increased risk aversion or shrinking social trust networks, potentially influenced by economic uncertainty. Men continue to dominate informal financial flows, accounting for 59.1% of providers and 77.8% of recipients.

- **Smaller share of income devoted to investment:** While the median size of informal investments remained at 1 million AMD (approximately the same as in 2019), the median annual income of informal investors doubled during the same period. As a result, the median investment now represents only 28% of the investor's annual income, down from around 60% in 2019. This decline in income share suggests increased caution among informal investors and a reduced willingness to commit substantial resources to high-risk ventures.
- **Stable exit rate with lower business continuity:** The business exit rate in Armenia stood at 5.3% in 2024, close to the 6.4% recorded in 2019. However, Armenia's global ranking fell from 13th to 24th as exit rates rose in other countries. More concerning is the drop in business continuity following exit: in 2024, only 24% of businesses continued operating after the original owner exited, compared to nearly 33% in 2019. This decrease caused Armenia's global rank on business continuation to drop from 22nd to 40th, pointing to fragility in succession planning and business transferability.
- **Exits remain predominantly driven by negative reasons:** In 2024, 81.9% of business exits were attributed to negative factors such as poor profitability or difficulty in securing financing. Although this marks a slight improvement from 85.0% in 2019, it remains one of the highest negative-exit rates among GEM countries. Lack of profitability remains the top reason (31.1%), followed by financing constraints (21.9%). New to the 2024 landscape, war-related factors were cited in 7.1% of exits. Positive exit motivations, such as selling a business or pursuing new opportunities, increased marginally from 15.0% to 18.1%, though Armenia still ranks 41st among GEM countries in this category.

(v) Use of Digital Technology and Artificial Intelligence

- **Low intent to adopt digital technologies among established businesses:** Armenian entrepreneurs, particularly those managing established businesses (EBOs), report lower-than-average intentions to expand digital technology use. While 48.3% of early-stage entrepreneurs (TEAs) expect to

increase their use of digital tools for sales and operations in the next six months, only 29.2% of EBOs expressed similar intentions. This places Armenia's EBOs 45th out of 51 GEM countries on this indicator. Women entrepreneurs show slightly higher digital readiness (50.9% of TEAs) than men (46.6%), with readiness also increasing alongside education and income levels.

- **Limited perceived importance of artificial intelligence (AI):** Armenian entrepreneurs report relatively low expectations regarding the role of AI in shaping their business models. Only 22.8% of TEAs and 17.5% of EBOs consider AI tools "very important" over the next three years. These data place Armenia 32nd and 37th, respectively, out of 51 countries, falling below the GEM average. Perceptions of AI's relevance remain uneven across demographic groups and sectors, indicating gaps in awareness and practical exposure.
- **Sectoral and firm size disparities in technology adoption:** Expectations for digital and AI adoption are notably higher in the Business Services and Transformative sectors (e.g., ICT, manufacturing, construction), compared to the Extractive and Consumer Services sectors, where adoption remains limited. Firm size also plays a critical role: larger businesses (6+ employees) show significantly higher digital engagement than micro-enterprises and single-owner businesses. Armenia's high share of small and informal firms contributes to its overall lower adoption rates.
- **Limited value placed on specific digital tools:** Armenian entrepreneurs consistently rank the importance of common digital tools well below global averages. Among EBOs, tools such as email communication, email marketing, company websites, and social media are all rated as having low importance, placing Armenia between 45th and 50th out of 51 countries in 2024 GEM. Social media emerged as the most commonly used tool, though still with limited strategic integration. TEAs rated these tools slightly higher than EBOs, but overall adoption still trails GEM benchmarks. More advanced tools, including e-commerce platforms, data analytics, cloud computing, and AI, were also rated as relatively unimportant, especially by EBOs.
- **Cost concerns overshadow AI optimism:** The leading barrier to adopting AI technologies is the perceived cost of implementation and associated

challenges. Armenian entrepreneurs ranked cost-related concerns higher than data security or privacy issues, which are typically cited more frequently in other countries. At the same time, TEAs in Armenia demonstrate exceptionally high optimism about AI's potential benefits. They ranked first among all GEM countries for expecting AI to drive revenue growth and second for anticipating improved risk management. This mix of high expectations and limited adoption suggests that enthusiasm may be driven more by general optimism than by hands-on experience with AI technologies.

(vi) The Entrepreneurship Context

- **Improved NECI performance:** Armenia's overall entrepreneurial environment, as measured by the National Entrepreneurship Context Index (NECI), showed clear improvement in 2024. The country's NECI score rose from 4.63 in 2019 to 4.85 in 2024, lifting Armenia's global rank from 27th out of 54 countries to 20th out of 56. Within the "Eastern Europe+" regional group, Armenia now ranks 4th. This improved standing reflects both domestic progress and declines in several higher-ranked countries.
- **Strengths in regulatory and cultural support:** National experts identified "government policy: taxes and bureaucracy" as a major strength of Armenia's entrepreneurial ecosystem, ranking 4th out of 56 GEM countries. The business environment is regarded as relatively easy to navigate, with low registration costs and moderate regulatory burdens. "Cultural and social norms" supporting entrepreneurship were also rated positively, placing Armenia 11th worldwide. These strengths foster a generally encouraging environment for starting and managing businesses.
- **Persistent weaknesses in education, R&D, and infrastructure:** Despite regulatory progress, significant structural weaknesses remain. "Entrepreneurial education" continues to receive among the lowest scores in GEM, with Armenia ranking near the bottom—49th (out of 56 countries) for post-school education and only marginally better for primary and secondary levels. The transfer of research and development (R&D) from academic institutions to businesses is also weak, ranking 42nd, which undermines the potential for innovation-led entrepreneurship. Additionally, expert

assessments noted a decline in the perceived quality and affordability of physical infrastructure, particularly rental spaces for new businesses.

- **Mixed performance on sustainability and gender equality:** Experts reported that sustainability is not a high priority for most entrepreneurs or government policies, with Armenia falling below GEM averages in this domain. Conversely, Armenia scored highly on perceived gender equality in access to entrepreneurial resources—ranking 4th out of 56 GEM countries—indicating that finance and market access are seen as equally available to men and women. However, this perception contrasts with actual participation rates, where a significant gender gap in entrepreneurial activity persists, suggesting deeper societal or cultural barriers.
- **Low institutional readiness for AI adoption:** Expert assessments corroborated survey findings regarding Armenia's limited preparedness for AI integration. Experts noted low awareness of the role of AI among entrepreneurs, limited availability of related training and education, and a lack of institutional support or ethical frameworks. Armenia lags both the GEM global average and regional peers in terms of AI readiness across nearly all institutional dimensions.
- **Priority areas for policy and ecosystem development:** National experts highlighted several key areas for improvement. Chief among these were strengthening entrepreneurial education at all levels—schools, universities, and vocational training—and enhancing the transparency, predictability, and internationalization support of government policies. These priorities closely mirror recommendations made in the 2019 report, indicating slow progress and the ongoing urgency of systemic reform to support Armenia's entrepreneurial development.

CHAPTER I. INTRODUCTION

Data is the new oil. It's valuable, but if unrefined it cannot really be used

CLIVE HUMBY
Mathematician and data science entrepreneur

AMERIA
MANAGEMENT ADVISORY

GEM Global Entrepreneurship Monitor

1.1 An introduction to GEM

Economists and business gurus broadly define the term “entrepreneurship” as the aspiration of an individual, group of people, or an established business to create a new business or venture development. Entrepreneurs are often perceived as innovators or even pioneers of new production or services. Entrepreneurship is a vital component in any economy in terms of income and jobs. The path of development and the growth level of entrepreneurship are different in each country, likewise its impact on economy. Each economic system has unique policies and leverage to support and encourage entrepreneurship in the country. Entrepreneurship should be measured and monitored to shape an appropriate policy and development path in each country. As each economy has unique features, entrepreneurship challenges can differ in each economy. However, the challenges of entrepreneurship in any economy need to be addressed and be in line with international institutions, which are directed to support sustainable growth and economic development. It is particularly important for a country to develop proper entrepreneurship policy in order to fulfill the United Nations Sustainable Development Goals (SDGs). The development of entrepreneurship helps support the following goals:

- ✓ SDG 1: End poverty in all its forms everywhere.
- ✓ SDG 8: Promote inclusive and sustainable economic growth, employment and decent work for all.
- ✓ SDG 10: Reduce inequality within and among countries.

Over the past 25 years, the Global Entrepreneurship Monitor (GEM) has systematically and consistently measured the level of entrepreneurial activity in various countries. GEM is non-profit social entrepreneurship venture founded by the London Business School and Babson College in 1997. Now a global consortium, GEM consists of national teams who use the same precise research methodology, sample design and survey tools to collect nationally representative data on entrepreneurship. A key distinguishing feature of GEM research is that its findings reflect the first-hand perspectives of entrepreneurs. The first GEM Global Report was published in 1999. Since that time, GEM has surveyed over 4 million adults in 120 countries worldwide. The Global Report provides a comprehensive set of indicators

on entrepreneurship to describe the entrepreneurial climate in each economy surveyed. The annual global reports are launched in the first quarter of the following year and posted on the GEM official website.[1] The global report is then followed by national reports prepared by each national team focusing on their economy.

In February 2025, GEM published its 26th annual report. The 2024/2025 GEM Global Report surveys 161,520 adults (between the ages of 18 and 64) across 51 countries and 2,412 experts from 56 countries. This is the second time in GEM history, when Armenia has been included in the study. First participation of Armenia in GEM studies was in 2019. Ameria CJSC is a national partner of the GEM Consortium in Armenia responsible for implementing all activities under the scope of the study. Founded in 1998, Ameria CJSC is one of oldest and leading management advisory companies in Armenia. Ameria was responsible for conducting the Adult Population Survey (APS) and National Expert Survey (NES) according to the GEM methodology and preparing the 2024 GEM National Report for Armenia.

The report provides a broad but comprehensive overview of development and issues in the entrepreneurial sector in Armenia. The analysis takes into account a comparison of observed indicators with other countries. Another advantage of 2024 National Report for Armenia against the previous 2019 report is that in 2024 it is possible also to monitor development in Armenia's entrepreneurship during recent 5 years, comparing data from 2024 with those of 2019. Moreover, availability of Armenia in 2019 and 2024 GEM studies allows to compare Armenia's progress with the development in the world and with the countries in different regional groups. A special focus in the report is made on the main peer countries defined as "Eastern Europe +". In 2024 this group includes two countries from the Eurasian Economic Union (EAEU)[2] – Belarus and Kazakhstan, as well as other Eastern European countries. Other countries from the region did not participate in 2024 GEM, but were represented in previous reports: Georgia (2014 and 2016), Russia (2002-2021), Iran (2008-2023) and Turkey (2006-2021).

[1] https://www.gemconsortium.org/report

[2] EAEU countries are Armenia, Belarus, Kazakhstan, Kyrgyzstan and Russian Federation

1.2 GEM Methodology

GEM developed the appropriate methodology to measure entrepreneurship based on data collection by national teams in participating countries. The methodology is composed of two complementary tools: APS and NES.

APS

The APS is a unique instrument designed to measure the level and characteristics of entrepreneurial activity in a country. While most surveys focus on enterprise data while measuring entrepreneurship, the **GEM APS** focuses on individuals, assessing their attitudes and perceptions towards entrepreneurship. This allows for a unique profile of entrepreneurship in society. Surveying individuals can also help to capture information on the "informal" economy which is not captured by official statistics or other enterprise-focused surveys. The size of the informal economy is especially significant in small developing countries. Although Armenia is currently working towards encouraging informal activity to enter the formal economy, informal economy still has quite a significant role in the national economy.

A representative sample size of at least 2000 respondents is used in each country. This sampling size ensures statistical accuracy of +/- 2.2% (at 95% confidential level) for indicators at national level.

The APS has a specific questionnaire which is composed of about 100 questions divided into different blocks and modules. A 5-point Likert scale[3] is used for each question to assess entrepreneurial attitudes, perceptions, and motivations of respondents. Each block represents a different category of entrepreneurship. The following blocks were in the 2024 GEM APS questionnaire:

1. INTRODUCTION: entire sample
2. BLOCK 1: nascent entrepreneurs
3. BLOCK 2: owner-managers + special topic
4. BLOCK 3: potential and discontinuing + special topic
5. BLOCK 4: informal investors
6. BLOCK 7: demographics

[3] A 5-point Likert scale: from strongly agree (SA)=5, agree (A)=4, Neutral (N)=3, Disagree (DA)=2 to strongly disagree (SDA)=1

Special topics in the 2024 GEM Global Report relate to sustainable entrepreneurship and a key topic of interest - entrepreneurship in a new age of digital marketing - reporting results from new questions added to the GEM portfolio, including that of entrepreneurial awareness of artificial intelligence. Both topics - sustainability and artificial intelligence (AI) - are important components of the 2024 global context.

NES

The APS provides detailed information about entrepreneurial activity in a given economy, but it does not cover the economic, social, or political context that may encourage, support, or discourage entrepreneurial activity in the country. GEM argues that entrepreneurship development can be linked to the unique conditions existing in a particular country which either encourage or hinder a new business establishment. These conditions are known as Entrepreneurial Framework Conditions (EFCs). The ASP does not, however, cover these country-specific conditions for enterprise. To address the EFCs, the APS is complemented by the **GEM NES**, which requires surveying at least 36 carefully selected individuals with specific national expertise and knowledge. The uniqueness of the NES therefore is the focus on EFCs rather than on general economic factors. The NES is designed to collect data on following entrepreneurial framework conditions:

1. Financing for entrepreneurs
2. Government Policy (governmental public policies for entrepreneurs)
3. Governmental Programs
4. Entrepreneurship Education and training
5. R&D Transfer
6. Commercial and Professional Infrastructure
7. Internal Market Openness
8. Physical and Services Infrastructure
9. Social and Cultural Norms

In addition to these core EFC components, 2024 GEM NES included also 3 special topics of questions, namely Pursuing the UN's Sustainable Development Goals, Women's entrepreneurship and Artificial Intelligence and entrepreneurship.

Each selected expert must be a person involved in any above-mentioned phase of the entrepreneurial processes. GEM NES experts are selected based on their experience; age and gender are non-restrictive in this case.

2024 APS and NES in Armenia

The Armenia National Team adopted the GEM methodology for their GEM researches in 2019 and 2024. In accordance with GEM, 2000 respondents within the 18-64 age range were surveyed through the APS in Armenia. Multi-stage sampling was used to ensure a proportional distribution of the sample size across the 11 administrative units of Armenia (Yerevan and 10 *marzes*/regions). 2000 interviews were collected from three strata: Yerevan, other urban areas, and rural areas. The sample size in each stratum included responses from different administrative regions of Armenia in order to collect a more representative set of data for the country. Within each selected area, households[4] were chosen by applying a random route procedure; in the final stage, respondents were selected from within a household using the "next birth" method. The GEM methodology allows up to +/- 15% deviation of a random sample from predefined quotas of age and gender. In the case of Armenia, soft quotas were applied to the last stage of sample collection and the weights were used to avoid any disproportion. The fieldwork took place from May-June 2024. Surveys with respondents were conducted through face-to-face interviews.

37 experts from Armenia participated in the 2024 NES. The expertise covers each EFC. Experts were contacted by Armenia's National Team and asked to complete the NES questionnaire (available both in English and in Armenian) online or by email. NES data were collected during April-June 2024.

1.3 GEM conceptual framework

National economic growth and prosperity are explained in traditional economics by focusing on the exploitation of natural resources and the roles of big business and trade. More recent iterations add in factors such as localized agglomeration economies, innovation, and the development of human capital. Entrepreneurial activities take place within the specific context of a given environment with its own unique social, cultural, and economic characteristics. Within each environment,

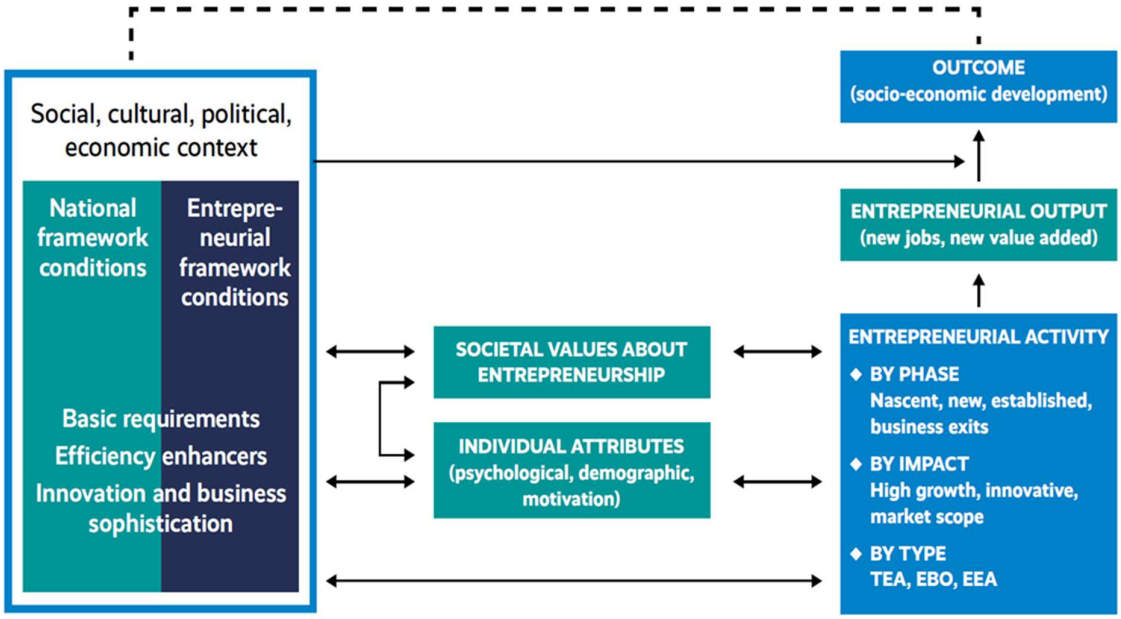
[4] The official definition of household by Armstat (Statistical Committee of the Republic of Armenia) is a group of individuals living together, running a single economy, and sharing a unified budget.

entrepreneurial activity (or creation and development of a business) is a result of individual's perceptions of an opportunity and ability to act.

The GEM conceptual framework is outlined in Figure 1. Entrepreneurial activity is jointly determined by social values and individual attributes and creates added value and jobs. But the framework also accounts for the social, cultural, political, and economic context, which both influences and is influenced by this activity.

The two GEM Surveys — both the APS and the NES — give substance to the conceptual framework by identifying those factors that influence entrepreneurial activity and providing important policy implications for those policymakers, practitioners, and other stakeholders seeking to expand levels of entrepreneurship. The rigorous GEM methodological approach turns survey responses into precise measures of the level of entrepreneurial activity, providing relevant data for policymakers to monitor and evaluate the impacts of policies and initiatives.

Figure 1. The GEM conceptual framework



Source: 2019/2020 GEM Global Report

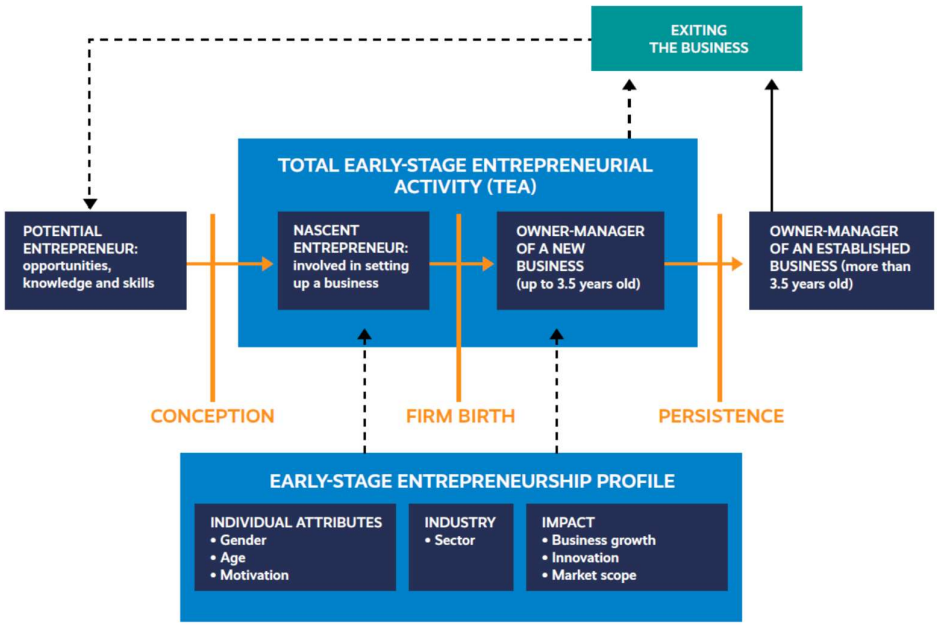
1.4 How GEM measures entrepreneurship

GEM defines **entrepreneurship** as the act of starting or running a new business, and **entrepreneurial activity** is therefore defined as the proportion of adults

actively engaged in starting or running a new business. Monitoring and measuring levels of entrepreneurial activity is important because the propensity to start new businesses is a crucial ingredient in the process of economic development, and thus a key driver of prosperity.

GEM's key indicators of the phases of business development – from the phase of starting and running a new business to the phase of established business ownership – are presented in Figure 2. Figure 2 also highlights the implications of business exits, after which individuals may start another business or continue to be involved in entrepreneurial activity in other ways. Discontinuing a business can be an important phase of entrepreneurship, providing important learning for the individuals involved (and for the future businesses they may create) and relevant knowledge to other potential and actual entrepreneurs. One important indicator for GEM research is the level of **Total early-stage Entrepreneurial Activity (TEA)**, or the proportion of the working-age adult population actively engaged in starting or running a new business. TEA is the sum of those actively starting a new business (nascent entrepreneurs), plus those already running a new business (owner-managers of a new business), minus any double-counting (those who fall into both categories). Those who are running a business that has paid wages for 42 months or more are categorized as **Established Business Owners (EBO)**.

Figure 2: Entrepreneurial phases and GEM entrepreneurship indicators



Source: 2019/2020 GEM Global Report

Main definitions

Nascent Entrepreneur – someone involved in setting up a business but who has not yet paid salaries, or made any other payments, including to the founder(s), for three months or more.

Owner-Manager of a new business – someone who runs a business and has paid wages, or other payments, including to the founder(s), for three months or more but for less than 42 months.

Established Business Owner - someone who runs a business that has paid wages for 3.5 years (42 months) or more.

1.5 Hypotheses of the Armenia National Team before the 2024 GEM study in Armenia

Based on experts' perceptions in Armenia – and taking into account the questions discussed during the GEM surveys – we have put forward several hypotheses about entrepreneurship in Armenia. These hypotheses were either confirmed or rejected by the GEM results in Armenia. The hypotheses are discussed at the end of each corresponding chapter.

Here are the main hypotheses grouped by the Report Chapters:

Chapter 2:

1. The perception that it is easy to start a business in Armenia has improved compared to 2019.
2. The fear of failure among Armenians remains at a high level despite their confidence in their knowledge, skills, and experience.
3. Younger individuals in Armenia are more optimistic about business opportunities and exhibit a lower fear of failure in 2024.

Chapter 3:

4. Entrepreneurial activity among Armenians has increased compared to 2019.
5. TEA, EBO economic structure changed to more productive.
6. Yerevan as the focus of entrepreneurship, concentration not decreased.
7. Entrepreneurship of women have higher increase vs men.

8. The impact of age on entrepreneurship remains significant, with a particular emphasis on a younger audience. (The hypothesis was that the 18–24 age group has become more engaged in entrepreneurship).
9. The engagement in entrepreneurship in rural regions remains higher than in Yerevan due to limited alternative sources of income.

Chapter 4:

10. Even though in 2019 main motivation for both TEAs and EBOs to start a business was scarceness of jobs, in 2024 it changed, and the main reason for starting a business is "to build a great wealth or higher income".
11. Majority of TEAs are "one-man businesses".
12. In 2024-25 Armenia is in Top 10 countries by the indicator of anticipating more than 25% of their income from abroad.

Chapter 5:

13. Informal investments in Armenia are primarily directed toward financing the business ventures of family members.
14. The higher an individual's level of education, the less likely they are to engage in informal investments.
15. Informal investments are more common in the regions than in Yerevan, primarily due to the limited employment opportunities available in the regions.
16. Informal investors are predominantly men, with their investments primarily directed toward promoting the growth of women's entrepreneurship.
17. People in Armenia tend to be cautious about committing substantial amounts of money to informal investments, indicating that this trend is unlikely to have shifted significantly since 2019.
18. Informal investors do not tend to view starting a new business as a desirable career choice for most people in Armenia.

Chapter 6:

19. The purposes for Business exits in Armenia have not improved: share of positive reasons for business exits has not increased.
20. Business continuation rates after exits have not improved.

Chapter 7:

21. Women entrepreneurs in Armenia are more intended to use digital tools in their business.

22. Armenian regions with higher GDP per capita show a higher adoption of digital tools among entrepreneurs.

Chapter 8:

23. Financial resources are easy to access but they are not sufficient.

24. Entrepreneurial education and R&D transfers represent weak links in the entrepreneurial development process.

25. The government policies and programs are supportive for new and growing firms.

1.6 Assessment of Household income in Armenia according to 2024 GEM

This report presents analysis of results of 2024 GEM for Armenia's total population of 18-65 age and also by main groups of population: regional breakdown, gender, age groups, education and income level (see the structure of population by these groups in Annex 1). While all the groups represent socio-demographic breakdown of population, income breakdown is the one that changed significantly between 2024 GEM and 2019 GEM.

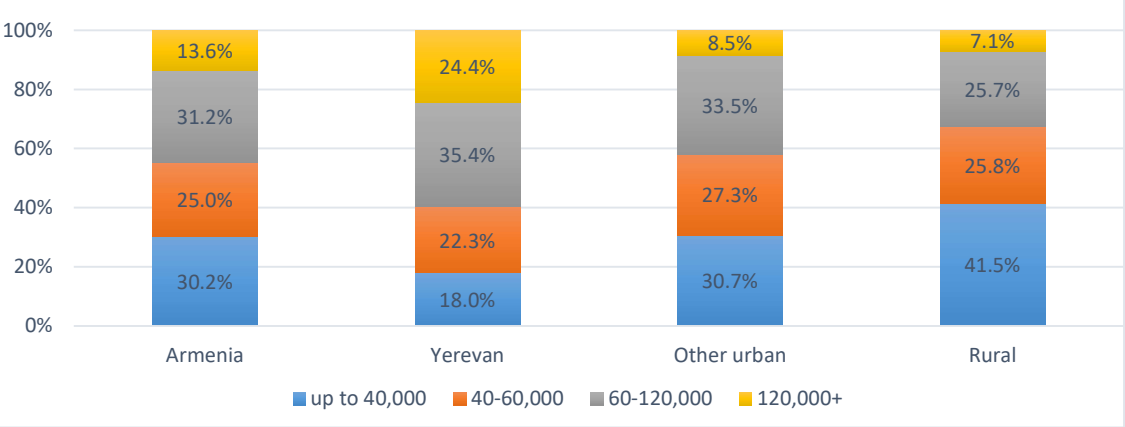
2024 GEM APS questionnaire allows to get information on income level of households of the respondents, as well as to get their subjective assessment of their income level changes compared to the previous year. While household income itself may not be a good estimate for the level of welfare, as it depends also on the number of household members and their structure, we have estimated an indicator of an **average monthly income per adult equivalent**, using estimate of household monthly income, number of members in households and average share of adults in Armenian households. Applying survey weights for each respondent it is possible to get the structure of Armenia's 18-65 age population by average income per adult groups.

The structure of Armenian population of 18-65 age with 2024 GEM APS data by income level groups has the following picture:

- **Lowest income group**: Population in households with up to 40,000 AMD average monthly income per adult – 30.2%
- **Lower Middle-income group**: Population in households with 40,000-60,000 AMD average monthly income per adult – 25.0%
- **Upper Middle-income group**: Population in households with 60,000-120,000 AMD average monthly income per adult – 31.2%
- **Higher income group**: Population in households with over 120,000 AMD average monthly income per adult – 13.6%.

Average household income in Yerevan is higher compared to other urban areas and rural areas. As expected, the structure of population by income level in Yerevan is largely different compared to the population in marzes. 24.4% of Yerevan's population is in the highest income group (as defined above), while only 8.5% of population in other urban areas and 7.1% of population in rural areas is in this group. Correspondingly other urban areas and especially rural areas have larger share of population in the lowest income group.

Figure 3. Armenia: The structure of population by income groups (household income per adult equivalent, in AMD), 2024

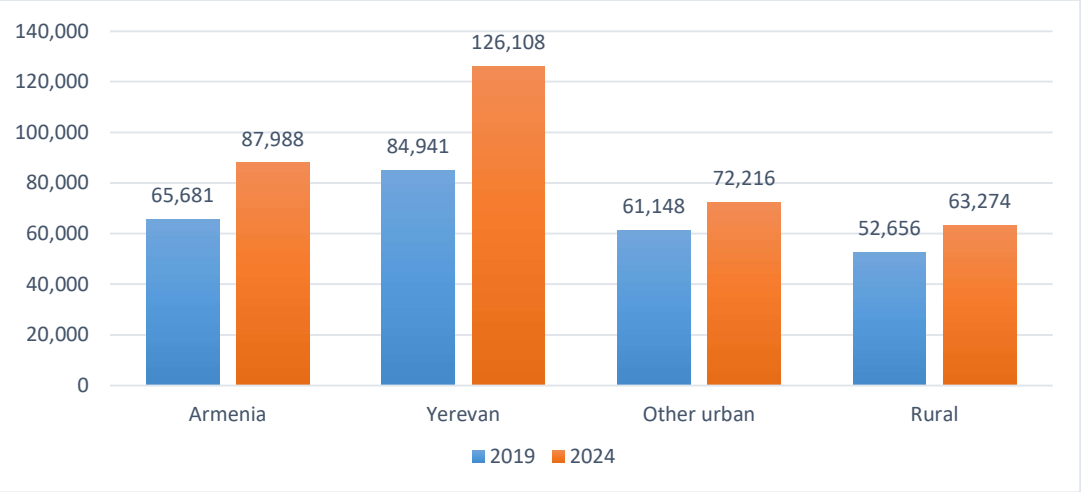


Source: GEM Armenia: Adult Population Survey 2024

Average household income in Armenia in 2024 increased compared to 2019, but income polarization in the country has also increased. According to 2024 GEM APS results, the average monthly income household in Armenia was 270 thousand AMD, which is by 36% higher compared to the similar indicator from 2019 GEM

(198.5 ths AMD)[5]. With the indicator of household income per adult equivalent 2024 estimate is 88 thousand AMD, which is around 34% higher compared to 2019 (in nominal values). At the same time, income polarization by regions is registered. The average monthly income per adult equivalent in Yerevan (126.1 thousand AMD in 2024) increased by 48.5% (compared to 2019) and exceeded the average in Armenia by 43.3%, and this gap increased by 10.8 percentage points compared to 2019. Due to the outpacing growth of this indicator in Yerevan, in other urban and rural areas of Armenia with moderate growth compared to 2019, the negative gap from the average indicator of Armenia increased (in other urban areas - by 17.9 p.p. to 11.8% or in rural areas - by 28.1 p.p. to 10.3 %).

Figure 4. Armenia: Changes of average monthly income per adult equivalent 2024 GEM vs 2019 GEM (in AMD)



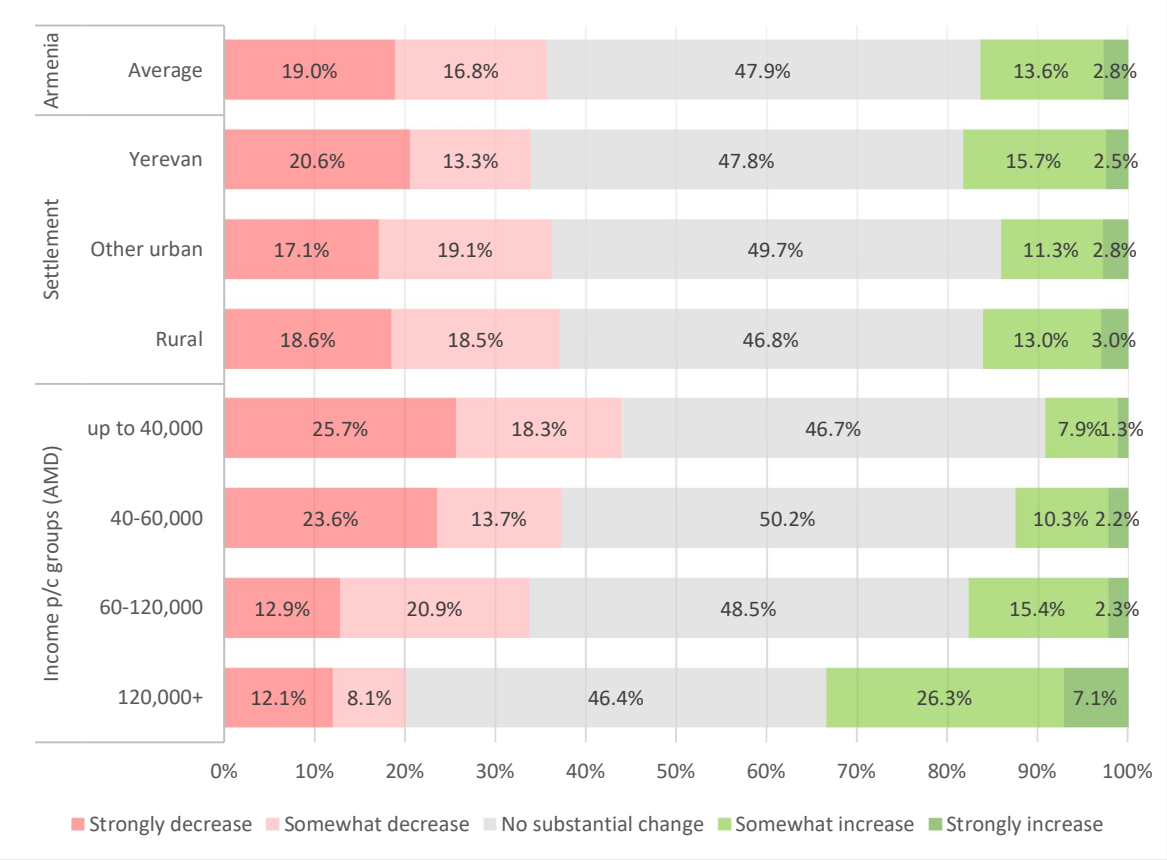
Source: GEM Armenia: Adult Population Survey 2019 and 2024

While an increase in household income level is registered in Armenia when comparing 2024 GEM with 2019 GEM results, respondents' subjective assessment of their household income changes in 2024 against previous year (2023) indicated overall decrease in average level. Particularly, 35.8% of population in 2024 reported decrease (somewhat or strongly) in their income level compared with the previous year, while only 16.4% reported an increase (somewhat or strongly). Based on this assessment and estimation of 2024 and 2019 household income, as well as

[5] Adult equivalent per capita household income increase level is also confirmed by Armstat's household survey data, where increase between 2023 (latest available year) and 2019 is 34%. At the same time nominal increase in GDP per capita between 2024 and 2019 was 51% (in AMD).

economic growth during this period, we can state that increase in household income between 2019 and 2024 can be mainly contributed to 2022-2023, which is due to opportunities to substitute Russian market import as well as inflow of population, businesses and capital to Armenia from Russia.

Figure 5. Armenia: The structure of population reporting about their income changes in 2024 compared to the previous year



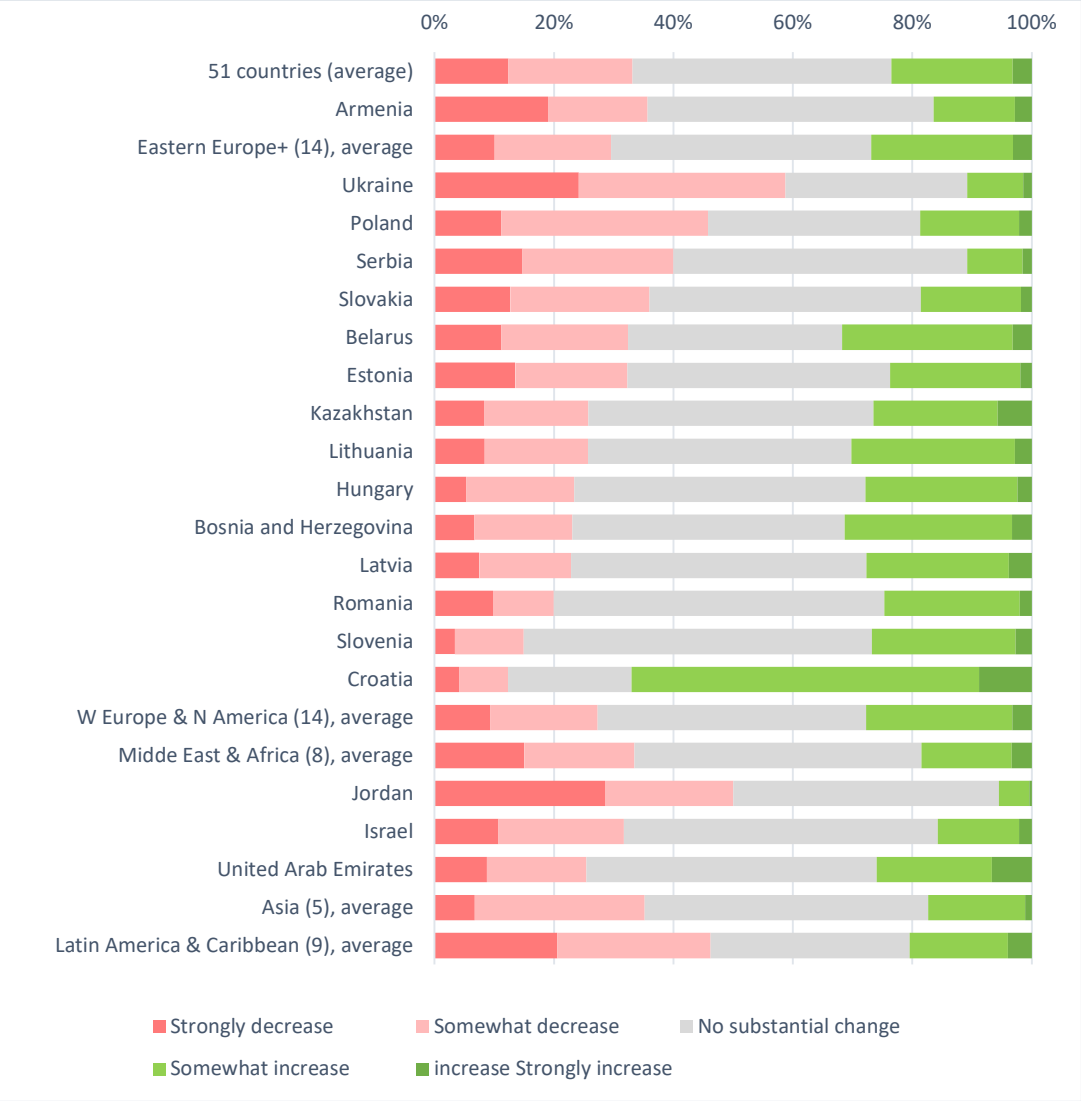
Source: GEM Armenia: Adult Population Survey 2024

Interesting that population's subjective assessment of their income changes against previous year in 2024 showed that population from lower income groups had registered a decrease, while population from the highest income group had registered and increase in their income in 2024. **This means, that while increase in average household income in Armenia stopped in 2024 (compared to 2022-2023), the polarization of income among population continued.**

Overall, in 2024 average household income decrease registered in most countries in 2024 GEM: 33 out of 51 economies having more people reporting a decrease in household income than an increase. Armenia's indicator is below

average for 51 countries in 2024 GEM. Difference between population shares reporting increase and decrease in household income in Armenia was -19.3 percentage points, while on average for 51 GEM countries the difference was -9.6 percentage points. Armenia's indicator is 37th out of 51 countries in 2024 GEM and 12th out of 15 countries in "Eastern Europe+" (Ukraine, Poland and Serbia households had more negative assessment).

Figure 6. The percentage of adults reporting about income in 2024 by countries / regions



Source: GEM: Adult Population Survey 2024

CHAPTER II. THE SOCIAL AND CULTURAL FOUNDATIONS OF ENTREPRENEURSHIP

Entrepreneurial behavior is a function of the opportunities people perceive and the cultural norms that shape how they respond to those opportunities

DAVID AUDRETSCH
Economist and entrepreneurship scholar

AMERIA MANAGEMENT ADVISORY

GEM Global Entrepreneurship Monitor

2.1 Introduction to the assessment

Social and cultural attitudes toward entrepreneurship shape how individuals perceive entrepreneurial careers and influence the societal legitimacy of business creation. These attitudes contribute to the broader environment in which entrepreneurs operate—affecting not only personal motivation but also the level of community and institutional support for new ventures. When entrepreneurship is viewed positively, it creates fertile ground for risk-taking, innovation, and economic dynamism.

GEM provides a framework for assessing these attitudes by examining societal values, social perceptions, and self-perception related to entrepreneurship. This approach helps identify the factors that influence entrepreneurial activity and determine the extent to which entrepreneurship is supported within society.

By analyzing these elements, it becomes possible to gain deeper insights into how entrepreneurship is embedded in a country's social fabric and the conditions that shape its development.

2.2 Values system towards entrepreneurship in a country

Entrepreneurial values in a society shape the overall business environment, influencing how individuals perceive and engage with entrepreneurship. These values determine whether starting a business is seen as an attractive career path, how entrepreneurs are recognized, and to what extent business success is highlighted in public discourse. While cultural attitudes evolve, they tend to remain stable over time, reflecting historical and economic contexts.

To assess these perceptions, the GEM Adult Population Survey (APS) includes a set of statements measuring societal attitudes toward entrepreneurship. Respondents are asked whether they agree with the following:

"In your country …"

- *Most people would prefer that everyone had a similar standard of living* (**Equal income**).
- *Most people consider starting a new business a desirable career choice* (**Career choice**).
- *Those successful at starting a new business have a high level of status and respect* (**Status**).
- *You will often see stories in the public media and/or on the internet about successful new businesses* (**Media**).
- *You will often see businesses that primarily aim to solve social problems* (**Social problems**).

According to 2024 GEM APS, Armenia continues to demonstrate a strong entrepreneurial culture, ranking high in key indicators compared to global trends. The country maintains a high level of support for entrepreneurship as a career choice – 87.6% of respondents consider starting a business a desirable career path (5th out of 51 GEM countries and 1st in "Eastern Europe+"[6] region).

Armenia also holds leading positions in the perception of business as a tool for solving social problems (5th out of 51 GEM countries and 1st out of 15 "Eastern Europe+" countries). The share of respondents who believe that businesses primarily aim to address social issues increased from 69.4% to 74.2% compared to 2019, significantly exceeding the 2024 GEM countries' average. This growth may be a result of different opportunities in growth for different industries and sectors of economy as well as different uncertainties brought by external developments in recent years. More people think that in such circumstances those who gain profits from external developments should help those who suffer.

The recognition of entrepreneurs remains stable – 74.0% of respondents note that those who succeed in starting a business enjoy a high level of status and respect. Media coverage of entrepreneurship has also remained stable – 76.0% of respondents report that successful entrepreneurs are widely covered in the media and online (4th among 15 "Eastern European+" countries). High media exposure and public recognition foster a positive attitude toward entrepreneurship, encouraging new initiatives and strengthening trust in the business environment.

[6] "Eastern Europe +" in the context of this report is presented by main peer countries with Armenia. This group includes Armenia, 13 Eastern Europe countries and Kazakhstan.

Table 1. Armenia vs GEM 51: Value system statements about entrepreneurship

	% of adults in Armenia agreeing with statement, 2024	GEM 51 countries average, 2024	Armenia's rank, 2024		Score difference 2024 (Armenia vs GEM)	Armenia score 2024 vs 2019	GEM score 2024 vs 2019	Score difference 2019 (Armenia vs GEM)
			in all 51 countries of GEM	in 15 E. Europe countries				
Most people would prefer that everyone had a **similar standard of living**.	65.7%	65.1%	17	8	0.6	-7.1	-0.8	6.9
Most people consider starting a new business a **desirable career choice**.	87.6%	68.6%	5	1	19.0	0.4	2.9	21.6
Those successful at starting a new business have a high level of **status and respect**.	74.0%	75.4%	27	7	-1.4	0.6	2.4	0.5
You will often see stories in the **public media** and/or internet about successful new businesses.	76.0%	69.6%	15	4	6.3	-0.2	3.6	10.1
You will often see businesses that primarily aim to **solve social problems**.	74.2%	46.1%	5	1	28.2	4.8	1.2	24.6

Source: GEM Adult Population Surveys, 2019 and 2024

However, there is a significant decline in support for income equality – the share of respondents agreeing that *"everyone should have the same standard of living"* decreased from 72.8% in 2019 to 65.7% in 2024 (-7.1 pp). Nevertheless, this indicator remains close to the average among GEM countries (65.1%), which likely reflects a shift in economic perspectives toward a market-oriented model and growing acceptance of individual success and competition. This trend may reflect a generational shift. As in other post-Soviet countries, Armenia is experiencing a gradual transformation of societal values. The influence of those whose views were shaped under the Soviet planned economy—where income equality was a central ideological tenet - is declining, while younger generations, shaped by market dynamics and global digital culture, increasingly prioritize personal achievement, competition, and financial autonomy.

GEM APS 2024 data largely confirms the trends identified in 2019, although there are some changes in the relationships between economic factors and the perception of entrepreneurship:

- As in 2019, there is no strong relationship between GDP per capita and most value system indicators, confirming the idea that entrepreneurship is shaped not only by income levels but also by socio-cultural factors. The negative correlation (statistically significant) between GDP per capita and the perception of entrepreneurship as a desirable career choice remains at -0.37 (compared to -0.39 in 2019), indicating that in higher-income countries, entrepreneurship remains a less popular career choice as people have more employment opportunities.

- The relationship between poverty and entrepreneurship as a career choice has weakened but correlation remains moderate (and statistically significant): in 2019, the correlation was 0.54, whereas in 2024, it declined to 0.41. This suggests that while entrepreneurship as a career choice is still more common in countries with higher poverty rates, the influence of other factors has grown also.

- The relationship between poverty and expectations for businesses to address social issues remains moderate (and statistically significant): the correlation between poverty levels and the belief that businesses should solve social problems was 0.42 in 2019 and 0.46 in 2024. This indicates that in countries with high poverty levels there are higher public expectations for businesses to contribute to social and economic problem-solving.

Table 2. Correlation between value system indicators and indicators of income, poverty by GEM countries

	GDPpc	*GINI*	*Poverty*	*Equal inc.*	*Career cho.*	*Status*	*Media*	*Social probl*
GDPpc								
GINI	-0.21							
Poverty (below $6.85)	-0.48	0.30						
Equal income	-0.13	-0.21	0.20					
Career choice	-0.37	0.15	0.41	0.35				
Status	0.13	-0.19	0.17	0.42	0.55			
Media	-0.13	0.08	0.23	0.64	0.69	0.55		
Social problems	-0.13	0.03	0.46	0.33	0.61	0.55	0.64	

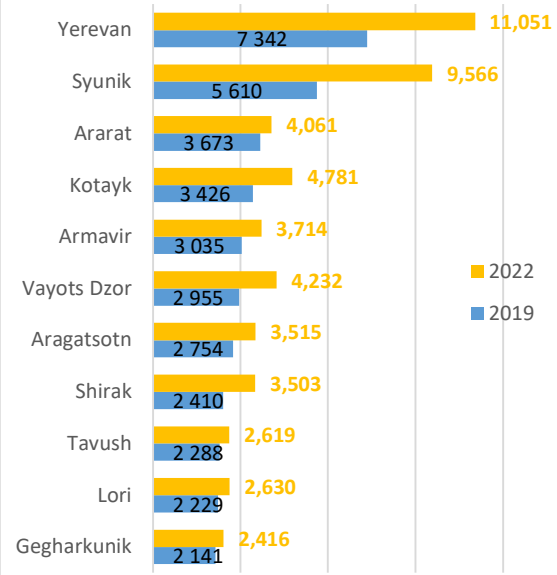
Source: Armenia GEM Team calculations, GEM Armenia: Adult Population Survey 2024

- The correlation between poverty and support for income equality has weakened and become statistically not significant. in 2019, the correlation was 0.41. This suggests that although populations in poorer countries still support income redistribution, this tendency is becoming less pronounced.

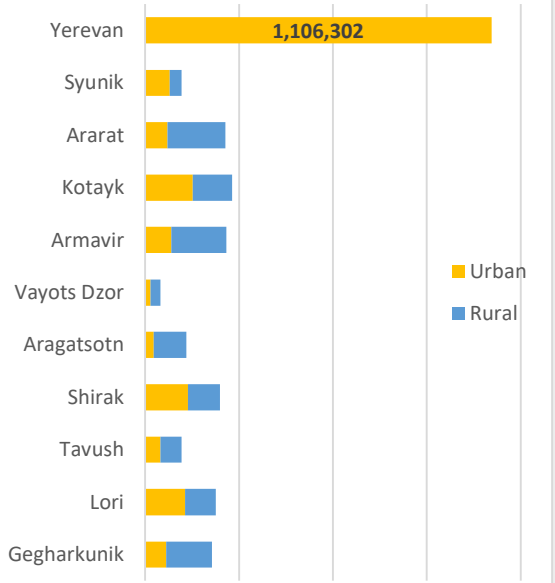
- The relationship between media presence and the perception of entrepreneurship has strengthened: the correlation between media coverage of business and the social status of entrepreneurs rose from 0.55 in 2019 to 0.69 in 2024. This confirms that the more actively entrepreneurship is represented in the media, the greater the public recognition of successful business owners.

Insert 1. Regional differences in Armenia

GDP per capita by marzes (regions) in Armenia (2019/2022), USD



Population by type of settlement



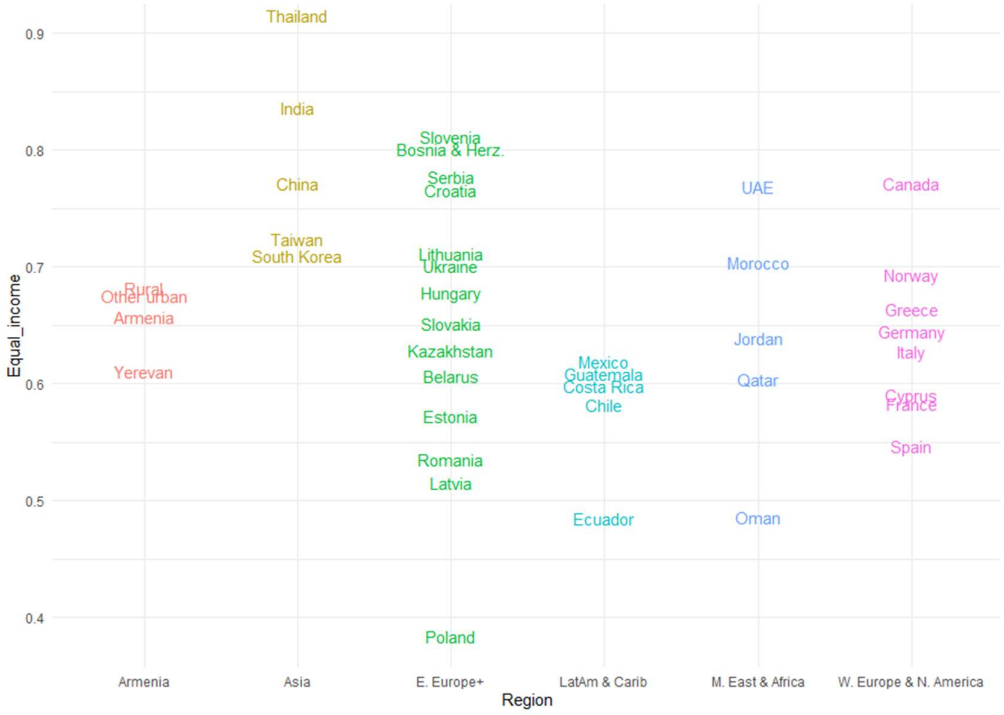
Source: Armstat (latest available data by regions)

- *In 2023, Armenia's GDP per capita reached $8,125, showing significant growth compared to $4,597 in 2019. However, regional disparities remain substantial.*
- *While GDP per capita for Armenia stood at $6,616 in 2022, Yerevan continues to dominate the economy, with a GDP per capita of $11,051, significantly exceeding the national average and more than four times higher than in some regions. Syunik remains the second most developed region, with a GDP per capita of $9,566, largely driven by the mining industry, while Lori and Gegharkunik lag behind.*
- *Yerevan, home to more than a third of the country's population (1.1 million people), generates 62.1% of Armenia's GDP, highlighting its disproportionately high contribution to the economy. The capital also remains a key hub for trade and services, which continue to play a major role in economic activity.*
- *The remaining regions are at least four times smaller in population than Yerevan, while rural areas account for more than a third of Armenia's total population (1.08 million people).*

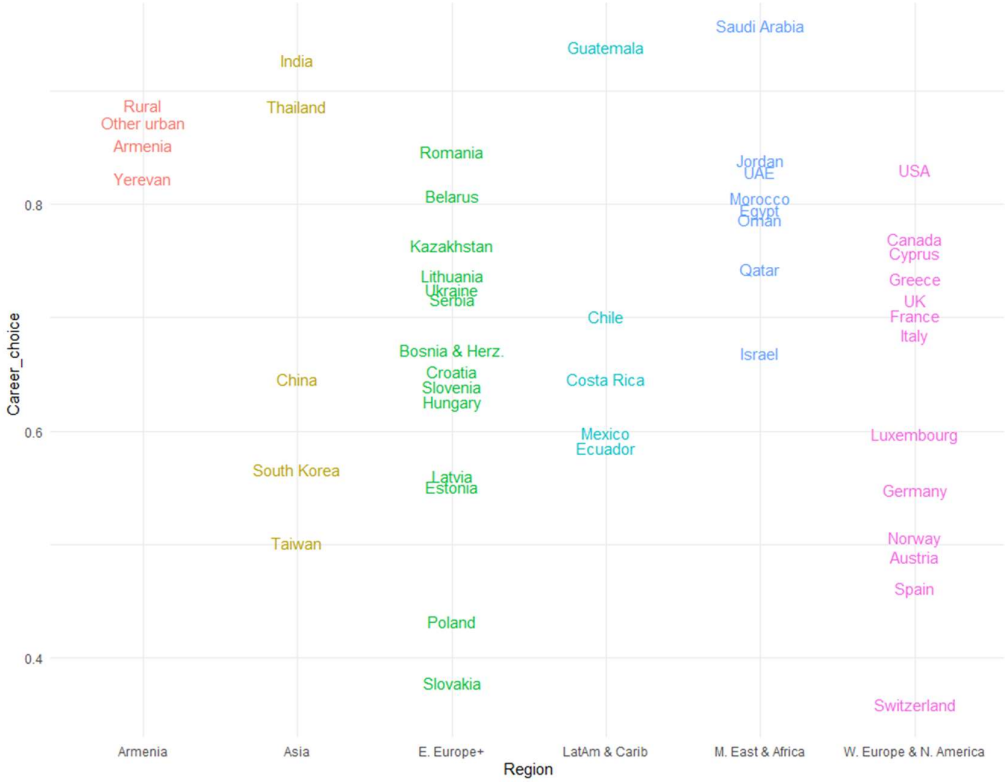
The 2024 trends indicate that entrepreneurship continues to play a significant role in Armenia's economic landscape. As in 2019, Armenia ranks among the top 20 countries in the GEM for 4 out of 5 value system indicators. However, the perception of entrepreneurship, its value, and its social function varies significantly across regions. In general, the share of those who agree with all five statements is lower in Yerevan compared to other urban areas and rural regions, reflecting the influence of socio-economic conditions, the level of competition, the availability of alternative career opportunities, and the degree of business engagement in addressing social issues.

Figure 7. Armenia (including regions) vs GEM 51: Value system statements toward entrepreneurship (% of adults agreeing with statement)

a) "similar standard of living"



b) "business is a desirable career choice"



c) "new businesses have status and respect"

d) "successful businesses in public media"

e) "businesses aim to solve social problems"

Source: GEM Adult Population Survey 2024

As previously noted, **65.7% of Armenia's population agrees with the statement that "everyone should have a similar standard of living."** Unlike in 2019, when support for income equality was significantly higher in rural areas compared to urban regions, by 2024, this gap has nearly disappeared, indicating a convergence of economic views across different regions. The most significant changes were observed among young people aged 18-24, where support for income equality dropped from 70.1% in 2019 to 51.6% in 2024, highlighting a growing generational divide as younger individuals increasingly reject the strong necessity of equal income distribution in society. Women remain more likely to support income redistribution, but the gap between men and women has narrowed, though it still persists. Higher education and income levels continue to correlate with lower support for income equality, a trend unchanged since 2019, reinforcing that wealthier and more educated groups are more inclined toward individual success and market-driven principles.

Overall, 87.6% of the population in Armenia believes, "starting a business is a desirable career choice". Unlike in 2019, when support for entrepreneurship was relatively equal across regions, by 2024, this indicator increased to 90.7% in rural areas, while in Yerevan, it declined to 82.7%, possibly due to expanding employment opportunities in the capital. Entrepreneurship remains most attractive to individuals aged 25-44, reflecting a growing interest in business among the economically active population. Women continue to support entrepreneurship more than men (89.5% vs. 85.4%), and the gender gap has slightly widened, which may indicate increased female engagement in business and a stronger drive for financial independence. The trend observed in 2019, where support for entrepreneurship declines with higher levels of education and income, continues in 2024.

In 2024, 74.0% of Armenia's population agrees that successful entrepreneurs have a high level of status and respect, which is nearly the same as in 2019 (73.4%). As before, entrepreneurship continues to be more respected in rural areas compared to urban regions and is also viewed more positively by women than men. The recognition of entrepreneurial status has more increased among middle-aged individuals, perhaps due to generational shift. The trend remains that higher levels

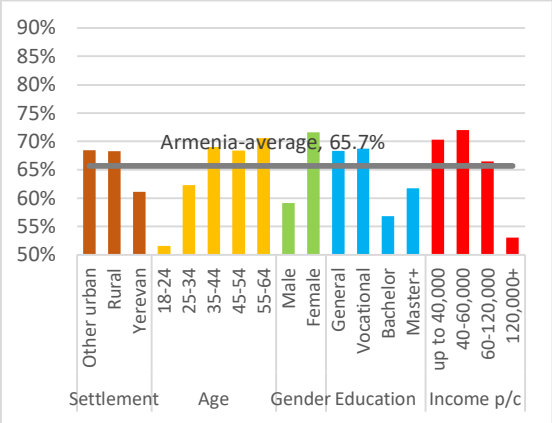
of education and income are associated with lower recognition of entrepreneurial status.

Overall, 76.0% of the population in Armenia believes that stories about successful entrepreneurs frequently appear in the media and online, an indicator that has remained nearly unchanged from 2019 (76.2%). Unlike in previous years, media coverage of entrepreneurship has become more prominent in rural areas (79.5%) compared to urban regions, including Yerevan (71.9%), indicating increased attention to entrepreneurship in the regions. The gender gap persists, with women (81.9%) more likely than men (69.3%) to acknowledge extensive media coverage of businesses, which may be linked to their greater engagement with media and online content. In 2024, the highest level of agreement with this statement was recorded among young people aged 18-24 (80.1%), whereas in 2019, this age group was not the most supportive, reflecting their growing consumption of digital content.

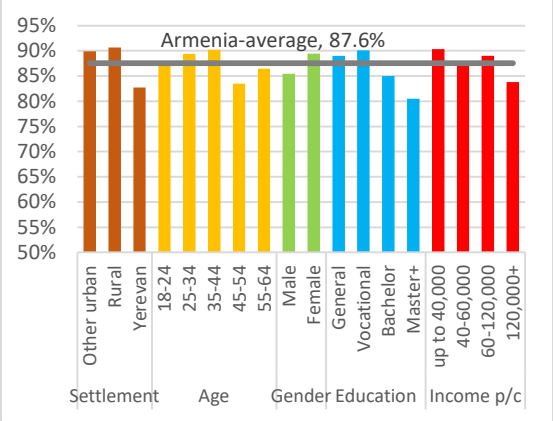
In 2024, 74.2% of Armenia's population agrees with the statement that business is primarily aimed at solving social problems. The perception of the social role of business has become most pronounced in rural areas (81.8%) compared to Yerevan and other cities, with this gap widening since 2019. Support for this idea has also increased among young people: among respondents aged 18-24, the level of agreement rose from 66.1% in 2019 to 74.5% in 2024, which may reflect their growing expectations for businesses to contribute to addressing societal challenges. Unlike in 2019, when men and women equally recognized the significance of business's social function, in 2024, men (76.5%) were more likely to support this statement than women (72.2%). As in 2019, higher levels of education and income correlate with lower support for this idea.

Figure 8. Armenia: Value system statements toward entrepreneurship (% of adults agreeing with statement) by different population groups

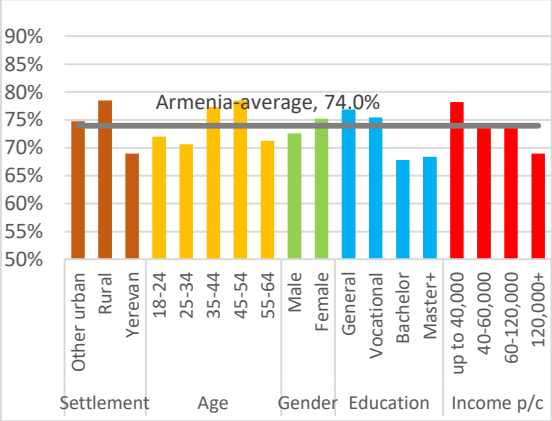
a) "prefer similar standard of living"



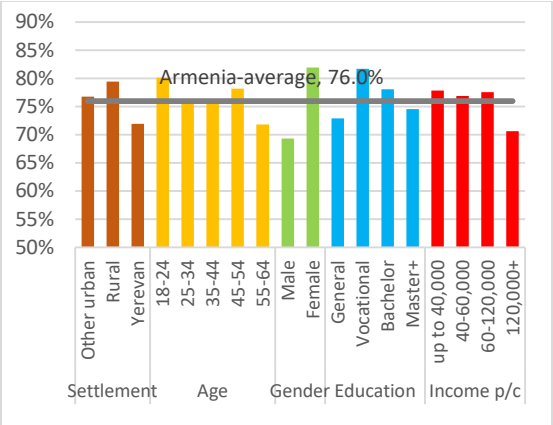
b) "business is a desirable career choice"



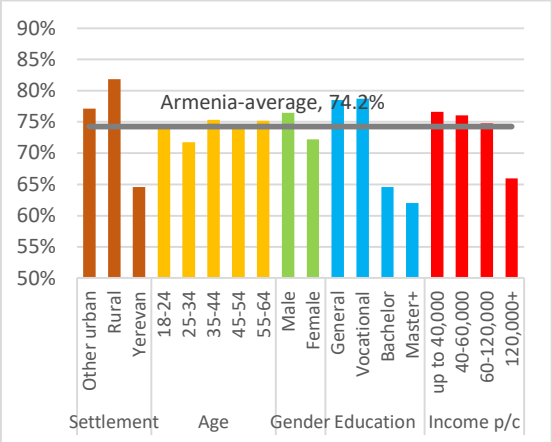
c) "those who start new business have status and respect"



d) "successful businesses in public media"



e) "see businesses that aim to solve social problems"



Source: GEM Armenia: Adult Population Survey 2024

2.3 Social perception toward entrepreneurship – the attitude

Entrepreneurship develops within a social and cultural context that influences individuals' willingness to start a business and the conditions for its growth. Social perception toward entrepreneurship can either support or constrain the individuals' decision to engage in entrepreneurship.

The 2024 GEM APS survey assesses social perception toward entrepreneurship through three key indicators:

- *Whether respondents personally know someone who has started a business or become self-employed in the past two years* **(Knowing)**.
- *Whether there will be a good opportunity to start a business in the area where they live for the next six months* **(Opportunity)**.
- Whether it is easy to start a business in the country **(Ease)**.

Personal acquaintance with entrepreneurs reflects awareness of business activities and the influence of one's environment on the decision to start a business. A high level of such connections can motivate individuals to pursue entrepreneurship; however, negative experiences with business failures may foster skepticism toward entrepreneurship. The perception of business opportunities reflects how the population evaluates the economic environment for launching and developing entrepreneurial initiatives. A high level of optimism in this regard indicates a favorable entrepreneurial climate, whereas a lower level of agreement may suggest a lack of confidence in economic stability or restricted access to necessary resources. The perceived ease of starting a business reflects public opinion on regulatory and procedural barriers. If the process is seen as complicated, it may discourage entrepreneurial activity, whereas a positive perception indicates a more favorable business environment.

In 2024 compared to 2019, the shares of population who agreed to the 3 mentioned statements on social perceptions of entrepreneurship decreased. The decrease was reflected not only in absolute indicators, but also relative to other countries in GEM. While Armenia ranked within 20th to 24th positions in 2019 GEM with all 3 statements, in 2024 GEM it ranks within 24-31 positions.

Compared to 2019, the share of respondents who personally know someone who started a business in the past two years dropped from 55.6% to 48.8% (-6.8 pp), which is lower than average for 51 countries in 2024 GEM, unlike 2019, when it was higher than GEM average. This decline placed Armenia at 33rd among 2024 GEM 51 countries and 9th out of 15 countries in the "Eastern Europe+" region. Lower awareness on people starting a business compared to 2019, is confirmed with lower number of those starting a business as discussed in Chapter 3. Such result, perhaps, may be unexpected, considering economic opportunities and growth in recent two years in Armenia, but this result may indicate that economic growth was not largely contributed by new people in entrepreneurship (compared to 2019) and was largely due to businesses which already existed or new businesses of people who already were engaged in entrepreneurship.

One of the reasons of decrease in the number of population starting a business (compared to 2019) is perhaps a decline in the perception on available business opportunities. The share of respondents who "believe there will be good opportunities for starting a business in their area over the next six months" stood at 51.4% in 2024 (31st out of 51 GEM countries and 7th out of 15 countries in "Eastern Europe+"). This indicator is significantly below the 2024 GEM average (55.7%), while in 2019, Armenia's indicators was a bit better than 2019 GEM average (53.9% vs 53.6%). Such changes in social perceptions toward entrepreneurship in Armenia, perhaps, can be explained with different overall socio-economic and geopolitical situation in and around the country – positive expectations in 2019 (after political changes in 2018) against intense uncertainties in 2024 for developments in mid-term and long-term considering regional and geopolitical tensions.

The perception of the ease of starting a business has also slightly declined (47.0% vs 49.2% in 2019). However, Armenia's ranking remains stable (24th out of 51 GEM countries and 5th out of 15 countries in "Eastern Europe+" region). Slight decrease in perception of easiness to start a business in Armenia in 2024 against 2019, corresponded with slight decrease in indicators for GEM countries in average, as a result, Armenia's indicator still remains close and a bit lower than GEM average (47.0% vs 48.8%) This indicates that, despite potential challenges, the overall accessibility of entrepreneurship in Armenia remains on par with most other countries.

Table 3. Armenia vs GEM 51: Social perception statements about entrepreneurship

	% of adults in Armenia agreeing with statement, 2024	GEM 51 countries average, 2024	Armenia's rank, 2024		Score difference 2024 (Armenia vs GEM)	Armenia score 2024 vs 2019	GEM score 2024 vs 2019	Score difference 2019 (Armenia vs GEM)
			in all 51 countries of GEM	in 15 E. Europe countries				
If they **know someone personally who has started a business** in the past two years.	48.8%	56.2%	33	9	-7.4	-6.8	3.1	2.5
Whether there will be a **good opportunity** for starting a business in the area where they live in the next six months.	51.4%	55.7%	31	7	-4.3	-2.5	2.0	0.2
Whether it is **easy to start a business**.	47.0%	48.8%	24	5	-1.8	-2.2	-1.4	-1.0

Source: GEM Armenia: Adult Population Surveys, 2019 and 2024

Interesting linkages can be observed through the correlations between social perception statements, value system factors, and economic conditions by GEM countries. Key observations include:

- Personal acquaintance with entrepreneurs ("Knowing") remains largely uncorrelated with the value system and economic indicators. In 2019, there was a moderate correlation between "Knowing" and "Career Choice" (the correlation was 0.38), meaning that people who personally knew entrepreneurs were more likely to consider business as an attractive career option. In 2024, this correlation had weakened to 0.22 and become statistically not significant, suggesting that knowing entrepreneurs now plays a lesser role in shaping career choices.
- The expectation of good business opportunities ("Opportunity") continues to positively correlate with most value system indicators. The most significant strengthening in correlation (compared to 2019) is seen between "Opportunity" and "Social Problems". While in 2019, the correlation was 0.55, by 2024, it had risen to 0.71. This suggests that people who perceive a favorable business environment are also more likely to believe that entrepreneurship should play an important social role.
- The perception of the ease of starting a business ("Ease") is now less dependent on a country's income level and more influenced by value system factors. In 2019, "Ease" had a moderate positive correlation with "GDP per

capita" (the correlation was 0.37), while in 2024, this correlation had weakened and become statistically not significant. At the same time, the correlations between "Ease" and the public status of entrepreneurs ("Status") as well as with media coverage of business ("Media") had strengthened (both rose from 0.22 to 0.37). This suggests that the perception of business accessibility is now less shaped by income level of a country and more by public recognition and media visibility of entrepreneurs.

Table 4. Correlation of social perception indicators with value system and country income indicators by 2024 GEM countries

Indicators		*Knowing*	*Opportunity*	*Ease*
Social perception	Knowing			
	Opportunity	0.31		
	Ease	-0.04	0.62	
Value system	Equal Income	0.02	0.19	0.09
	Career Choice	0.22	0.51	0.18
	Status	-0.05	0.47	0.37
	Media	0.19	0.57	0.37
	Social problems	0.16	0.71	0.43
Country income	GINI	0.29	0.23	-0.28
	Povert (below $6.85)	-0.05	0.34	0.12
	GDPpc	-0.14	-0.15	0.24

Source: Armenia GEM Team calculations, GEM Armenia: Adult Population Survey 2024

In 2024, 48.8% of Armenia's population reported knowing at least one person who had recently started a business. As in 2019, younger people were more likely to be acquainted with entrepreneurs. Moreover, the share of those familiar with entrepreneurs declined among older age groups: from 54.4% to 40.2% among 45-54-year-olds and from 43.9% to 34.5% among 55-64-year-olds. This further reinforces the trend that the likelihood of knowing entrepreneurs decreases with age as entrepreneurship itself has similar age distribution. As before, higher education remains an important factor in knowing entrepreneurs. At the same time, income disparities have become more pronounced. While in 2019, entrepreneurial connections were relatively balanced across all income groups, by 2024, differences became more evident. In the highest income group (120,000+ AMD), the share of those knowing entrepreneurs increased from 59.7% to 67.7%, whereas among those with the lowest incomes (below 40,000 AMD), it declined from 54.2% to 39.8%. This may indicate that entrepreneurial activity itself becomes

more widespread for population with higher household income (it is also possible that engaging in entrepreneurship itself may lead to an increase in income). Additionally, in 2019, rural residents were the most likely to report knowing entrepreneurs, but by 2024, this indicator had declined to 44.9%, making it lower than in Yerevan (49.0%) and other urban areas (54.0%). This change corresponds to the decrease in entrepreneurship in rural areas and increase in urban areas in the regions due to decline in agriculture, as discussed in Chapter 3.

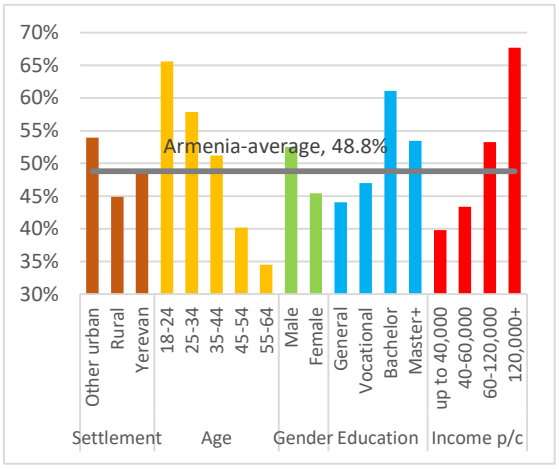
In 2024, 51.4% of Armenia's population agreed with the statement that "there will be good opportunities to start a business in the next six months", which is slightly lower than the level recorded in 2019. Nevertheless, the main perception patterns by different population groups remain unchanged. As before, men assess business prospects more optimistically, while young people continue to show the highest confidence in entrepreneurial opportunities. Residents of regional areas, as in previous years, perceive business prospects more positively than the population of Yerevan. Whereas in 2019, respondents with the highest level of education (master's degree or higher) were the most optimistic about business prospects (58.7%), by 2024, this group had become the least optimistic (40.9%). This may indicate that individuals with higher qualifications more cautiously assess the current economic uncertainties and potential entrepreneurial opportunities. The impact of income level on the perception of business opportunities remains moderate: respondents with incomes above 120,000 AMD (54.0%) and those in the 60,000-120,000 AMD range (54.6%) show the highest level of optimism, which has remained almost unchanged compared to 2019.

Overall, in 2024 47.0% of Armenia's population believes that "it is easy to start a business in the country". Men continue to perceive starting a business in the country as easy, with their share remaining almost unchanged (52.6% in 2019 and 53.3% in 2024). At the same time, the proportion of women holding this view has slightly declined from 46.1% to 41.1%, possibly due to the more optimistic expectations in 2019 following the 2018 political changes in Armenia, which by 2024 have become more balanced. As in 2019, older individuals are more likely to believe that starting a business is easy compared to younger people, who have made more attempts and encountered more difficulties. Rural residents continue to perceive business accessibility more positively than urban residents, but the gap has narrowed. In Yerevan, the perception of business accessibility declined to 40.6%, remaining the lowest among all 3 regional groups. This may be linked to the

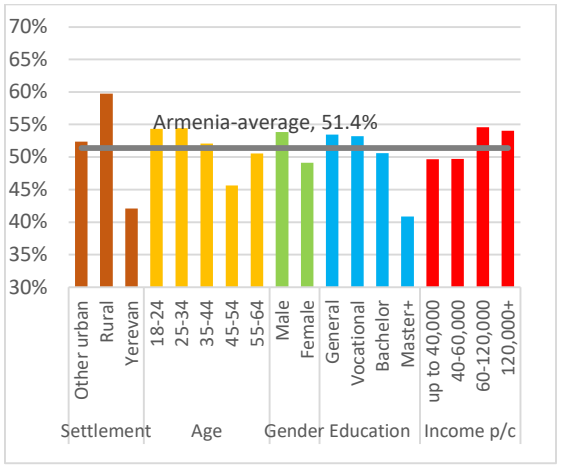
perception of a more competitive market and stricter administrative barriers. As before, respondents with higher incomes are more likely to consider starting a business easy, which may reflect their greater access to resources and opportunities.

Figure 9. Armenia: Social perception statements toward entrepreneurship (% of adults agreed with statement) by different groups of population

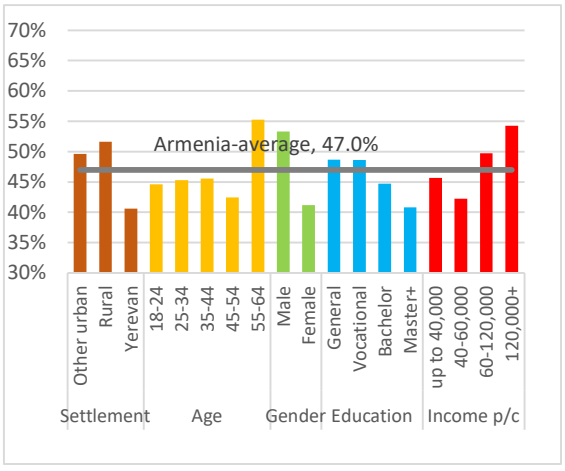
a) "know someone who have started a business"



b) "there will be good opportunities for business"



c) "it is easy to start a business"



Source: GEM Armenia: Adult Population Survey 2024

2.4 Self-perception indicators

Entrepreneurial activity is largely determined by how individuals perceive their own abilities and the risks associated with starting a business. Even if the external environment appears favorable for launching a business, the key factor remains internal confidence in possessing the necessary knowledge and skills, as well as the ability to cope with potential failures.

The 2024 GEM APS survey evaluates two key self-perception indicators, reflecting, on the one hand, people's confidence in their entrepreneurial competencies and, on the other, the extent to which the fear of failure acts as a barrier to starting a business:

- *You personally have the knowledge, skills, and experience required to start a new business* **(Knowledge and skills)**.
- *You would not start a business for fear it might fail* **(Fear of failure)**.

In 2024, 59.6% of Armenia's population agreed that they have the knowledge, skills, and experience required to start a business. This indicator has decreased by 10.4 percentage points compared to 2019 (70.0%), leading to Armenia's drop from 12th out of 50 countries in 2019 GEM to 24th place among 51 countries in 2024 GEM. While in 2019, Armenians confidence in their entrepreneurial skills significantly exceeded the GEM average (70.0% vs. 58.3%), by 2024, the situation had changed: the global average increased to 60.0%, while Armenia's indicator declined, bringing it almost in line with the global level.

One possible factor contributing to the decline in confidence in entrepreneurial skills is, perhaps, a shift in public perception of the business environment: while in 2019, following the political changes, there was a surge of optimism toward entrepreneurship, which may have led to an overestimation of business competencies as people perceived a more open and accessible entrepreneurial landscape, by 2024, this effect had weakened, and perceptions of entrepreneurship became more realistic, which may have resulted in a more critical self-assessment of entrepreneurial abilities.

Interestingly, while the average level of fear of failure among 2024 GEM countries has increased over the past five years from 43.6% to 48.6%, Armenia

has experienced a slight decline. In 2024, 47.2% of the Armenian population stated that they would not start a business due to fear of failure, registering statistically not significant decrease against 2019 (50.8%). As a result, whereas in 2019, Armenia's fear of failure exceeded the 50 GEM average (50.8% vs. 43.6%), by 2024, it had dropped slightly below the global level (47.2% vs. 48.6%), and the country moved from 10th to 31st place among GEM countries, showing greater alignment with global trends. However, a decline in fear of failure does not necessarily imply increased confidence in entrepreneurship, but rather reflects a shift in risk perception.

Table 5. Armenia vs GEM 51: Self-perception statements about entrepreneurship

	% of adults in Armenia agreeing with statement, 2024	GEM 51 countries average, 2024	Armenia's rank, 2024		Score difference 2024 (Armenia vs GEM)	Armenia score 2024 vs 2019	GEM score 2024 vs 2019	Score difference 2019 (Armenia vs GEM)
			in all 51 countries of GEM	in 15 E. Europe countries				
Personally **have the knowledge, skill and experience** required to start a new business.	59.6%	60.0%	24	5	-0.4	-10.4	1.7	11.7
Would not start a business for **fear it might fail.**	47.2%	48.6%	31	10	-1.4	-3.6	5.0	7.2

Source: GEM Armenia: Adult Population Surveys, 2019 and 2024

As in 2019, the perception that one "would not start a business for fear it might fail" ("Fear to Fail") does not show a significant correlation with most other indicators, whereas the belief that one "personally has the knowledge, skills, and experience required to start a new business" ("Skills") maintains a moderate correlation with the majority of indicators.

Some key patterns observed in 2019 remain relevant in 2024. The stronger the awareness of entrepreneurship—expressed through "personally knowing someone who has started a business or become self-employed in the past two years" ("Knowing") and exposure to "stories in the public media and/or on the internet about successful new businesses" ("Media")—the higher individuals' self-assessment of their entrepreneurial competencies. Additionally, the negative correlation with GDP per capita and the positive correlation with poverty persist. This confirms a previously identified trend: in countries with lower income levels and higher poverty rates, more people believe they possess the necessary skills to start a business, whereas in more developed economies, this confidence tends to be lower.

Table 6. Correlation of self-perception indicators with the value system, social perception, and country income indicators by GEM countries

Indicators		*Skills*	*FearFail*
Self-perceptions	Skills	1	
	FearFail	-0.15	1
Value system	Equal Income	0.28	0.16
	Career Choice	0.55	0.28
	Status	0.23	0.21
	Media	0.55	0.12
	Social problems	0.47	0.27
Social perception	Knowing	0.44	0.02
	Opportunity	0.63	0.00
	Ease	0.21	0.03
Country income	GDPpc	-0.42	-0.06
	GDPpcPPP	-0.44	-0.07
	GINI	0.49	-0.20
	Povert (below $6.85)	0.43	0.03

Source: Armenia GEM Team calculations, GEM Armenia: Adult Population Survey 2024

Key changes identified in 2024:

- One of the most notable changes is the shift in the correlation between "Skills" and "Fear to Fail." In 2019, this correlation was positive (0.30), meaning that even individuals who considered themselves competent in business still experienced fear of failure. However, by 2024, the correlation became negative (-0.15) and statistically not significant to come across with any conclusion.
- The correlation between "Skills" and "whether there will be a good opportunity to start a business in the area where they live for the next six months" ("Opportunity") increased from 0.47 in 2019 to 0.63 in 2024. This could indicate that either individuals who perceive themselves as having entrepreneurial skills now recognize good business opportunities more frequently, or, conversely, that the perception of favorable conditions contributes to greater confidence in their own competencies.

Although the overall level of confidence in having the knowledge and skills to run a business has declined compared to 2019, differences between population groups remain noticeable:

- As in 2019, the highest confidence in entrepreneurial skills is observed among younger age groups: all three age groups within 18-44 range register above average level of confidence of their skills (~63-65%). At the same time, among older age groups (45 and above), confidence is lower. This confirms that confidence in entrepreneurial skills peaks in the most economically active age groups.
- The gender gap in confidence has not only persisted but has slightly widened in 2024 compared to 2019. In 2019, 77.9% of men and 62.7% of women believed they had the necessary knowledge and skills to start a business, with a gap of 15.2 percentage points. By 2024, this difference had increased: confidence among men declined to 68.4%, while among women, it dropped to 51.6%, expanding the gender gap to 16.8 percentage points. This suggests that women have become more critical in assessing their entrepreneurial competencies, which may reflect shifting perceptions of business challenges and opportunities.
- In 2024, confidence in entrepreneurial skills continues to show a positive correlation with higher levels of education and income, reinforcing the idea that financial stability and education play a key role in shaping self-perception in business competencies.
- Regional differences in confidence levels have narrowed. In 2019, Yerevan residents demonstrated the highest confidence level (73.0%), significantly exceeding other regions. However, by 2024, the gap had nearly disappeared: confidence stood at 60.4% in Yerevan, 59.2% in other urban areas, and 59.1% in rural areas. This suggests that confidence in entrepreneurial skills is now less dependent on place of residence and is increasingly influenced by individual factors such as education and income.

In 2024, significant shifts are observed in age, gender, education, and regional differences in the perception of entrepreneurial risks:

- As in 2019, the highest level of fear of failure is observed among older age groups. While previously the lowest fear of failure was recorded among the 25-34 age group, in 2024, the youngest group (18-24) demonstrates the highest confidence in entrepreneurship (31.8%). Moreover, in 2024, a clear pattern emerges: the older a person is, the higher their level of fear of failure. This suggests that as people age, they become more cautious not only in

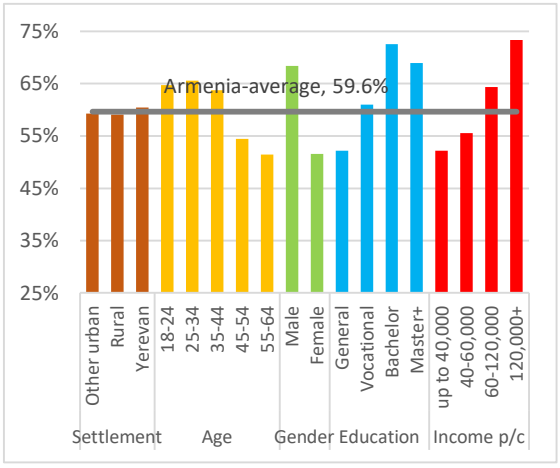
entrepreneurship but also in risk-taking in general, as increasing responsibilities and a heightened awareness of potential losses make them more risk-averse.

- The gender gap in fear of failure has remained stable over the years: in 2019, 55.7% of women and 45.1% of men experienced it, while in 2024, the indicators stood at 52.9% and 40.7%, respectively. This indicates that despite a slight overall decline in fear of failure among both genders, women remain more cautious in entrepreneurship.
- The 2024 data confirm that people with higher education levels exhibit lower fear of failure. This underscores the crucial role of education in reducing fear of entrepreneurship, possibly due to better preparation, access to knowledge, and the development of risk management strategies.
- One of the most significant changes compared to 2019 is the shift in the relationship between income levels and fear of failure. In 2019, respondents within the highest income group (100,000+ AMD per adult equivalent) demonstrated the highest level of fear (55.2%). However, in 2024, the situation changed: the highest income group now exhibits the lowest level of fear (29.6%), while among low-income group respondents (up to 40,000 AMD per adult equivalent), fear of failure is the highest (56.6%). This shift may be explained by the fact that financially secure individuals now have a greater financial safety net and are more willing to take risks, whereas low-income groups perceive entrepreneurial risk as a greater threat to their financial stability. Disrupted results in 2019 are most probably a result of changes in short-term expectations following the political changes in Armenia in 2018: at that time, low-income individuals were likely more optimistic about their economic prospects, whereas high-income individuals faced heightened uncertainty, leading to a temporarily reversed pattern in risk perception.
- Regional differences in the level of fear of failure have also changed over the past five years. In 2019, the highest level of fear was recorded among residents of other cities (53.6%), whereas in 2024, the highest rate is observed among rural population (50.4%). In contrast, in Yerevan, fear of failure remains the lowest (43.5%), reinforcing the trend of greater entrepreneurial confidence among the capital's residents. Increased fear to fail among rural

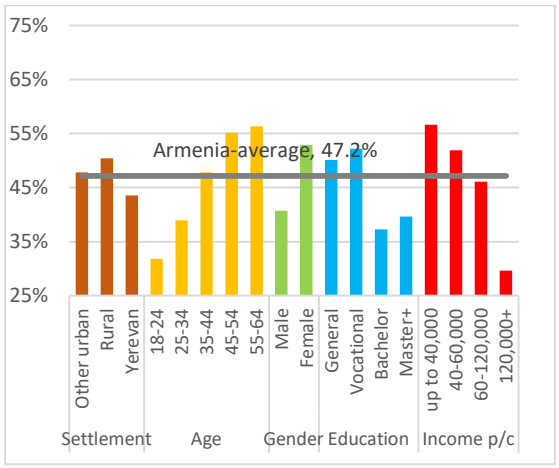
population is perhaps explained by lower success in entrepreneurship in agriculture due to its lower productivity compared to other sectors.

Figure 10. Armenia: Self-perception statements about entrepreneurship (% of adults agreed with statement) by different population groups

a) "have knowledge, skills and experience"



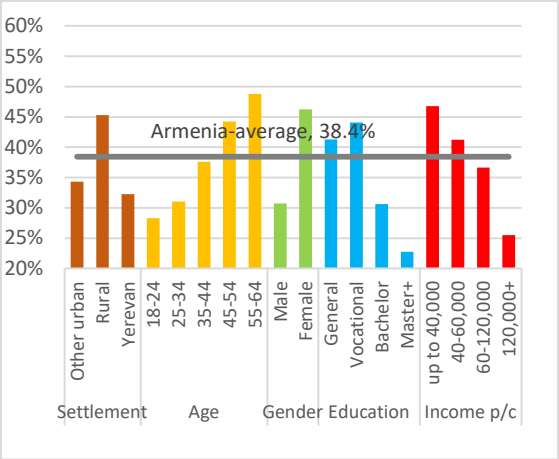
b) "would not start a business because of fear to fail"



Source: GEM Armenia: Adult Population Survey 2024

Interesting that when analyzing the fear of failure separately for those who see good opportunities for starting a business is lower compared to the whole population (38.4% against 47.2%). In Armenia, this difference is particularly notable, as the average indicator for 51 GEM countries is 46.3% (which is not much lower than for the whole population). Such difference between those who see good opportunities for Armenia and GEM average suggests that individuals who recognize business opportunities in Armenia are relatively less constrained by fear compared to global trends. With this indicator Armenia is 44th out of 51 countries in 2024 GEM (which means 8th lowest indicator of fear to fail among those who see good opportunities). At the same time, the trends by different population groups remain similar: women, older respondents, individuals with lower levels of education, and those with lower incomes exhibit a higher level of fear of entrepreneurial risks.

Figure 11. Armenia: Share of people who "would not start a business because of fear to fail" but "see good opportunities" (% of adults agreed with statement) by different population groups



Source: GEM Armenia: Adult Population Survey 2024

2.5 Entrepreneurial Talent

Entrepreneurial success depends not only on having the necessary skills or a low fear of failure but also on entrepreneurial talent, which determines an individual's ability to recognize, act upon, and leverage business opportunities. This talent plays a crucial role in shaping both the decision to start a business and the ambition to achieve long-term success. A set of statements in the GEM questionnaire were aimed at identifying perceived entrepreneurial talent in countries. The respondents were asked to agree or disagree with the following statements:

- *You rarely see business opportunities, even if you are very knowledgeable in the area* **(Opportunism)**.
- *Even when you spot a profitable opportunity, you rarely act on it* **(Proactivity)**.
- *Other people think you are highly innovative* **(Creativity or Innovative)**.
- *Every decision you make is part of your long-term career plan* **(Vision)**.

In 2024, 61.3% of the population in Armenia agreed with the statement that they "rarely see business opportunities, even if they are highly knowledgeable in the field" (22nd place out of 51 GEM countries and 7th out of 15 "Eastern Europe+" countries). This indicator decreased by 5.5 percentage points compared to 2019 (66.8%), indicating some improvement in the ability to recognize opportunities. Armenia's indicator is now slightly below the global average (64.2%), whereas in 2019, it exceeded it.

The share of the Armenian population that "rarely takes action, even when they notice a profitable opportunity" stood at 65.9% in 2024 (18th place out of 51 GEM countries and 9th out of 15 "Eastern Europe+" countries), which is almost similar to 2019 indicator (64.7%). Nevertheless, this indicator remains very close to the GEM 51 average (65.2%), suggesting that the level of entrepreneurial proactivity in Armenia is in line with the global trend.

The self-perception of creativity in Armenia declined by 7.0 percentage points: while in 2019, 80.5% of respondents believed that "others perceived them as highly innovative", in 2024, this indicator dropped to 73.5% (16th place out of 51 GEM countries and 3rd out of 15 "Eastern Europe+" countries). This decline may be attributed to developments related with the 2020 war in Artsakh (Nagorno-Karabakh), and ongoing regional instability, which may have reduced optimism and limited the self-assessment among the population. However, the perceived level of innovativeness in Armenia is still above the GEM average (67.6%), confirming a high self-assessment of creativity among the population.

The share of respondents who believe that "every decision they make is part of their long-term career plan" was 72.7% in 2024 (23rd place out of 51 GEM countries and 5th out of 15 "Eastern Europe+" countries), which is slightly lower than in 2019 (74.9%). While this indicator previously exceeded the GEM average, in 2024, it is now almost equal to it.

Table 7. Armenia vs GEM 51: Entrepreneurial talent statements

	% of adults in Armenia agreeing with statement, 2024	GEM 51 countries average, 2024	Armenia's rank, 2024		Score difference 2024 (Armenia vs GEM)	Armenia score 2024 vs 2019	GEM score 2024 vs 2019	Score difference 2019 (Armenia vs GEM)
			in all 51 countries of GEM	in 15 E. Europe countries				
You rarely see business opportunities, even if you are very knowledgeable in the area. **(Opportunism)**	61.3%	64.2%	22	7	-2.9	-5.5	5.3	7.9
Even when you spot a profitable opportunity, you rarely act on it. **(Proactivity)**	65.9%	65.2%	18	9	0.7	1.2	2.9	2.4
Other people think you are highly innovative. **(Creativity or Innovative)**	73.5%	67.6%	16	3	6.0	-7.0	1.3	14.2
Every decision you make is part of your long-term career plan. **(Vision)**	72.7%	73.3%	23	5	-0.7	-2.3	2.2	3.8

Source: GEM Armenia: Adult Population Surveys, 2019 and 2024

The GEM 2024 data reveals significant changes in the perception of key entrepreneurial talent characteristics compared to 2019. At the same time, several correlations between the indicators remain stable, reflecting persistent patterns in the entrepreneurial environment.

Changes compared to 2019:

- While data in 2019 showed correlation (0.49) between seeing business opportunities and acting on it, in 2024 this correlation weakened (0.26) and became statistically not significant. In addition, Strategic vision no longer supports proactive behavior as it did before, as the correlation between Vision and Proactivity noticed in 2019 disappeared in 2024. These changes may indicate a shift among entrepreneurs towards short-term decision-making rather than long-term strategic planning. This trend could be largely attributed to the effects of the COVID-19 pandemic, regional conflicts, and global economic instability, which have increased uncertainty and made long-term planning more difficult and risk-averse.
- The influence of media on the perception of innovativeness has significantly increased, with the correlation between Creativity and Media rising from 0.36 in 2019 to 0.57 in 2024. This highlights the role of the information

environment and media representation of entrepreneurs in shaping self-assessment of creativity.

Table 8. Correlation of entrepreneurial talent indicators with value system, social and self-perception, and country income indicators by 2024 GEM countries

		Opportunism	*Proactivity*	*Creativity*	*Vision*
Enrepren. Talent	Opportunism	1			
	Proactivity	0.26	1		
	Creativity	0.42	-0.06	1	
	Vision	0.52	-0.11	0.70	1
Country income	GDPpc	-0.34	-0.07	-0.26	-0.47
	GDPpcPPP	-0.38	-0.18	-0.23	-0.29
	GINI	0.19	-0.05	0.36	0.43
	Povert (below $6.85)	0.49	0.34	0.31	0.36
Value system	Equal Income	0.35	0.35	0.10	0.37
	Career Choice	0.51	0.02	0.68	0.69
	Status	0.47	0.10	0.39	0.37
	Media	0.40	0.11	0.57	0.62
	Social problems	0.39	0.09	0.52	0.58
Social perception	Knowing	0.04	0.10	0.33	0.15
	Good Opportunity	0.29	0.10	0.59	0.59
	Ease	0.12	0.25	0.36	0.09
Self-Perception	Skills	0.47	0.07	0.81	0.70
	Fear to fail	0.21	0.29	0.20	0.21

Source: GEM Armenia: Adult Population Survey 2024

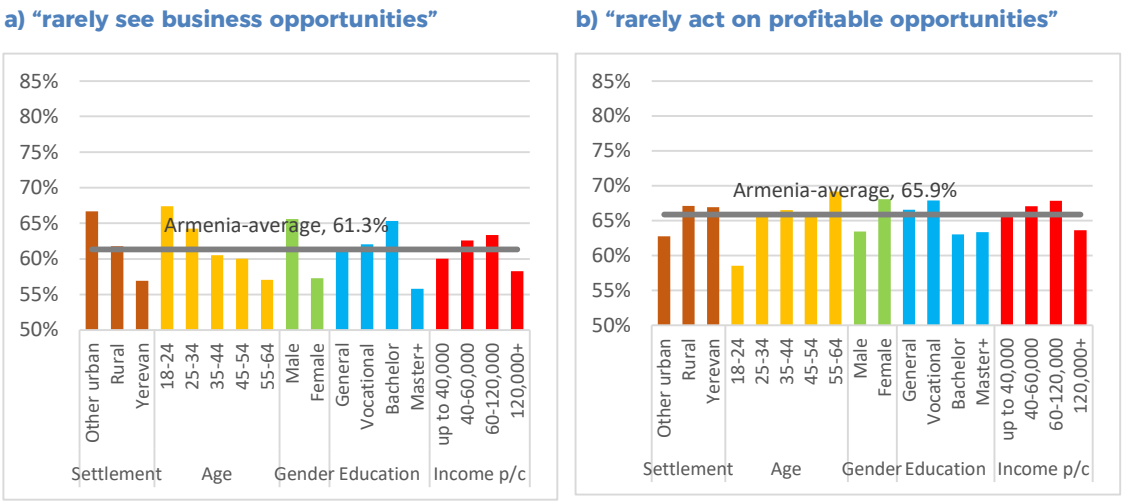
Stable Patterns Since 2019:

- The relationship between confidence in one's skills and self-assessment of innovativeness remains strong, as the correlation between Creativity and Skills increased from 0.75 in 2019 to 0.81 in 2024. This suggests that individuals who feel confident in their creativity or innovativeness are also sure about their entrepreneurial abilities, as creativity is perhaps the most important factor for entrepreneurship.
- Entrepreneurship in low-income countries continues to be a necessity, as the link between poverty and the inability to recognize business opportunities (Opportunism) remains moderately strong, with a correlation of 0.54 in 2019 and 0.49 in 2024.
- Strategic entrepreneurial vision maintains a strong connection with innovativeness, as the correlation between Vision and Creativity remained stable, changing slightly from 0.67 in 2019 to 0.70 in 2024. This emphasizes the importance of creative thinking in long-term business planning.

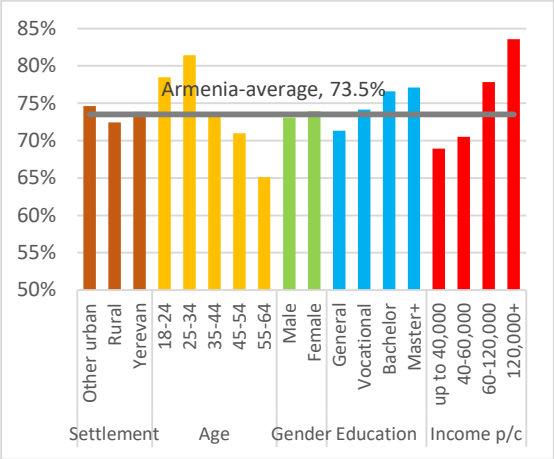
While overall share of those rarely seeing business opportunities in Armenia decreased in 2024 against 2019, indicating overall improvement in entrepreneurship, some notable shifts across different demographic groups were also noticed. It is interesting that if overall entrepreneurship decreased in Yerevan and other rural areas (see Chapter 3), population in these regional groups who "rarely see business opportunities" also decreased (compared to 2019). Anyway, the share of population who "rarely act on profitable opportunities" in Yerevan and rural areas is higher compared to those in other urban areas. Seeing business opportunities (compared to 2019) have increased for women, population in middle age groups (35-54) and for those with at least master degree.

Proactivity when seeing business opportunities have remained similar in 2024 compared to 2019 for total population, but not for all demographic groups. Particularly, proactivity increased for the young population (18-24) and decreased for the oldest age group (55-64).

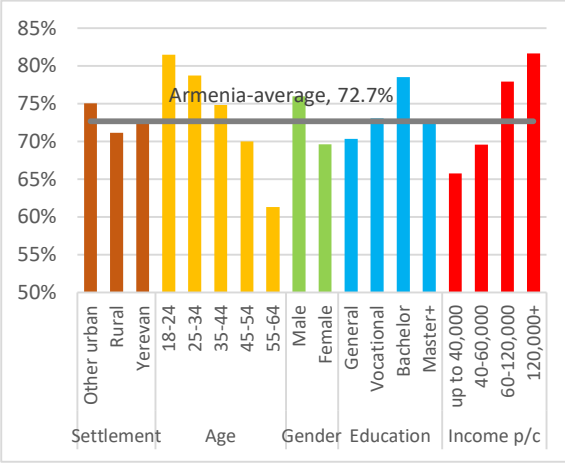
Figure 12. Armenia: Entrepreneurial talent statements about entrepreneurship (share of adults agreeing to statement) by different population groups



c) "other people think you are innovative"



d) "purpose driven career plans"



Source: GEM Armenia: Adult Population Survey 2024

While overall level of self-assessment of being innovative (creativity) decreased in Armenia compared to 2019, reflecting perhaps decrease in self-confidence due to unfavorable developments for the country during this period, different demographic groups showed larger decrease. Particularly larger decrease in self-assessment of innovativeness have been noticed in Yerevan, middle age groups and male population.

The influence of household income on career planning has become more evident. In 2019, the indicators for "purpose driven career plans" by all 4 income groups were more or less similar, with even a bit advantage for those in the lowest income group, but by 2024, the trend reversed: long-term career planning is now more with the increase in income. In the highest income group, this indicator increased from 72.8% to 81.6%, whereas among low-income group (below 40,000 AMD), it declined from 78.1% to 65.7%.

2.6 Conclusions

- **Value System Towards Entrepreneurship in Armenia**

Entrepreneurial values in Armenia remain strong and favorable compared to global trends, although some shifts have occurred since 2019. The country continues to rank high in key indicators, with 87.6% of respondents considering entrepreneurship a desirable career choice (5th out of 51 GEM countries), 74.2%

believing that businesses should primarily solve social problems (5th out of 51), and 76.0% noting frequent media coverage of successful entrepreneurs (4th among 15 "Eastern Europe+" countries).

At the same time, support for income equality has declined from 72.8% in 2019 to 65.7% in 2024, reflecting a shift towards a more market-oriented economic model and an increased emphasis on individual success and competition. Regional disparities have become more pronounced: while entrepreneurial values have gained stronger support in rural areas (90.7%), they have declined in Yerevan (82.7%), likely due to greater employment opportunities in the capital. The traditional trend, where entrepreneurship is more attractive in lower-income countries, has weakened, suggesting the increasing influence of additional factors in shaping entrepreneurial attitudes.

Public perception of business as a tool for solving social issues has strengthened, surpassing global averages and highlighting the rising demand for corporate social responsibility and social entrepreneurship in Armenia. At the same time, the status and respect for entrepreneurs have remained stable (74.0% in 2024 vs. 73.4% in 2019), but still lag behind the global average.

- **Social Perception Toward Entrepreneurship**

Public attitudes toward entrepreneurship have become more cautious since 2019, as reflected in declines across key social perception indicators. The share of people who personally know an entrepreneur fell from 55.6% to 48.8%, pushing Armenia down to 33rd place out of 51 countries in 2024 GEM. The perception of good business opportunities in the next six months also dropped below the GEM average (51.4% vs. 55.7%), whereas in 2019, Armenia slightly exceeded the global level. Additionally, the perceived ease of starting a business remained almost unchanged at 47.0% (vs 49.2% in 2019).

These trends suggest that the optimism following the 2018 political changes has gradually given way to a more measured outlook amid ongoing regional and geopolitical uncertainties. Meanwhile, media influence on entrepreneurship perception has grown: media exposure has become more prominent in rural areas (79.5%) than in Yerevan (71.9%), indicating an increasing focus on entrepreneurship in the regions.

- **Self-Perception Indicators**

Self-perception indicators present a mixed picture compared to 2019. Confidence in entrepreneurial knowledge and skills has dropped from 70.0% to 59.6%, lowering Armenia's position in the GEM rankings from 12th to 24th place. However, this decline likely reflects a post-revolutionary and post-war adjustments: the initial optimism in 2019 may have led to overestimated confidence levels, whereas by 2024, a more realistic and probably close to be pessimistic self-assessment has emerged, shaped by unfavorable geopolitics and regional developments.

Despite these shifts, fear of failure has not increased (from 50.8% to 47.2%), leading Armenia to fall from 10th country with largest fear to failure to 31st place among GEM countries. A gender gap persists: men exhibit higher confidence in their entrepreneurial skills (68.4% vs. 51.6% among women) and report lower fear of failure (40.7% vs. 52.9% for women).

One of the most significant changes is the evolving relationship between income and fear of failure. In 2019, individuals with high incomes showed the highest fear of failure (55.2%), whereas in 2024, they now demonstrate the lowest level (29.6%). Meanwhile, fear of failure is highest among low-income respondents (56.6%), indicating greater financial vulnerability and increased risk aversion in lower-income groups. Overall, financially stable individuals are now more willing to take risks, while those with lower incomes perceive entrepreneurship as a greater threat to their financial security.

- **Entrepreneurial Talent**

Entrepreneurial talent indicators have shown some improvements since 2019, though trends vary across dimensions. The ability to recognize business opportunities has improved, with the share of respondents who rarely see opportunities declining from 66.8% to 61.3%. Proactivity levels have remained stable, while self-perceived innovativeness has declined (from 80.5% to 73.5%), though it still remains above the GEM average. Similarly, strategic vision has slightly decreased (from 74.9% to 72.7%).

Demographic trends reveal shifting patterns in entrepreneurial talent. Women are now more likely to recognize business opportunities than in 2019, but they have become less proactive in acting upon them. Young people (18-24 years) have shown increased proactivity but a reduced ability to recognize opportunities. Meanwhile,

highest-income group demonstrates a stronger strategic vision, emphasizing a greater focus on long-term business planning.

Overall, entrepreneurship remains a vital part of Armenia's economic and social landscape, but its future growth depends on the country's ability to adapt to both internal and external shifts. While core entrepreneurial values remain strong, public perceptions have grown more cautious, shaped by post-war transitions, geopolitical tensions, and rising uncertainty. At the same time, a clear generational shift is taking place: younger Armenians, shaped by a more competitive and digitally connected environment, increasingly value personal success, innovation, and adaptability over traditional notions of income equality and job stability. This evolving mindset is reinforced by greater media attention to entrepreneurship, stronger expectations for businesses to address social issues, and a moderate decline in fear of failure—especially among more educated and financially secure groups. To fully harness this emerging potential, Armenia must strengthen institutional support, expand access to education and finance, and promote inclusive narratives that showcase entrepreneurial success across all regions and social groups.

The GEM Armenia National Team had prepared hypotheses regarding social and cultural foundations of entrepreneurship in Armenia before the surveys. The APS results either confirm or reject these hypotheses:

1. **The perception that it is easy to start a business in Armenia has improved compared to 2019.**

The hypothesis is rejected. Although Armenia maintained a relatively stable ranking in the GEM index (24th out of 51 countries), the share of respondents who believe that it is easy to start a business have not changed significantly - from 49.2% in 2019 to 47.0% in 2024—indicating no significant shift in public perception over this period. Moreover, the 2024 indicator remained slightly below the GEM average (48.8%), suggesting that the perceived ease of starting a business has not improved.

2. **The fear of failure among Armenians remains at a high level despite their confidence in their knowledge, skills, and experience.**

The hypothesis is rejected. In 2024, fear of failure slightly decreased from 50.8% in 2019 to 47.2%, while confidence in entrepreneurial knowledge and skills also declined significantly from 70.0% to 59.6%. As a result, Armenia's rankings dropped in both indicators: the country moved from 10th to 31st place in terms of fear of

failure and from 12th to 24th place in terms of confidence in entrepreneurial skills. This parallel decline suggests a more rational alignment between self-confidence and risk perception. Therefore, fear of failure can no longer be considered disproportionately high relative to people's self-assessed entrepreneurial competence.

3. **Younger individuals in Armenia are more optimistic about business opportunities and exhibit a lower fear of failure in 2024.**

The hypothesis is confirmed. According to GEM 2024 data, individuals aged 18–34 demonstrate the highest optimism regarding business opportunities in the next six months (approximately 54%). At the same time, younger individuals show the lowest levels of fear of failure — 31.8% among 18–24-year-olds and 38.9% among 25–34-year-olds — which is significantly below the national average of 47.2%. These findings support the notion that younger Armenians are becoming increasingly open to entrepreneurship, showing both a stronger belief in potential opportunities and a higher tolerance for risk.

CHAPTER III. LEVELS OF ENTREPRENEURIAL ACTIVITY IN ARMENIA

Entrepreneurs are not born; they are made... through education, experience, and exposure.

MARIA PINELLI
Global Vice Chair of Strategic Growth Markets at Ernst & Young

AMERIA MANAGEMENT ADVISORY

GEM Global Entrepreneurship Monitor

3.1 An introduction to entrepreneurial categories

This chapter presents levels of entrepreneurial activity in Armenia. Entrepreneurial activity may be expressed differently in different economies. In some economies, the numbers of startup or self-employed activities are higher; in other economies, the proportion of established and medium-sized businesses is larger.

The different types of entrepreneurial activity are very important to parse as they may present different challenges for the development of entrepreneurship in a given country. Encouraging individuals to start a business is a particularly important and common policy objective in many economies. However, turning those startups into long-term financially sustainable businesses is another important issue.

As presented in Chapter 1: "How GEM measures entrepreneurship," GEM uses the following measures to estimate the entrepreneurship level in an economy:

1. Total early-stage Entrepreneurial Activity (TEA): Population (share of adults) who are actively engaged in starting a new business (nascent entrepreneurs) or running a new business (owner-managers):

- *Nascent Entrepreneur* – someone who was involved in setting up a business but has not yet paid salaries, or any other payments, including to the founder(s), for three months or more.
- *Owner-Manager of a new business* – someone who runs a business and has paid wages, or other payments, including to the founder(s), for three months or more but for less than 42 months.

2. Established Business Owners (EBO): Population (share of adults) owning and managing an established business.

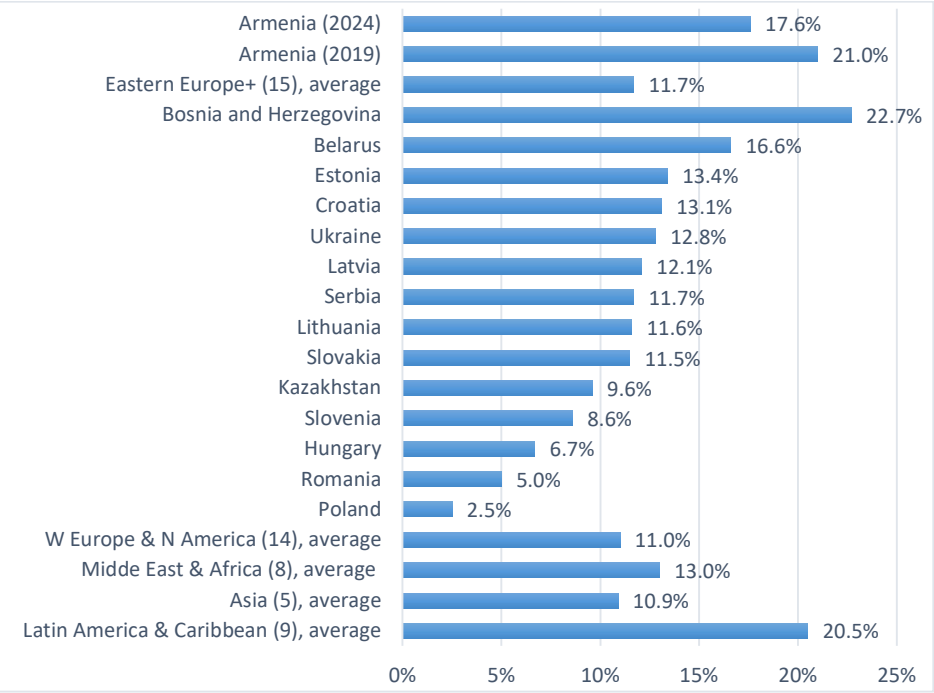
- *Established Business Owner* – someone who is running a business that has paid wages for 3.5 years (42 months) or more.

Each of these expressions of entrepreneurial activity contribute differently to the sustainability of an economy. Startup businesses inject dynamism and creativity into the business sector of a country; entrepreneurial employees ensure continuous innovation within larger organizations; while owner-managers of established businesses help form the backbone of an economy and society.

3.2 Total early-stage Entrepreneurial Activity in Armenia

According to the 2024 GEM APS, Armenia registered a high rate of Total early-stage Entrepreneurial Activity (TEA) in 2024. With 17.6% of adults engaged in TEA, Armenia ranks 13th among the 51 GEM 2024 countries and is the 2nd in the "Eastern European+" region. 4 countries have registered over 26% TEA (Top 3 leaders - Ecuador with 33.4%, Chile - 27.2% and Saudi Arabia - 26.4%). Compared to 2019, Armenia's TEA indicator decreased by 3.4 percentage points (in 2019 Armenia ranked 7th among 50 countries and was the leader in the Eastern European region). The decline in the indicator can primarily be attributed to the drop in the euphoric sentiments present in 2019, the formation of an unfavorable environment for business as a result of the shock events of 2020, and the significant difficulties or impossibility of creating new businesses within that environment. Additionally, it is important to note that in 2019, people may have had expectations for institutional reforms for business, but these were not implemented or were only partially implemented.

Figure 13. TEA (% of adults) by country/region



Source: GEM Adult Population Survey 2024

The global entrepreneurial landscape experienced significant shifts from 2019 to 2024, driven by changes in economic conditions, social attitudes, and personal motivations. Different correlations between TEA and selected indicators still persist in 2024, but some changes in correlations also occurred.

- Confidence in entrepreneurial skills showed the highest positive correlation increase (0.561 to 0.604), suggesting that in 2024, individuals feel more capable of launching businesses, possibly due to better access to education, training, and digital tools.
- Income inequality, represented by the Gini coefficient, remains positively correlated with TEA but weakened from 0.540 to 0.399, indicating that while entrepreneurship still thrives in unequal societies, the link has become less pronounced. One reason could be that policies in some countries have slightly improved wealth distribution, reducing the number of people turning to entrepreneurship out of financial necessity.
- The perception of entrepreneurship as a desirable career choice remained moderately positive (0.311 to 0.354).
- Considering themselves as being innovative became more strongly correlated with TEA (0.406 to 0.515), highlighting the increasing role of technology and creative solutions in new business ventures. However, the correlation between TEA and having a long-term vision dropped (0.466 to 0.276), suggesting that while more entrepreneurs are innovating, fewer are creating structured, long-term business strategies. This shift might be due to the rise in self-employment, where businesses can be started quickly without extensive long-term planning.
- Motivations for entrepreneurship have also increased. The correlation between TEA and the desire to change the world increased to moderately positive (0.137 to 0.327), indicating that more entrepreneurs in 2024 are driven by impact-oriented goals. Entrepreneurship within family businesses also became more prominent, with correlation rising from -0.010 to 0.390, possibly due to economic uncertainties prompting families to collaborate on business ventures.
- A significant increase in the correlation between TEA and starting a business for a living (0.351 to 0.438) suggests that more people in 2024 are turning to entrepreneurship out of necessity, possibly due to job market disruptions.

Table 9. Correlation between TEA and selected indicators of GEM countries in 2019 and 2024

	TEA (2019)	TEA (2024)
TEA	1	1
GDPpc	-0.176	-0.201
GDPpcPPP	-0.177	-0.299
Gini coefficient	0.540	0.399
Poverty ($6.85)	0.178	0.130
social equality	0.047	0.148
desirable choice	0.311	0.354
high status	0.101	0.079
media	0.129	0.271
social problems	-0.060	0.148
easy to start business	-0.133	0.057
innovative	0.406	0.515
vision plan	0.466	0.276
mot: change the world	0.137	0.327
mot: high wealth	-0.167	0.287
mot: family business	-0.010	0.390
mot: for living	0.351	0.438
good opportunities	0.052	0.139
have skills	0.561	0.604
fear to fail	0.025	-0.126

Source: Armenia National Team, GEM Adult Population Survey 2024

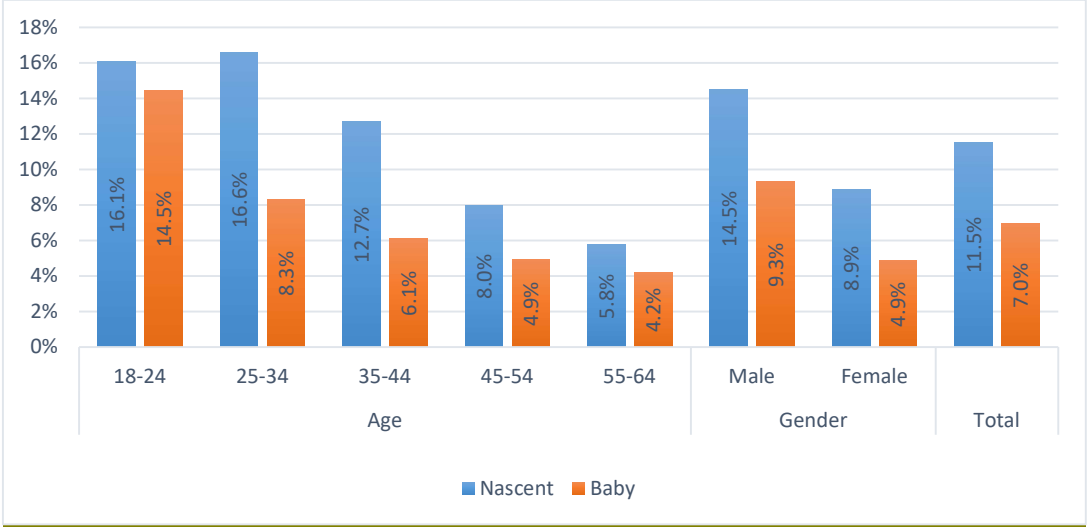
Overall, the data indicate that while entrepreneurship remains a strong force globally, it has shifted towards greater innovation, stronger financial motivations, and an increasing role in solving social problems. However, risk aversion and necessity-driven entrepreneurship remain challenges. To sustain long-term growth, policymakers must reduce fear of failure, improve regulatory ease, and strengthen financial and skill-based support for entrepreneurs, ensuring that entrepreneurship continues to drive economic progress and opportunity.

The decrease in TEA compared to 2019, is mainly explained by the decrease in nascent business share. According to GEM, the TEA indicator is comprised of two types of entrepreneurs: Nascent Entrepreneurs (less than 3 months activity) and owner-managers of a new business or baby business (between 3 months and 3.5

years of activity). The share of population as nascent business in Armenia was 11.5%, ranking 14th among 51 countries in 2024 GEM (compared to 14.1% in 2019, when it ranked 5th among 50 countries in 2019 GEM), while the baby business indicator is 7.0%, ranking Armenia at 12th (compared to 7.4% in 2019, when it ranked 10th). The reduction (particularly, in nascent business subcategory) generally fits within the logic of the TEA decline. Considering the time when these TEAs were formed (2019 and 2024), Armenia's business environment was in different situations: positive in 2019 due to expectations after political changes in 2018 and negative in 2024 due to a series of socio-economic and security upheavals, and an environment of uncertainty. Nevertheless, those businesses that had already registered some income (mainly EBOs) chose to continue operating. This may also be attributed to the institutional support; from the moment the state of emergency was declared in the country due to the COVID-19 pandemic, the government supported small entrepreneurs with a series of targeted measures and continues to support them with certain programs. These programs have primarily been aimed at preserving jobs, modernizing business fixed assets (still ongoing), and increasing working capital.

TEA activity is different for different age groups of population: younger generation is more actively engaged in nascent and baby business activities. Particularly, over 16% of population of 18-34 are engaged in nascent business activities, while less than 8% from population over 45 is engaged in such activities. Compared to 2019, most significant changes (considering also size of possible sample error) is registered for age group 55-64 (decrease in share of nascent business owners from 11.1% to 5.8%), age group 18-24 (increase in share of baby business owners from 5.5% to 14.5%). Such changes in entrepreneurial activity against 2019 by age groups are perhaps explained by more moderate behavior of population (over 35) who saw better times in 2019 and assess current times as having high uncertainty.

Figure 14. Level of Nascent and Baby businesses by gender and age in Armenia



Source: GEM Armenia: Adult Population Survey, 2024

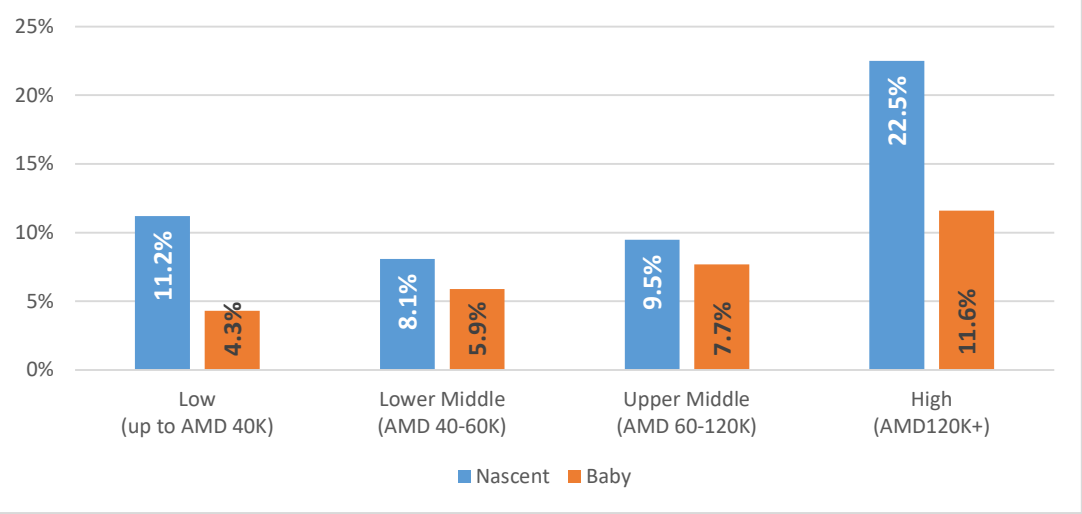
In terms of gender, although there is a decline in both indicators, the ratio has remained the same. Men initiate more businesses than women. However, compared to 2019, share of men owning nascent businesses declined relatively less, while those owned by women have declined more significantly (8.9% vs 12.0% in 2019). This may support the fact that in unstable and unfavorable situations, men are more inclined to take risks than women. This is also linked to the idea that in Armenia, it's traditionally accepted that the main breadwinner of the family should be the man. Based on this, men are often forced to take risks to ensure the family's financial stability. In the case of women, this obligation doesn't exist; they generally don't need to make hasty and risky decisions.

TEA activity (particularly nascent business activity) increased for higher income group of population, while decreased for lower-middle and higher-middle income groups in Armenia, compared to 2019. However, there is a notable peculiarity in the low-income group, where nascent businesses experienced only a marginal decrease of 1.2 percentage points. In contrast, the decline was 6.7 and 3.8 percentage points for the lower-middle and upper-middle income groups, respectively, compared to 2019. This can be explained by the following rationale: in recent years, the number of salaried employees has increased sharply (from 627,831 on December 31, 2019, to 786,970 as of December 31, 2024). If we exclude the three sectors with the highest average salaries—Financial and insurance activities, Information and communication, and Mining and quarrying—we find that from

2018 to 2024, the number of employees in the remaining sectors increased by 34%, reaching approximately 680,000, while salaries increased by 53.9%. The average salary in these sectors as of 2024 was 237,000 Armenian drams, or approximately $600. Consequently, individuals expecting middle incomes were able to find employment in the labor market and had less motivation to start a business. In the low-income group, people had even less motivation, likely because their labor resources were less competitive in the job market, and they were compelled to work. This hypothesis can also be supported by the fact that people primarily start businesses for survival, conditioned with the lack of other opportunities. Conversely, in the high-income group, there was a 4.4% increase in the number of business initiators. It is probable that confidence has grown in this group, with individuals believing they can earn more money by using their skills in a business than as salaried employees. Since members of this group generate higher incomes, indicating they possess the necessary qualifications, it can be expected that these entrepreneurs will continue their businesses in the coming years, and the number of business exits will decrease.

The changes in baby businesses are not significant compared to 2019. Businesses that had been operating for more than 3 months were relatively more stable and continued to operate. Furthermore, the increase in their share in the high-income group supports the hypothesis that people in this group are more agile in managing risks in an unfavorable environment.

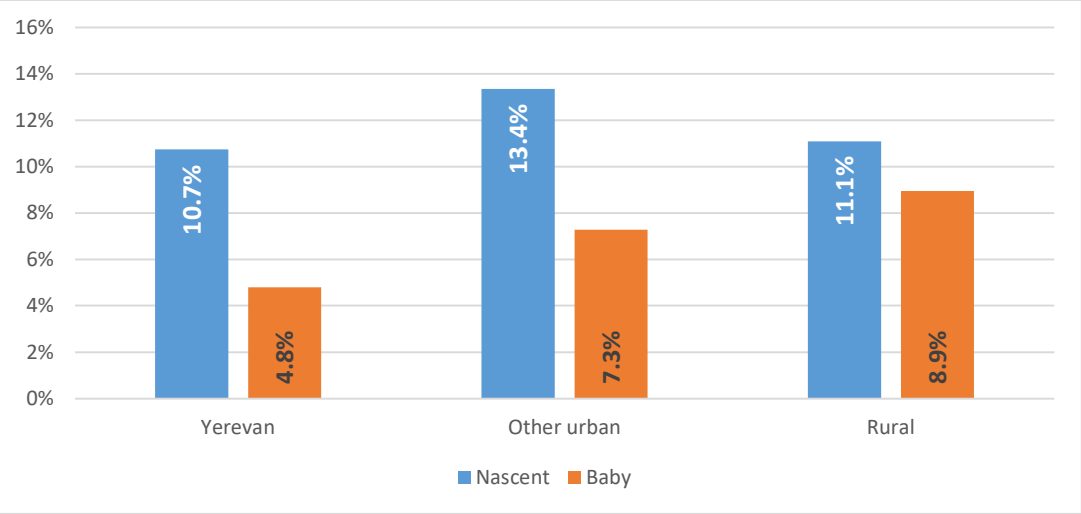
Figure 15. Level of Nascent and Baby businesses by per capita income groups of population in Armenia



Source: GEM Armenia: Adult Population Survey, 2024

Nascent entrepreneurship share increased in other urban areas, while decreased in Yerevan and especially in rural areas compared to 2019. In the case of Yerevan, this may be explained by the same rationale as mentioned above regarding job creation, as the majority of jobs (approximately 130,000 additional salaried employees from 2019 to 2024) have been created in Yerevan. As for rural communities, the decline reflects the macro indicators of agricultural development; this sector is gradually shrinking in GDP, growth is extremely low, and consequently, the attractiveness of engaging in entrepreneurship in rural areas is also low. Furthermore, in recent years, the government has been funding high-efficiency sectors of agriculture, which require large capital investments. This makes traditional agriculture even less competitive. Population in other urban areas are more engaged in nascent businesses compared to Yerevan (due to higher competition) and rural areas (due to decline in agriculture) and also compared to the same indicator in 2019. In addition to some impact due to decrease in activities in rural areas, in recent years, various international companies and business incubators have been focusing on the development of businesses in regional cities and taking steps in that direction. The level of infrastructure has improved in regional cities, for example, road quality, and labor is cheaper compared to Yerevan, creating incentives for business initiation.

Figure 16. Level of Nascent and Baby businesses by area in Armenia



Source: GEM Armenia: Adult Population Survey, 2024

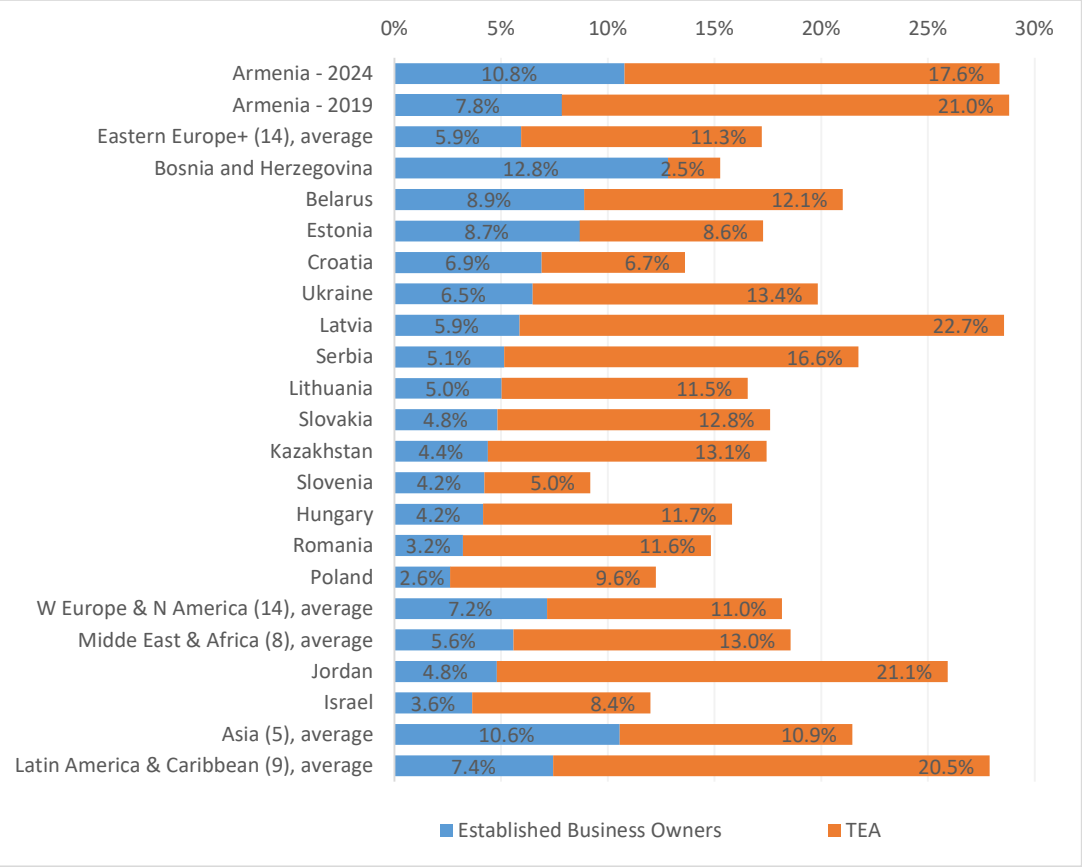
While share of population engaged in baby businesses is still the highest in rural areas in comparison to Yerevan and other urban areas, compared to 2019, again,

it had increased in other urban areas only. The share of population engaged in baby business activity in Yerevan decreased by 2.3 percentage point, in rural areas by 0.8 percentage points and increased by 2.6 percentage points in other urban areas. The reasons of such changes most probably are similar to those mentioned for nascent businesses. Slower decrease in baby business activity in rural areas (compared to the decrease in nascent businesses), perhaps, means that while agriculture becomes less competitive, people do not start new businesses, but still continue existing ones, as it is a primary means of livelihood.

3.3 Sustaining Entrepreneurship: Established Business Activity in Armenia

The role of Established Business Owners (EBOs) is pivotal from the perspective of economic stability in the country, as these are the businesses that have been operating for 3.5 years or more. Generally, businesses can be easily established and operate for a short period, but long-term operation requires a different strategy and continuous work on efficiency improvement. It also necessitates the ability to adapt to various situations. **In Armenia, the share of adults involved in EBO businesses has improved, reaching 10.8% (compared to 7.8% in 2019), ranking 9th among 51 countries, although Armenia was 7th among 50 countries in 2019 GEM.** From this, it can be inferred that while the institutional and business environment reforms implemented in Armenia have had some positive effects, reforms in other countries have been more effective. However, Armenia's indicator exceeds the average indicator of “Eastern Europe+” countries by more than 1.8 times.

Figure 17. Entrepreneurship (EBO and TEA) rates (% of adults) by country/region



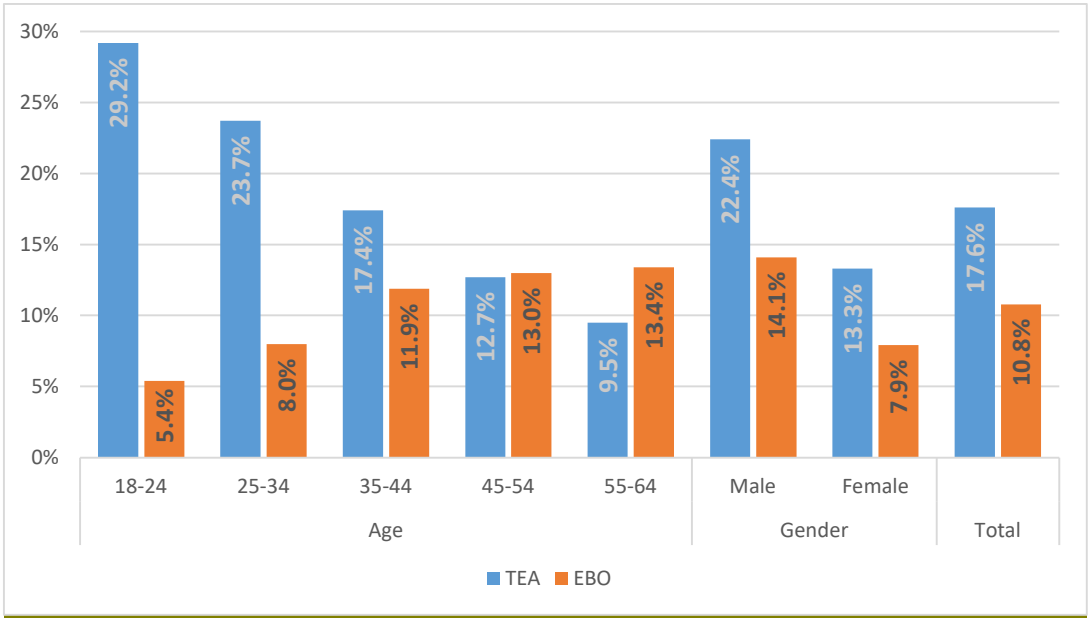
Source: GEM Adult Population Survey 2024

The share of adults involved in any businesses (overall level of entrepreneurship including TEA and EBO) in Armenia is 27.7%, ranking 12th among 51 countries in 2024 GEM. The change compared to 2019 (28.0%) is negligible; the indicator has remained largely stable due to the growth in EBO activity, which can be considered a positive signal. According to global data, the EBO indicator has a significant positive correlation with the 'good opportunities' indicator only. This is explained by the fact that medium-term and long-term entrepreneurs continue their business activities, having positive expectations for the coming years. All other correlations are insignificant, meaning that globally, the activity of EBO founders are explained by different indicators that TEA.

While TEA activity is decreasing with increase in age of population, EBO activity is higher in older age groups (45-64). The indicator for those aged 35-44 is also relatively high. Although 18-24 year olds lead in the TEA indicator, they are at the lowest position in the EBO indicator, which seems logical. It is simply impossible to

pay salaries for 3.5 years or more when starting a business at 21-24 years old, due to the logic of time constraints. Increase in EBO activity by increase of age also seems logical. This contrary pattern is evidence that the younger a person is, the more they strive to engage in new things and initiate new ventures. As people get older, they settle into a specific line of activity. Based on the high level of the TEA indicator, it can be predicted that the EBO level will continue to grow in the coming years, which is a positive signal for increasing entrepreneurial activity and enhancing macroeconomic stability.

Figure 18. TEA and EBO rates (% of adults) by age and gender in Armenia

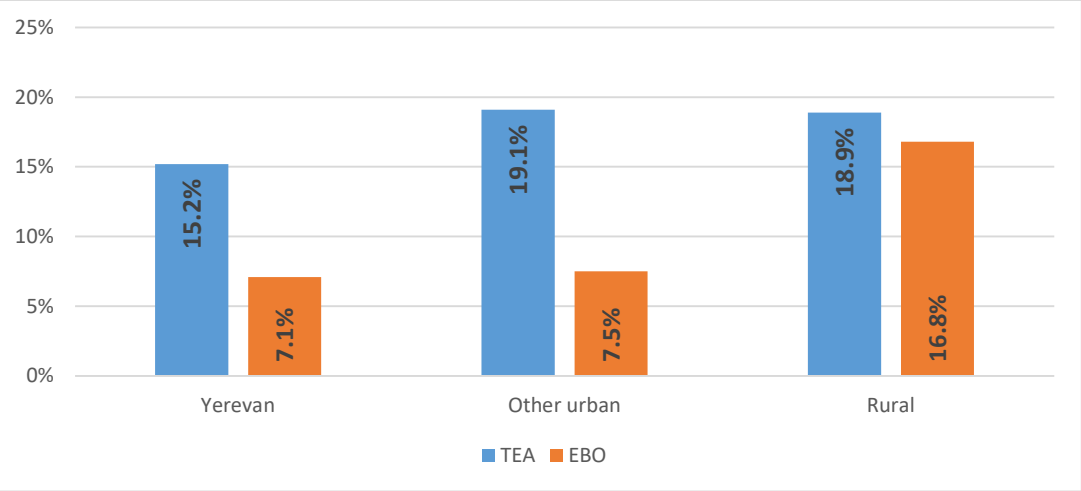


Source: GEM Armenia: Adult Population Survey, 2024

Larger increase in women owned EBOs registered in recent 5 years. From a gender distribution perspective, in 2024, compared to 2019, EBO activity among men increased by 2.8 percentage points and among women - by 3.1 points. But considering their absolute levels (men engagement in EBO was 2.3 times higher than women in 2019), indicator of EBO for women increased much more significantly. This narrowed the difference in the ratios between men and women indicators - 1.7 for TEA and 1.8 for EBO in 2024 (compared to 1.6 and 2.3 in 2019). Increased survival of women owned businesses in Armenia during this period can be perhaps explained by less necessity driven purposes in doing business, more sustainability and patience as well as higher formal and informal assistance to women businesses.

The EBO activity indicator has increased in all territorial groupings, with the significant increase in Other urban areas (increase by 4.0 percentage points reaching 7.5%). Interestingly, in 2019, TEA was the lowest in other urban areas, and it was assumed that the TEA opened at that time should now be EBO in the same proportion across Yerevan, rural and other urban areas. However, different development in TEAs transforming into EBOs suggests that new businesses opened in Other urban areas were more sustainable. Perhaps it is due to larger competition in Yerevan and lower sustainability in agriculture, which is the main activity in rural.

Figure 19. TEA and EBO rates (% of adults) by types of area in Armenia



Source: GEM Armenia: Adult Population Survey, 2024

Focus in early-stage entrepreneurship in regions (marzes) moved more to urban areas from rural ones. While our sample did not aim to provide representativeness on a marz level (representativeness is ensured on Yerevan, other urban and rural level), interesting indicative trends are visible in TEA indicator within marzes compared to 2019. While in 2019, rural areas' TEA indicators were significantly higher in 6 out of 10 marzes, in 2024 only 1 marz (Shirak) had significantly higher TEA in rural area against urban one. At the same time in 2024, dominance of urban areas by TEA is registered in 5 marzes, while it was only in two marzes in 2019. Low productivity in agriculture is the main reason of such changes. The EBO activity indicator has increased in all regions except Lori and Tavush, compared to 2019 GEM. The largest increase was recorded in Aragatsotn, with 22 percentage point increase compared to 2019 (TEA in that region was 30% in 2019).

Table 10. Level of TEA by marzes in Armenia

Regions	TEA	difference in TEA rural or urban	EBO
Yerevan	15%	0%	7%
Aragatsotn	16%	28%	27%
Ararat	21%	-2%	24%
Armavir	25%	-4%	14%
Gegharkunik	20%	0%	8%
Kotayk	22%	-9%	16%
Lori	11%	71%	3%
Shirak	13%	-27%	8%
Syunik	22%	34%	9%
Tavush	24%	29%	4%
Vayots Dzor	16%	80%	10%

Source: GEM Armenia: Adult Population Survey, 2024

3.4 The sector distribution of entrepreneurial activities in Armenia

The composition of entrepreneurial activities by economic sector varies across different countries and may shift within a country over time, reflecting changes in the economy. These shifts may be driven by several factors, including resource availability, market accessibility, technological advancements, government policies, and evolving consumer demands.

In 2024, the Armenian entrepreneurial landscape has undergone significant changes compared to 2019. While agriculture and trade remain dominant sectors, their share in total entrepreneurial activities has declined. Agriculture, which accounted for 29% in all TEAs and 42% of all EBOs in 2019, had decreased its share to 21% of TEAs and 40% of EBOs in 2024. Moreover, difference between TEA and EBO in agriculture, suggests that decrease in share of agriculture in entrepreneurship would continue. This decline may suggest structural transformations in the economy, due to lower productivity in agriculture as well as the global trends such as urbanization, industrialization, and the increasing role of service sectors.

Table 11. TEA and EBO structure by sectors of economic activity (ISIC rev 47) in Armenia

					Difference with 2019, pp	
		TEA	EBO	Difference, TEA-EBO, pp	in TEA shares	in EBO shares
A	Agriculture, forestry and fishing	21%	40%	-19	-8	-2
C	Manufacturing	17%	7%	10	8	0
E	Water supply; sewerage, waste management	0%		0	0	0
F	Construction	4%	6%	-2	3	4
G.47	Retail trade	28%	23%	4	-3	-9
G.46	Wholesale trade	4%	3%	1	1	-5
H	Transportation and storage	1%	3%	-2	0	2
I	Accommodation and food service activities	4%	3%	1	-2	1
J	Information and communication	3%	1%	2	0	1
K	Financial and insurance activities	1%		1	1	0
L	Real estate activities	1%	1%	0	0	1
M	Professional, scientific and technical activities	4%	3%	1	1	2
N	Administrative and support service activities	4%	1%	2	2	1
P	Education	2%	1%	1	0	0
Q	Human health and social work activities	1%	1%	0	0	1
R	Arts, entertainment and recreation	1%		1	0	-1
S	Other service activities	6%	6%	0	-2	4

Source: GEM Armenia: Adult Population Survey, 2019 and 2024

Trade, including wholesale and retail, remains a key sector in entrepreneurship, but its share had also decreased during recent 5 years. The share of trade in TEA and EBO in 2019 was 34% and 41% correspondingly, while in 2024 these shares decreased to 32% and 27% correspondingly. This decrease, especially in EBOs in trade, is due to increased market saturation, e-commerce competition, including global shipping as well as increased involvement in other sectors such as construction and service activities.

Manufacturing had the third largest share in TEA and EBO, with increased share in TEA compared to 2019. This rise suggests increased opportunities for export, increased domestic demand (also due to inflow of population during 2022-2023) supported by policy incentives. However, share of Manufacturing in EBOs did not increase, indicating issues with long-term development of businesses in this sector. Interesting that share of ICT businesses have not changed significantly as it was expected. Increase in construction is supported by policy incentives as well as increased demand due to population and finance inflow during 2022-2023 brought

[7] International Standard Industrial Classification of All Economic Activities (ISIC), Revision 4 is the international classification based on which the countries prepare and use their own or regional classifications of economic activity. Armenia uses European variant of ISIC 4 (which is NACE rev 2).

by external shocks. These external shocks also supported to the increase in other service sectors.

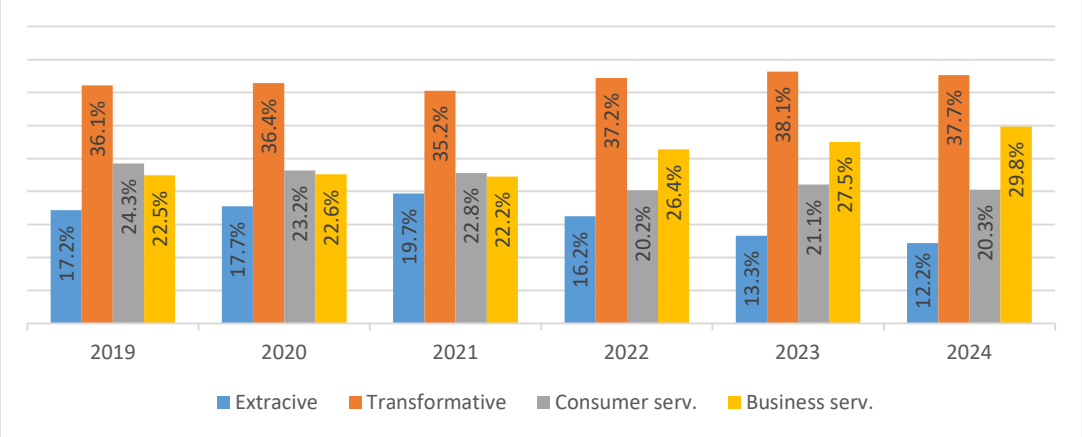
To analyze the sectoral breakdown of different countries, the GEM further classifies economic activities into four groups:

- Extractive (including agriculture and mining)
- Transformative (construction, manufacturing, transportation, utilities, and wholesale trade)
- Consumer Services (retail trade, restaurants and personal services)
- Business Services (information and communication technologies (ICT) and professional services).

The distinction between these sectors, especially between Business and Consumer Services is an important component in the analysis of new entrepreneurial activity. Many Consumer Services are relatively low-cost with low entry barriers (such as coffee shops, taxi services, hairdressing, tailoring, etc.) but can therefore be fiercely competitive, with low margins and considerable churn (high rates of entry and exit). Business Services entrepreneurial activities tend to be more technology or knowledge-intensive and more difficult to replicate, also leading to more durability. One of the key transformations in developed economies in past decades has been the growth of Business Services and the (relative) decline of Consumer Services". Emerging economies usually have a lower share of Business Services entrepreneurs and a higher share of Consumer Service entrepreneurs.

Insert 2.

The Structure of Armenian GDP (GVA) in 2019-2024 by 4 sectors defined by GEM

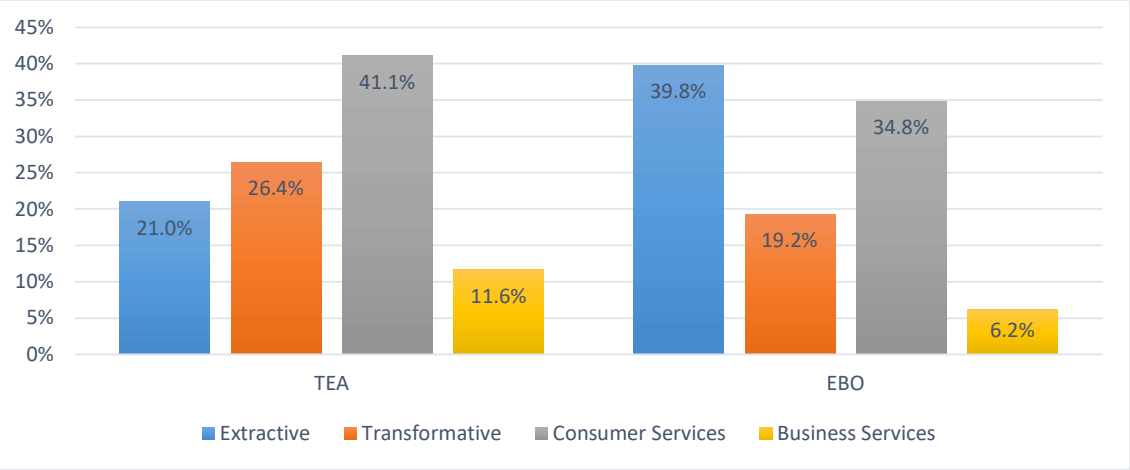


Source: calculated based on Armstat's data on GDP by activities (excluding Public sector and net taxes)

***Extractive sector** is experiencing a significant decline, driven by agriculture mainly.*
***Transformative sector** remains stable and continues to dominate. The role of wholesale trade has increased in 2022-2024.*
***Consumer services** slowing down due to slow decrease in retail trade and entertainment services.*
***Business services** are experiencing sustained growth, indicating a shift toward a more knowledge-intensive and technology-driven economy. Growth is supported by increase in ICT and Finance industries also due to external shock brought opportunities in 2022-2024.*

Entrepreneurship in Armenia (by number of population) is largely concentrated in the Extractive sector (due to Agriculture) and Consumer Services sector (due to retail trade), in contrast to GDP, where the value added of Transformative industries sector has the largest share. The concentration into these two sectors is higher among EBO compared to TEA. Extractive sector (agriculture) is the largest in EBOs, while in TEA it has lower share than Consumer services and even Transformative sector, which speaks about lower productivity in this sector and allows to expects its share decrease in EBO in the future. The share of Business Services sector (ICT and professional services) is still the lowest in early-stage entrepreneurship and established businesses among all 4 sectors, but compared to 2019 GEM, the share of Business services in EBOs increased from 2.7% to 6.2%, which speaks about development in the most productive sector of entrepreneurship.

Figure 20. TEA and EBO structure by GEM sector groups in Armenia



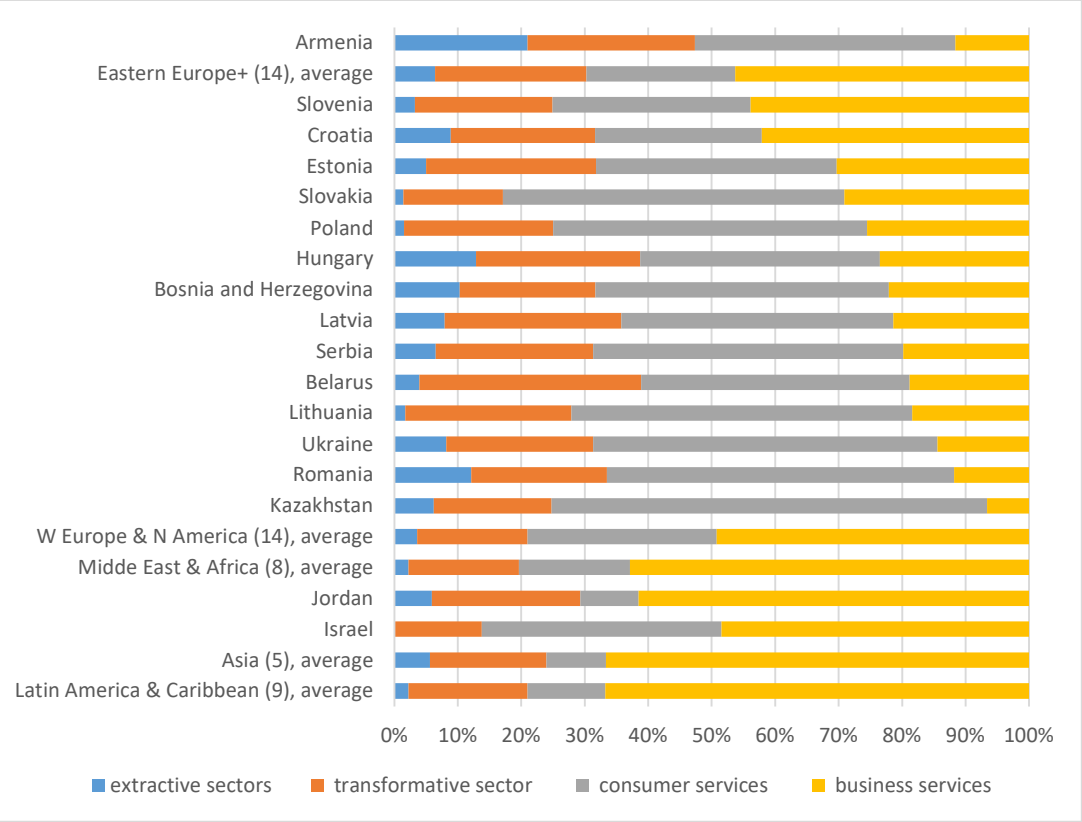
Source: GEM Armenia: Adult Population Survey, 2024

The share of **Extractive sectors** in TEA decreased compared to 2019 by 8 percentage points due to lower engagement in Agriculture, but its share in EBO is still significant (decreased by only 2 percentage points). Still high share of Extractive sector in EBOs, which has the lowest productivity, indicates they are largely necessity driven businesses, especially focused in rural areas, where there are not much other business opportunities. **Consumer Services** continue to dominate TEA and have high share in EBO, as retail and personal services remain accessible entry points for entrepreneurs. However, both shares showed decline compared to 2019 (8 and 3 percentage points), indicating high turnover rates and challenges in business sustainability, emphasizing the need for strategies to support long-term growth in the sector. The **Transformative sector** has shown stability in EBO, with higher increase in TEA (by 12 percentage points) compared to 2019. This indicates that businesses in manufacturing and also construction in this period (2019-2024) are easy to establish (especially when they are still micro-sized), but transformation from early-stage ventures to more established enterprises is not easy.

Business Services have experienced growth in TEA and EBO compared to 2019, reflecting rising interest in knowledge-based industries such as ICT and professional services. Interesting that the size of increase is higher in EBO compared to TEA (5 percentage points against 3), which shows higher sustainability of such businesses compared to others. Government support perhaps has also played role here to enhance sustainability and scalability in high-value entrepreneurial activities.

Comparing Armenia's entrepreneurship sectorial group structure with other 50 countries shows **Armenia is one of the global leaders (with India) with the share of Extractive sector entrepreneurship in TEA, indicating one of the lowest impact of early-stage entrepreneurship's output to the country economy**. Armenia was the leader by the share of Extractive sector in TEA and EBO in 2019 GEM also.

Figure 21. TEA structure by GEM sector groups in Armenia and other countries/regions



Source: GEM: Adult Population Survey, 2024

With the share of Business services industry group in TEA Armenia ranks 39th out of 51 countries in 2024 GEM, with developed European countries mainly leading with this indicator. With the share of Business services sectors in EBO Armenia ranks 46th out of 51 countries in 2024 GEM, no improvement compared to 2019. All countries in the top 20 are characterized by high GDP per capita. These countries spend an average of 5.1% of their GDP on education, while the countries in the bottom 20 spend 3.8%. In Armenia's case, this figure is only 2.7%. There is a correlation between income levels, higher education spending, and the

development of the IT sector and professional industries. Because in all the top 20 countries, education spending as a percentage of GDP exceeds the world average. The opposite process is observed in the bottom 20 countries, where only a few countries have high education spending.

The distribution of TEA and EBO by GEM industry sector groups is different by age groups of population in Armenia. Age group of 25-34 is the most contributive to Extractive sector share in TEA, while in EBO all 3 groups from 18 to 44 age have over 1/3rd of their businesses in Extractive sector. It is interesting that in 2019 the oldest age group was the main contributor to the high share of Extractive sector. Such trends show, that even if Extractive sector is the least productive, many people from different age groups still select agriculture for entrepreneurship perhaps due to not having many alternatives (especially in rural areas). Business service sectors, which are the most productive and showed slight increase compared to 2019, still have the lowest share in early stage and established businesses for almost all age groups. Anyway, younger age groups show significant increase in the share of business services compared to 2019, indicating that development of this sector is explained by generational factor and therefore will still increase in the economy.

Table 12. Sectoral structure of TEA and EBO for age groups and gender (% in each age and gender group)

	Early-stage (TEA)					Established business (EBO)				
Age	18-24	25-34	35-44	45-54	55-64	18-24	25-34	35-44	45-54	55-64
Extractive	18.7%	40.2%	23.8%	22.2%	35.9%	41.2%	36.7%	38.9%	28.3%	51.4%
Transforming	24.8%	7.3%	33.0%	32.7%	17.6%	6.9%	26.4%	22.5%	20.2%	13.8%
Consumer serv.	44.6%	20.2%	36.8%	23.8%	27.8%	6.9%	16.3%	26.8%	34.1%	23.3%
Business serv.	11.9%	29.0%	11.7%	8.4%	2.0%	15.1%	6.1%	5.4%	2.2%	8.1%
Gender	Female		Male		Total	Female		Male		Total
Extractive	18.8%		22.4%		21.0%	38.7%		40.5%		39.8%
Transforming	20.1%		30.5%		26.4%	14.1%		22.4%		19.2%
Consumer serv.	48.9%		35.9%		41.1%	41.8%		30.5%		34.8%
Business serv.	12.2%		11.2%		11.6%	5.4%		6.6%		6.2%

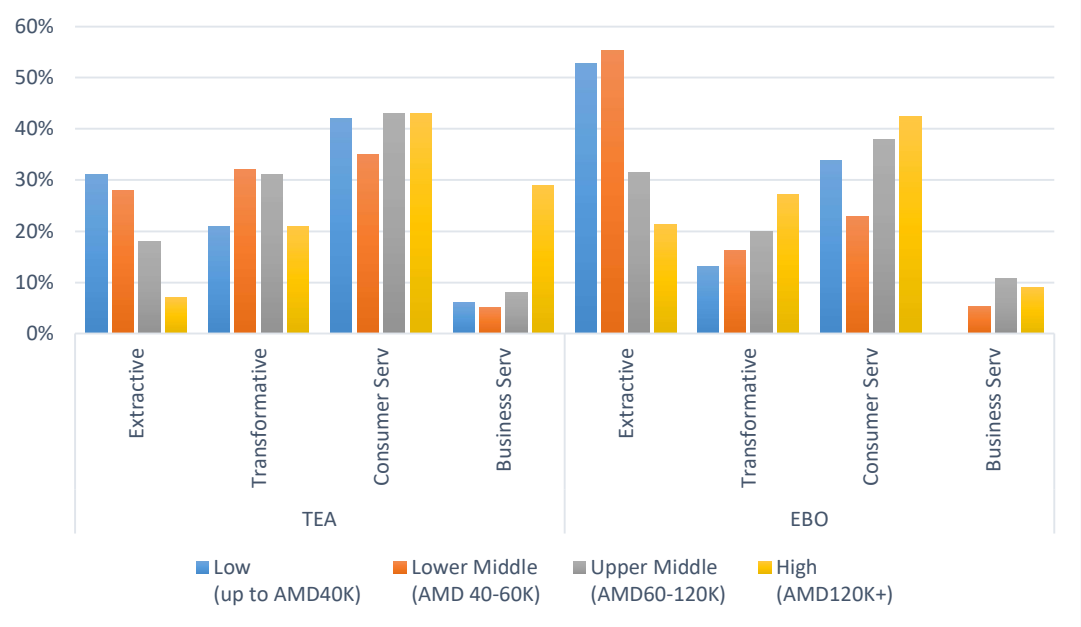
Source: GEM Armenia: Adult Population Survey, 2024

In terms of gender, women are more engaged in entrepreneurship in Consumer oriented services, while men are comparable more active in Transformative sectors for both TEA and EBO activity. The shares of women and men is almost similar in extractive and business-oriented services. In this context, the sectorial

distribution of businesses by gender did not change largely compared to 2019, but it is notable, that **share of women and men entrepreneurship in Business services nearly equalized, while in 2019 share of men in this sector was higher compared to women**. Increase in women share is Business services sectors was due to increase in Professional and Administrative services in 2024.

According to income distribution, extractive industries are mainly operated by those with low and lower-middle incomes. This indicator also testifies to the low productivity of the sectors. In the case of business services, on the contrary, those with high incomes have the highest activity (especially in TEA). Consumer services have the highest TEA activity across all income groups. This is the result of low barriers to entry into these sectors for low-income groups. On the other hand, some businessmen in the sector are able to operate successfully and generate high incomes, which justifies their high level of activity in the high-income group.

Figure 22. Sectoral structure of TEA and EBO for income groups of population (% in each income group)



Source: GEM Armenia: Adult Population Survey, 2024

While over 63% of established entrepreneurship in rural areas was in extractive sector in 2019, only 37% of early-stage entrepreneurship is there in 2024. Extractive sector entrepreneurship is still the largest in rural areas in TEA and especially in EBOs, but decrease in share of extractive sector compared to 2019,

speaks about decline in this industry. Perhaps this decline is one of the reasons of increase in entrepreneurship in other urban areas. So, if the structure of TEA in other urban areas did not change much compared to 2019, extractive sector share has increased in EBOs, but still is below transformative and consumer-oriented services and comparable to business services. Business services in EBOs increased largely also in other urban areas, indicating that such services are not much concentrated in Yerevan, considering their mobility. This is a result of relatively cheap costs including labor in regional cities, the characteristic of these sectors not requiring centralization in the capital, and the widespread expansion of technological centers like TUMO and Armat in the regions. The location of high-profit and value-added centers in regional cities is important not only for the development of these sectors but also creates prerequisites for the transformation of the entire business ecosystem in communities.

Table 13. Sectoral structure of TEA and EBO for types of area (% in each area)

	Early-stage (TEA)			Established business (EBO)		
	Other urban	Rural	Yerevan	Other urban	Rural	Yerevan
Extractive	19.3%	36.9%	2.7%	14.7%	63.1%	3.7%
Transforming	24.0%	21.9%	34.0%	33.9%	10.2%	29.8%
Consumer serv.	47.3%	34.2%	44.1%	37.0%	26.8%	51.9%
Business serv.	9.4%	7.0%	19.1%	14.4%	0.0%	14.6%

Source: GEM Armenia: Adult Population Survey, 2024

3.5 GEM estimates on entrepreneurship vs. administrative data on number of businesses: comparison and issues

Comparison of estimates of number of TEA and EBO according to GEM with the administrative data on registered businesses (in Armenia and other GEM countries) may bring, at the first sight, to surprising results and therefore raise questions on reliability of GEM data among general public, but there are objective and subjective reasons of such differences. Let's discuss the Armenian case.

2024 GEM data indicate that 17.6% of adults in Armenia are engaged in early-stage entrepreneurial activity (TEA) and 10.8% of adults are engaged in EBO. Considering that the number of people aged 18-65 in Armenia is about 1.8 million, this brings to over 300 thousand TEAs and around 194 thousand EBOs in 2024 in Armenia. At the same time, according to the Armstat's publication[8] there were 109,592 business economic units active in 2023 in Armenia. Why is the discrepancy so large and what does that mean?

Main reason of such discrepancy is that these two indicators cannot be directly compared due to number of reasons. Here are the main differences between these data.

(1) Unit of measure difference. GEM measures number of population engaged in entrepreneurship, while official statistics and administrative data on SME's measure number of economic units (number of registered organizations and individual entrepreneurs). Particularly, in case if one business has two or more beneficiaries, in GEM survey, all these indicate their involvement in the business, whereas in an SME report, it would only be registered as one business. Conversely, family members who do not have a formally registered status in a business might state in response to a survey that they are engaged in owning a business, identifying themselves with the family enterprise. For example, the family entrepreneurship model is common in guesthouses and small retail businesses. There is also the opposite logic, where one person can register several businesses. Therefore, different measurement units of the SME report and the GEM survey make direct comparison of the indicators very tricky.

(2) Types of Activity differences: GEM measures entrepreneurship in the economy (without any limitation on type of activity), while Armstat's SME publication is about economic units that are from selected activities characterizing SME (non-financial business activities). Non-financial business activity does not include the following sections in NACE rev 2: A. Agriculture, forestry and fishing, K. Financial and insurance activities, O. Public administration and defence, compulsory social security, P. Education, Q. Human health and social work activities, R. Arts, entertainment and recreation, S. Other service activities (without S.95). Therefore, if we want to compare GEM data with SME report data we have to subtract these activities also from GEM data (this includes around 96 thousand TEAs and 93 thousand EBOs), so around

[8] Small and Medium Entrepreneurship in the Republic of Armenia, 2024, Armstat (Annual publication)

200 thousand TEAs and 100 thousand EBOs are in SME comparable activities of the economy, which is still higher than active SMEs in official statistics.

From this regard it is also interesting to compare the type of activity structure of entrepreneurship in 2024 GEM for Armenia and SME structure.

	2024 GEM Armenia data	ARMSTAT, SME report, 2024
C. Manufacturing	21%	11%
F. Construction	8%	4%
G. Wholesale and retail trade; repair of motor vehicles and motorcycles	48%	51%
H. Transportation and storage	3%	6%
I. Accommodation and food service activities	6%	6%
J. Information and communication	4%	9%
L. Real estate activities	2%	2%
M. Professional, scientific and technical activities	6%	7%
N. Administrative and support service activities	5%	4%

Source: GEM Armenia and Armstat:

The only sphere of activity where difference is large is the Manufacturing industry, which has much larger share in GEM compared to Armstat's data. This may be due to the fact that individuals have informal businesses in this industry (considering small-volume production and sales, remain unnoticed because their production volumes are insignificant).

(3) Definition of active business: Armstat's SME report is about active businesses, which means it does not include all businesses. Being active for an SME for statistical purposes is defined as having over 0 revenues and over zero employment (during last year) for legal units or having over 0 revenues and a status of active in State Revenue Committee of RA for individual entrepreneurs. However, GEM do not impose such restrictions for estimating TEA and EBO. If a person had a business at the time of the survey, or considered themselves engaged in entrepreneurial activity, but had not yet recorded revenue, they were still considered an entrepreneur.

(4) formal business against informal or not registered: Official statistics on SMEs takes into account officially registered businesses while GEM entrepreneurship data do not separate formal and informal entrepreneurship and therefore also include people working in the informal economy or those self-employed individuals who

are not registered. It is out of the question that informal (or unregistered) economy has quite large share in developing countries (also including Armenia). GEM itself shows large informal investments into the entrepreneurship in Armenia. So, this difference is perhaps among the most significant reasons of discrepancy between GEM and official statistics on SME.

(5) Entrepreneurship vs SME: GEM monitors entrepreneurship which is not identical to SME. SMEs in many countries are perceived as main tools of implementation of entrepreneurship but they are not the same. The SMEs are defined for administrative and statistical reasons by the state to delineate its policies and the types of assistance available to these businesses. Entrepreneurship, on the other hand, encompasses a collection of both formal and informal entrepreneurial activities. This means that any type of entrepreneurial activity is counted, even if it is not legally registered.

(6) Recognized methodology of GEM: With its definition and study methodology of Entrepreneurship, GEM is highly recognized among international community as well as collaborates with a diverse range of academic and research institutions globally. Babson College (USA) and London Business School (UK) are the founding institutions of GEM. GEM has engaged closely with major international institutions such as the World Bank, World Economic Forum, United Nations and the European Commission, collaborating on reports, presenting at events and providing expert advice. Over twenty years of experience in measuring entrepreneurship and scientific presence in the GEM survey process suggest that GEM data collection and measurement of entrepreneurship is well recognized. GEM like global statistical initiatives uses standardized definitions and unified study methodology for all countries to allow comparison, while national legislation in different countries are designed for administrative and regulation reasons and may not be comparable.

3.6 Conclusions

- **Entrepreneurial activity is a multifaceted driver of economic health, but its expression and impact vary significantly across economies.** While some nations prioritize a high number of startups and self-employment, others focus on growing established medium-sized businesses. Understanding these differences is crucial for effective development strategies, as different entrepreneurial types present distinct challenges and opportunities.
- **Armenia has demonstrated a notable capacity for early-stage entrepreneurial activity, achieving a high Total early-stage Entrepreneurial Activity (TEA) rate of 17.6% of adults and ranking 13th among 51 countries in 2024.** This highlights a dynamic segment of the Armenian economy, indicative of a population willing to engage in new business ventures. However, it's essential to consider that high TEA rates alone do not guarantee long-term economic prosperity.
- **A concerning trend is the decline in Armenia's TEA indicator, which decreased by 3.4 percentage points from 2019 to 2024.** In 2019, Armenia ranked 7th among 50 countries, with a higher TEA, but the subsequent decline reflects the adverse impacts of factors such as a less favorable business environment (also considering increased uncertainty in the economy and worldwide) and the incomplete implementation of crucial institutional reforms.
- **In Armenia, the decline in TEA is largely attributed to a reduction in nascent business share, which decreased from 14.1% in 2019 to 11.5% in 2024.** This decline is further compounded by a series of socio-economic and security challenges in recent years, creating an environment of uncertainty that makes it difficult for new businesses to establish themselves, while those with some income are more likely to continue operating.
- **Global entrepreneurial trends reveal an increasing confidence in entrepreneurial skills, with a positive correlation increase from 0.561 to 0.604 between 2019 and 2024.** Simultaneously, there's a diminishing emphasis on structured long-term business plans among entrepreneurs, with the correlation between TEA and having a vision or business strategies

dropping from 0.466 to 0.276. This shift might be due to the rise in self-employment, where businesses can be started quickly without extensive long-term planning.

- **Government support has played a crucial role in helping businesses navigate these turbulent times, with initiatives aimed at preserving jobs, modernizing assets, and increasing working capital.** These interventions are vital for maintaining economic stability and fostering resilience among small entrepreneurs.
- **Demographically, younger individuals in Armenia are at the forefront of early-stage entrepreneurial activity, with over 16% of the population aged 18-34 engaged in nascent business activities, compared to less than 5% of those over 45.** This highlights the importance of targeted support and development programs to harness the potential of the youth demographic.
- **Gender dynamics within Armenian entrepreneurship reveal that men are more inclined to take risks in business, particularly in unstable environments, while women's entrepreneurial engagement has undergone significant shifts.** The share of men owning nascent businesses declined relatively less compared to women (8.9% vs. 12.0% in 2019). This disparity may be influenced by traditional gender roles and societal expectations, which can shape entrepreneurial behavior and opportunities.
- **Economic factors also play a significant role, with entrepreneurial activity increasing among highest income group in Armenia, while decreasing in middle-income groups.** Nascent businesses experienced declines of 6.7 and 3.8 percentage points for the lower-middle and upper-middle income groups respectively and an increase of 4.4 percentage point among highest income group. This trend suggests that in addition of increased employment opportunities, access to resources and financial stability can significantly influence entrepreneurial decisions and success.
- **Geographically, nascent entrepreneurship has grown in other urban areas of Armenia, while declining in Yerevan and rural areas.** This may be attributed to factors such as job creation in Yerevan, where approximately 130,000 additional salaried employees were added from 2019 to 2024, and the decline of agricultural productivity in rural areas.

- **Established Business Owners (EBOs) are crucial for Armenia's economic stability, and their share has improved, reaching 10.8% in 2024, compared to 7.8% in 2019.** This increase indicates a degree of resilience and adaptation within the business sector.
- **The overall level of entrepreneurship in Armenia has remained relatively stable, with the growth in EBO activity offsetting the decline in TEA.** The share of adults involved in any businesses in Armenia is 27.7%, ranking 12th among 51 countries in 2024. This stability, however, masks underlying shifts in the entrepreneurial landscape, highlighting the need for policies that support both the creation of new businesses and the sustained growth of existing ones.
- **Armenia's entrepreneurial activities are undergoing a transformation, with traditional industries/sectors like agriculture and trade experiencing a decline, while manufacturing shows signs of growth.** The share of agriculture in TEA decreased from 29% in 2019 to 21% in 2024.
- **Entrepreneurship in Armenia is still largely concentrated in extractive industries (primarily agriculture) and consumer services (mainly retail trade).** However, there is a positive trend with the growth of business services, as the share of Business Services in EBOs increased from 2.7% to 6.2%, indicating a move towards a more knowledge-based economy.
- **Regional disparities remain a significant factor, with extractive sector entrepreneurship still dominant in rural areas, where it constitutes 63.1% of EBOs.** This highlights the need for targeted interventions to promote diversification and enhance economic opportunities in these regions. The growth of business services in other urban areas, where it constitutes 14.4% of EBOs, driven by factors like lower costs and improved infrastructure, presents an opportunity for more balanced regional development.

The GEM Armenia National Team had prepared hypotheses regarding entrepreneurial activities for TEA and EBO in Armenia before the surveys. The APS results either confirm or reject these hypotheses:

1. **Entrepreneurial activity among Armenians has increased compared to 2019.**

The hypothesis is rejected. The share of adults in any business (TEA and EBO) did not change significantly (27.7% in 2024 vs 28.0% in 2019), but the share of early stage entrepreneurship (TEA) has decreased (17.6% in 2024 vs 21.0% in 2019) and EBO activity has increased (10.8% in 2024 vs 7.8% in 2019).

2. **TEA, EBO economic structure changed to more productive.**

This hypothesis is confirmed, as the share of the Extractive sector, which mainly includes agriculture, has decreased by 8 percentage points in TEA and 2 percentage points in EBO, instead the share of Transformative and Business services sectors increased (12 and 3 pp in TEA and 1 and 5 pp in EBO), which are relatively more productive and generate higher value added.

3. **Yerevan as the focus of entrepreneurship, concentration not decreased.**

The hypothesis is confirmed, considering the share of TEA and EBO businesses in Yerevan. While the shares of active TEA and EBO businesses were 33.9% and 24.0% in 2019 GEM, it was 32.4% and 24.6% according to 2024 GEM. Although entrepreneurial activity has increased in other urban settlements the changes in Yerevan's share in number of early stage and established businesses did not change significantly.

4. **Entrepreneurship of women have higher increase vs men.**

This hypothesis is mainly rejected. The ratio between the share men and women engaged in any business (TEA or EBO) have not decreased significantly (1.77 times in 2019 vs 1.69 times in 2024). The difference between the shares of men and women in early-stage entrepreneurship (TEA) has even increased (the ratio between the indicators in 2019 was 1.5 times, while in 2024 it was 1.7 times). The difference between share of TEA entrepreneurs among men and women is one of the largest among 2024 GEM countries in Armenia. Anyway, the ratio between the indicators in EBO has improved (from 2.3 times in 2019 to 1.8 times in 2024). These trends may suggest that while women still lack behind men in starting a business, they are more successful in sustainability and survival of their businesses. It should be mentioned that, considering the youngest age group (18-24) the difference between men and women decreased significantly (from 1.64 in 2019 to 1.16 in 2024), which means in new generation the difference between shares of men and women in

entrepreneurship has narrowed and will impact overall country indicators in near future.

5. **The impact of age on entrepreneurship remains significant, with a particular emphasis on a younger audience. (The hypothesis was that the 18–24 age group has become more engaged in entrepreneurship).**

The hypothesis is confirmed. The share of population from 18-24 age group in any entrepreneurship has shown the largest increase and this age group has the largest share of entrepreneurs in 2024 (34.1%). The share of entrepreneurs in 18-24 age group in 2019 was while was 24.6% and the age group with the largest share was 35-34 group.

6. **The engagement in entrepreneurship in rural regions remains higher than in Yerevan due to limited alternative sources of income.**

This hypothesis is confirmed. Population in rural areas have the largest share of any entrepreneurship (TEA and EBO) compared to Yerevan and other urban areas (34.7% vs 21.9% and 26.2%). Anyway, compared to 2019, share of entrepreneurship in rural area have slightly decreased (was 37.4%). Almost similar decrease was noticed in Yerevan (was 24.9%), while in other urban areas share of adults in any entrepreneurship increased (was 19.3% in 2019). These changes perhaps are explained with declining share in agriculture (which is the main activity in rural areas), which is the main driving force behind the movement of the population from rural to urban areas.

CHAPTER IV. MOTIVATION AND ASPIRATIONS: WHY DO ARMENIANS START OR RUN A BUSINESS?

Entrepreneurs are not driven by the need to make money, but by the need to make meaning.

GUY KAWASAKI
former Apple evangelist
and author

AMERIA
MANAGEMENT ADVISORY

GEM Global Entrepreneurship Monitor

4.1 Introduction

The motivations driving individuals to embark on entrepreneurial ventures can give a direction to a nascent business and impact its further development. In every country, these motivations reflect the dynamic interplay of socio-economic conditions, cultural values, and personal aspirations. Some entrepreneurs are driven by the pursuit of higher income and wealth, while others are inspired by the desire to innovate, solve pressing societal challenges, or sustain and grow family businesses. For many, entrepreneurship serves as a pathway to greater independence and a viable alternative to limited traditional job opportunities.

Understanding these motivations offers a lens through which to view the broader socio-economic environment in which entrepreneurial activity occurs. In the Armenian context, the entrepreneurial ecosystem in 2024 is shaped by a unique blend of opportunities and challenges, including the need for economic diversification, digital transformation, and leveraging global connectivity.

Beyond individual motivations, the aspirations of entrepreneurs significantly influence the potential impact on the economy. Entrepreneurs in Armenia are playing a crucial role in fostering innovation, driving job creation, and enhancing competitiveness on both regional and international levels. This chapter explores the motivations fueling entrepreneurship in Armenia, delving into the socio-economic factors at play, and highlighting the aspirations of entrepreneurs as they contribute to a thriving, forward-looking economy.

4.2 The motivations for starting a business

Main reasons of starting or running a business in GEM are divided into four motivation statements. The GEM APS stated the following motivation statements for starting and running a business, with which the respondents could agree or disagree:

- To make a difference in the world (Difference);
- To build great wealth or very high income (Wealth);
- To continue a family tradition (Family);
- To earn a living because jobs are scarce (Living).

Within the APS framework, respondents could choose answers on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with intermediate options including somewhat agree, neither agree nor disagree, and somewhat disagree. Each respondent could agree to several statements at once.

According to the GEM APS 2024 results, for both Early-stage entrepreneurs (TEA) and Established businesses (EBO) in Armenia **the necessity-driven motive "To earn a living because jobs are scarce" has the highest frequency of agreement** (Tables 14 and 15). 79.3% of TEA and 86.2% of EBO agreed with this statement. With this indicator for TEA, Armenia is ranked at 15th place out of 51 GEM APS 2024 countries and ranks 3rd among 15 "Eastern Europe+" countries after Romania and Kazakhstan. In terms of EBO's, Armenia with 86.2% is 10th among the 51 GEM APS 2024 countries, and 2nd among 15 "Eastern Europe+" countries (after Romania). This means that entrepreneurship in Armenia is more necessity driven compared to other countries. On the other hand, compared with the countries with similar income (GEM income group C, countries with GDP per capita less than 25.000$) Armenia ranks 8th and 7th out of 12 countries for TEA's and EBO's respectively. This means that Armenian entrepreneurship is less necessity driven when compared to similar income level countries.

Table 14. Armenia vs GEM 50: Motivation for Early-stage entrepreneurship (TEA)

Motivation statement	% agree to the statement, 2024	% agree to the statement, 2019	Armenia's Rank, 2024			GEM 51 countries average, 2024	Difference with 51 GEM countries average	Difference with 2019
			In all 51 GEM countries	In 15 E. Europe+ countries	In 12 income group C countries			
Difference	21.8%	18.4%	49	14	12	46.0%	-24.2%	3.4%
Wealth	63.2%	51.5%	20	3	7	59.2%	4.1%	11.7%
Family	43.3%	35.5%	8	1	4	31.3%	12.0%	7.8%
Living	79.3%	88.8%	15	3	8	67.0%	12.3%	-9.5%

Source: GEM Adult Population Survey 2024

Table 15. Armenia vs GEM 50: Motivation for Established businesses (EBO)

Motivation statement	% agree to the statement, 2024	% agree to the statement, 2019	Armenia's Rank, 2024			GEM 51 countries average, 2024	Difference with 51 GEM countries average	Difference with 2019
			In all 51 GEM countries	In 15 E. Europe+ countries	In 12 income group C countries			
Difference	24.4%	9.6%	42	11	11	40.5%	-16.2%	14.8%
Wealth	51.6%	33.6%	28	6	9	52.6%	-1.0%	18.0%
Family	56.4%	50.4%	7	1	4	39.1%	17.3%	6.0%
Living	86.2%	92.9%	10	2	7	67.8%	18.5%	-6.7%

Source: GEM Adult Population Survey 2024

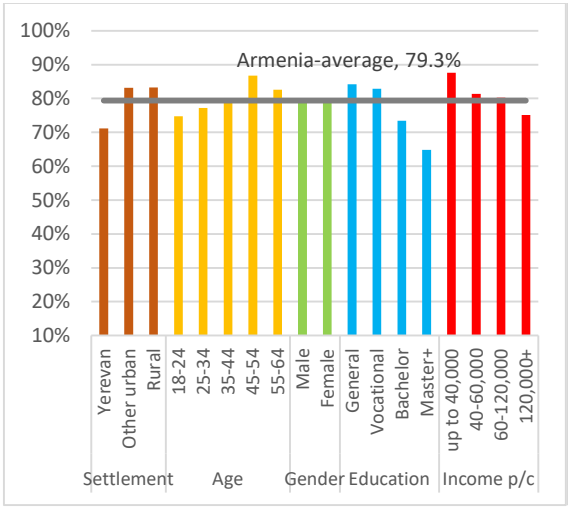
However, **in contrast with the 51 GEM countries, where the least common motivation for starting a business on average is the desire "To continue family tradition", in Armenia the lowest share holds the purpose-driven motive "To make a difference in the world"**. By this motivation of "Difference" for TEA's Armenia holds the 49th position out of 51, lagging behind the GEM countries' average by 24.2 percentage points. Although share of EBO's reporting "Difference" as a motivation to start a business has significantly increased compared to 2019 (by 14.8 percentage points), however Armenia with 24.4% indicator remains at 42nd position among 51 GEM countries.

Comparison between TEA and EBO outlines significant motivational differences. Even though structurally for both TEAs and EBOs the most common motivation is "To earn a living because jobs are scarce" (Living), however, for TEAs this motivation became less relatable (-6.9 percentage points compared to EBOs). Moreover, compared to 2019, "Living" motivation is by 9.5 percentage points less relatable for TEAs, which can mean, that scarceness of jobs became a less striking problem, conditioning start of new businesses. On the other hand, nascent entrepreneurs became more eager to start business "to build great wealth or very high income" (Wealth): compared to 51.5% of 2019, in 2024 63.2% of TEA's agreed with this statement (11.7 percentage points increase). Same dynamics is observed for EBO's: in 2024 share of established businesses, that had a motivation of "building a great wealth or high income" was 51.6% and increased by 18.0 percentage points compared to 2019. This change may signal a growing ambition among entrepreneurs to capitalize on financial opportunities.

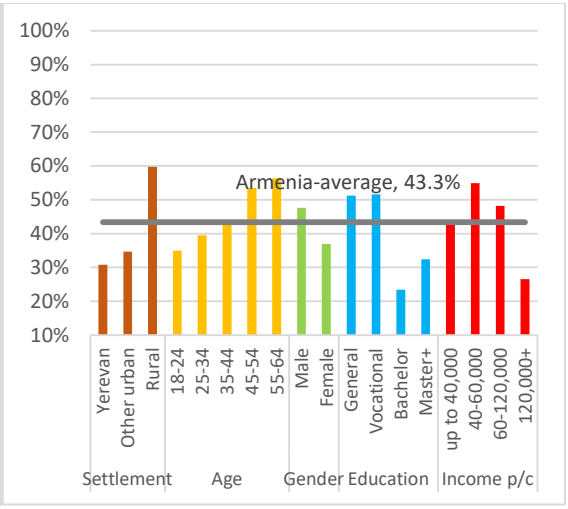
Analyzing motivations for starting a business among various population groups in Armenia, it becomes evident that "to earn a living because jobs are scarce" is the most prevalent driving factor across all groups. It has a higher share in areas outside Yerevan, which can be explained by wider range of job opportunities in the capital, compared to the regions. The share of those motivated by “earn[ing] a living” is decreasing among younger age groups and also among those groups with higher education and income per capita. In 2024, the gap between female and male motivations for starting a business due to scarce job opportunities has been smoothed compared to 2019. In 2019, female respondents were more likely to agree with this statement.

Figure 23. Armenia: Motivation to start a business (% of adults in TEA agreeing to statement) by different groups of population

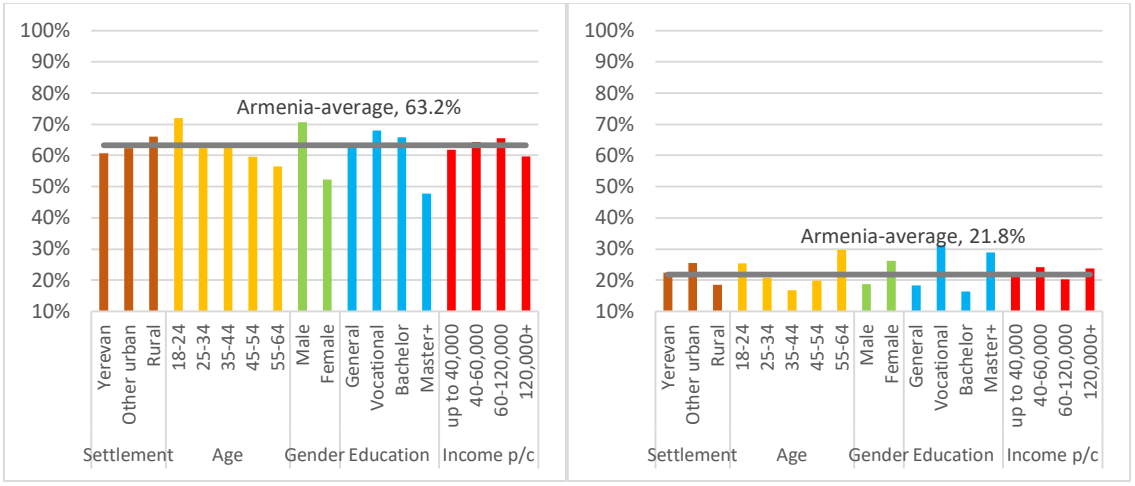
a) “To earn a living because jobs are scarce”



b) “To continue a family tradition”



c) "To build great wealth or a very high income" **d) "To make a difference in the world"**



Source: GEM Armenia: Adult Population Survey, 2024

Regarding the second highest motivation in Armenia, which is "Wealth," the trends for age groups are opposite to those of "Living". While the share of entrepreneurs motivated "To build great wealth or very high income" decreases with age, it increases moving from Yerevan to other urban areas and most commonly observed in rural areas. In case of education level, people with the highest level of education (Master+) are the least motivated to make a great wealth or a very high income. Overall, a composite profile of the Armenian entrepreneur with the highest motivation "To build great wealth or a very high income" is 18-24-year-old male from rural area most likely to have a vocational educational level and higher middle level income.

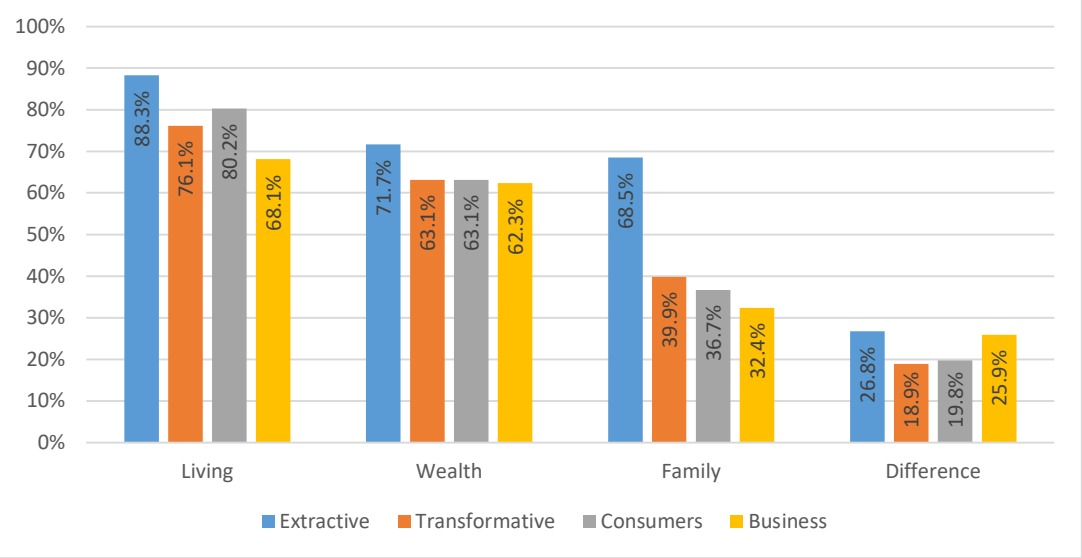
As with the motivation of "Wealth," the primary group driven by the desire to continue "Family" traditions are men from rural areas. In the case of the latter, this is likely due to the fact that most people in rural settlements are engaged in Extractive sector (mainly agriculture), passing down skills and expertise through generations. Consequently, continuing family traditions in rural areas is the main motivation after "Wealth." However, unlike the motivation for "Wealth," where younger individuals are more driven, the motivation to continue family traditions increases with age.

Interesting is the change in the composite profile of the Armenian entrepreneur with the highest motivation "To make a difference in the world" compared to 2019. While in 2019 the group most motivated by the desire to change the world consisted of women living in Yerevan aged 18-24 with a Master's+ degree of

education and with highest quartile of income group, in 2024, this profile has enlarged with women from urban areas (excluding Yerevan) aged 55-64 with vocational education and lower middle-income group.

Notable details are also revealed when we consider the distribution of motivations by economic sectors defined by GEM. All sectors share "Living" as the dominant motivation, suggesting that scarceness of jobs remains the primary driver for entrepreneurship in Armenia regardless of the sector. However, the specific emphasis on other motivations varies. For instance, Wealth is consistently strong across all sectors but peaks in the Extractive (71.7%) and Business services (62.3%) sectors (IT, wholesale trade, other business services), highlighting their perceived revenue-generating potential. In contrast, Family motivation is less pronounced in the Business sector (32.4%), which most probably aligns with its focus on industrial processes rather than traditional or generational practices.

Figure 24. Armenia: Motivation to start a business (% of adults in TEA agreeing to statement) by type of business/economic sector



Source: GEM Armenia: Adult Population Survey, 2024

An extraordinary observation is the relatively high "Difference" motivation in the Extractive sector (26.8%). At first sight it could seem, that extractive sector of the economy highly conditions the motivation of “making a difference in the world”. However, Table 16 highlights that **only two motivations - “Family” and “Living” -**

are significantly influenced[9] by the sector in the economy. These motivations are negatively associated with involvement in the Business services sector. This indicates that entrepreneurs engaged in the Business services sector are unlikely to start their entrepreneurial activities with these motivations. This suggests that entrepreneurs in this sector are not typically driven by the need to address job scarcity, implying that they likely have alternative employment opportunities or motivations. Conversely, the motivation to "continue family traditions," is positively correlated with the Extractive sector. Given that the Extractive sector is heavily tied to agriculture and traditional practices, it is unsurprising that entrepreneurs in this sector are more likely than others to start a business with the intention of continuing family traditions. This alignment reflects the cultural and generational ties inherent in the agricultural and extractive industries.

Table 16. Armenia: Motivation to start a business (% of adults in TEA agreeing to statement) by type of business/economic sector (difference with total average, percentage points)

		Motivation			
		Difference	Wealth	Family	Living
Sector	Business	**4.1**	**-0.9**	**-10.9**	**-11.2**
	Consumers	**-2.0**	**-0.1**	**-6.6**	**0.9**
	Extractive	**5.0**	**8.4**	**25.1**	**8.9**
	Transforming	**-2.9**	**-0.1**	**-3.5**	**-3.2**

Source: GEM Armenia: Adult Population Survey, 2024

4.3 Impact: Activities and Aspirations

Regardless of the reason or motivation behind starting entrepreneurial activity, it has a profound impact not only on the business environment but also on many different growth aspects of an economy. Job creation, innovation in product and production processes, the export of goods and services, contributions to achieving sustainable development goals represent examples of the direct or indirect impact of entrepreneurship on the environment and society. This chapter analyzes these impacting activities (job creation, taking innovative decisions, selling products

[9] Considering the size of the sample, differences of less than 10% were not considered as statistically significant

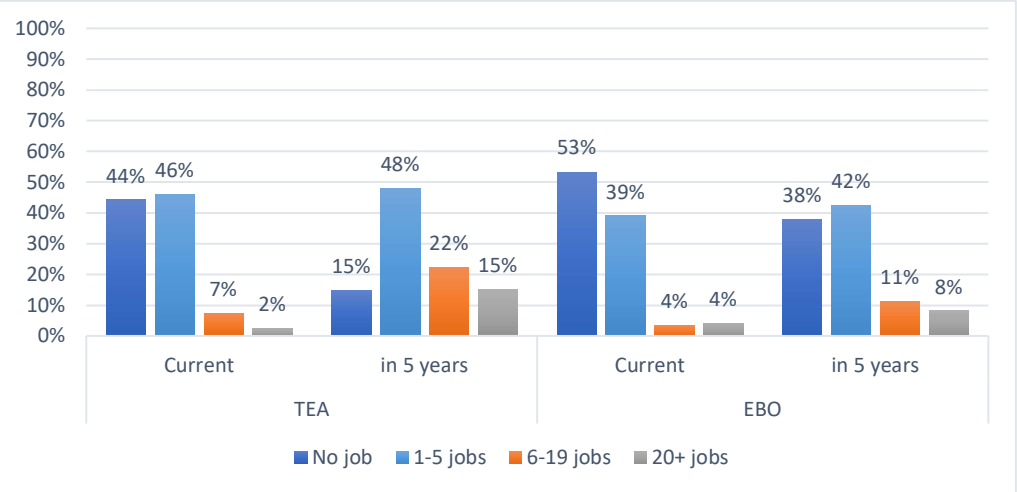
abroad, compliance with SDGs) of entrepreneurship and a comparison of the prevalence of those or that activities among different population groups.

Growth expectation: Jobs

Job creation is probably one of the first things with wealth and risk, that is being associated with the entrepreneurship. Number of jobs in an organization is one of the main indicators of its size. Current number of jobs in a business and its expectation of growth in near future serves as a key indicator for assessment of its potential economic impact.

The GEM questionnaire asks respondents engaged in TEA and EBO to specify the number of employees currently working in their business (excluding themselves as owners or managers) and to provide their expectations regarding the number of employees their business will have in five years. **Large part of new businesses (44%) and majority of established businesses (53%) in Armenia provide no jobs, or in other words are "one-man businesses".** Compared to 2019, these indicators increased by 21 and 22 percentage points for TEAs and EBOs respectively. Furthermore, while share of TEAs that operate with zero or less than five employees didn't change in comparison with 2019, and remains at 90%, share of EBOs with zero and less than five employees increased by 9 percentage points, reaching 92% in 2024. These changes indicate a notable trend toward micro business dominance, which can be related to increased survivability of micro businesses in Armenia due to tax, customs and other benefits provided by the government for small and medium-sized and, especially, for micro enterprises. While such assistance is valuable, an increasing share of micro-businesses in Armenia, at the expense of small and medium-sized enterprises, may indicate a lack of the necessary skills for scaling up. This, in turn, hampers productivity growth both at the business level and within the broader economy. While support for business creation and early-stage development is essential, an even greater priority should be the acceleration of these businesses through targeted skill enhancement for entrepreneurs. Strengthening the capabilities of business owners will facilitate the successful transition of EBOs into larger enterprises, thereby driving sustainable economic growth.

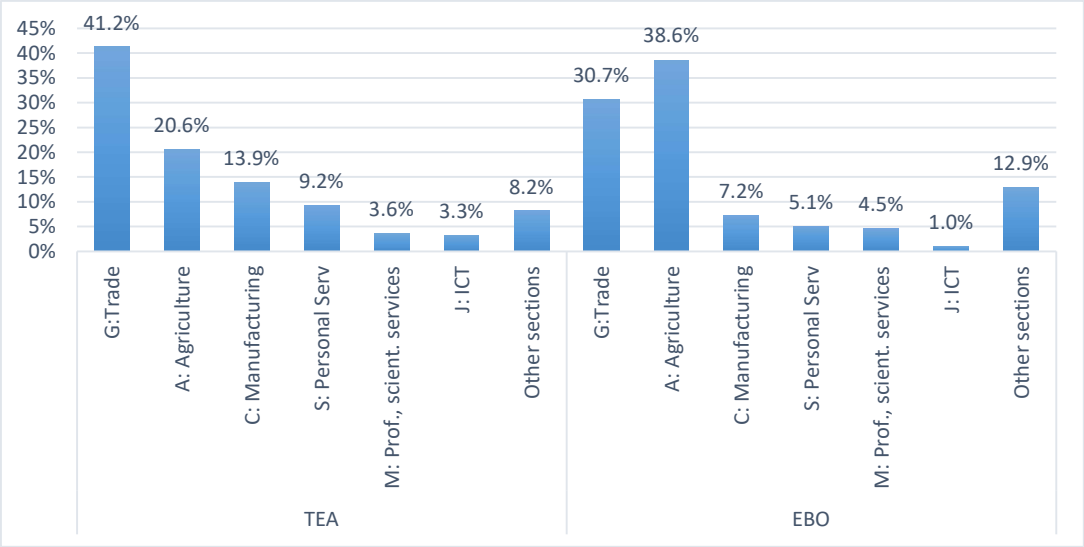
Figure 25. Armenia: Structure of TEA and EBO by job size of businesses (now and expected in 5 years)



Source: GEM Armenia: Adult Population Survey, 2024

The analysis of "one-man business" TEAs and EBOs by economic activities shows that majority of them are either in Trade or Agriculture. The share of these two sections in "one-man businesses" EBOs reached 69.5%. Moreover, over 1/3rd of "one-man businesses" in Trade section are engaged in agrifood trade (retail sale of fruits and vegetables in stores). It is not surprising that in a country where the most common motivation for starting a business is "earning a living because jobs are scarce" and where this motivation is particularly prevalent among rural and other urban (other than Yerevan) population with basic or vocational education, the most attractive economic sections for both starting and established entrepreneurs are the mentioned ones, that do not require higher education qualifications or specialized trainings, and have comparably lower barriers of entry.

Figure 26. Armenia: Structure of "one-man business" TEAs and EBOs by sections of the economy



Source: GEM Armenia: Adult Population Survey, 2024

Trend toward micro business dominance in Armenia has its pros and cons. On one hand, small businesses create competitive environment, balancing prices for goods and services within the country's economy. Enterprises with less employees are more flexible and can quickly adjust to market changes and consumer needs. These type of businesses contribute to employment, especially in rural and non-urban areas. On the other hand, a dominance of micro businesses may hinder the development of strong, export-oriented industries. They have less productivity due to lack of access to advanced technologies and R&D. However, from an economic impact perspective, the trend toward one-person businesses have led to a situation where, despite Armenia ranking relatively high in terms of the share of TEA in the population at 17.6% (13th place among 51 countries), 44% of these TEA do not create additional jobs. As a result, only 9.9% of the total population starts a business in the traditional concept of business from the perspective of job creation, which is undoubtedly a negative phenomenon for a country like Armenia, where outbound work practice is widely common.

Data on the number of current jobs by TEA and EBO show that on average each TEA creates 4.0 jobs and each EBO creates 3.9 jobs, while median size of TEA is only 1 job and for EBO is no jobs. Comparing these data to 2019 GEM indicators for Armenia (average TEA – 1.6, median TEA – 0, average EBO – 4.1, median EBO -2 jobs), we can state: TEA size increased, while EBO size decreased. However, it should be

mentioned, that the increase in average job number of TEAs in 2024 was due to few companies with outlying amount of job places compared with the most of companies, extracting which from the sample decreases the average number significantly. **The expectations of TEA in creating over 6 jobs in next 5 years are similar to TEA's expectations in 2019, while expectations of EBO's are much moderate compared to 2019.** In both cases (TEA and EBO) expectations on number of jobs in their businesses is higher than now. Particularly if only 2% and 4% of TEAs and EBOs respectively have mentioned over 20 jobs currently, the share of businesses with over 20 jobs is expected to increase to 15% in TEA and 8% in EBO (in 2019 the corresponding numbers were 17% and 14%). This shows that there is a phenomenon among Armenian EBOs, that can metaphorically be called "glass ceiling". At a certain stage of development, Armenian established businesses often choose not to expand further for two main reasons. First, they lack the necessary skills and capabilities that would enable them to scale up. Second, there is a prevailing perception that further growth and expansion are not worthwhile, as the investment of resources and time may not yield sufficient returns to justify the effort. Therefore, it is recommended to take into account that supporting, accelerating, and scaling up established businesses is just as important, if not more so, than supporting the creation, startup phase, and development of micro-businesses.

The data on current job sizes of companies in Armenia highlight significant variations across sectors and regions. Average TEAs and EBOs in Transformative sector of the economy (industry, construction and wholesale trade) have on average 9.6 and 12.3 jobs, respectively. However, in both cases (TEA and EBO), regardless of the sector of economy, median enterprise creates 0 job, which means that most of them work as a "one-man business" and just few companies are active in job creation. Regionally, Yerevan has the highest average number of jobs created by EBOs (8.2 jobs), while TEA generates the most jobs on average in rural areas (6.4 jobs).

Table 17. Armenia: Average and median number of current jobs in TEA and EBO by sectors and regions

TEA					
by sectors			by regions		
	Average	Median		Average	Median
Extractive	2.5	1	Yerevan	2.8	0
Transformative	9.6	2	Other urban	1.2	1
Business	2.3	1	Rural	6.4	0
Consumer	2.2	0	**Armenia**	**4.0**	**1**
EBO					
by sectors			by regions		
	Average	Median		Average	Median
Extractive	1.3	0	Yerevan	8.2	1
Transformative	12.3	0	Other urban	6.2	0
Business	1.4	0	Rural	1.4	0
Consumer	3.0	1	**Armenia**	**3.9**	**1**

Source: GEM Armenia: Adult Population Survey, 2024

Transformative sector is the only sector of economy where the job creation expectations in 5 years mentioned during 2019 GEM were close to current jobs in 2024: Business services sector expectations failed. The anticipated job growth projections for TEAs from 2019, which have since transitioned into EBOs by 2024, did not materialize as expected. The only economic sector that demonstrated a notable alignment with its initial job growth expectations was the transformative sector. In this sector, TEAs in 2019 had an average of 1.1 jobs, with a projected increase to 17.4 jobs over five years. By 2024, EBOs in the transformative sector reported an average of 12.3 jobs, reflecting notable growth, though still below initial projections. However, in other sectors expectations were exaggerated, especially those in Business services sector (ICT, professional, administrative services). While Business sector TEAs had 8.3 jobs on average in 2019 and expected to have 37.9 in five years, number of jobs for EBOs in this sector became even less in 2024 decreasing to 1.5 on average. Such change may be due to a shift in the business model within the sector. Many activities/services in this sector can be provided by one man solely (real estate, IT, professional services such as advertising or photography services, etc.) and any advantage to micro-sized businesses over larger

businesses in economy do not support their growth in size. A significant portion of enterprises in this sector operate as "one-man business" (74.8% of total).

Expectations in job creation by TEA and EBO in 5 years are the highest for entrepreneurs in Transformative sector and in other urban areas. Regarding expected job numbers in Armenia over the next five years starting from 2024, in TEA, the entrepreneurs in Transformative sector projects the highest job growth (49.4 jobs on average), while entrepreneurs in Extractive, Business services, and Consumer sectors anticipate much lower increase in number of jobs. Median values remain low, meaning that only a few businesses drive the higher averages. Regionally, other urban areas and Yerevan show the highest TEA job expectations, while rural areas lag behind. In EBO, the transformative sector again leads with 67.2 jobs on average. Yerevan and other urban areas anticipate the most job creation, but median values of 0 in most cases suggest that widespread job expansion remains uncertain. Even so, TEAs in Armenia anticipate job increase of 2 on median level and even 22.0 on average level.

Table 18. Armenia: Average and median number of job increase expected by TEA and EBO, by sectors and regions

TEA					
by sectors			by regions		
	Average	Median		Average	Median
Extractive	13.1	2.5	Yerevan	26	2.5
Transformative	49.4	3.5	Other urban	42.1	2
Business	12.1	4.5	Rural	4.2	1
Consumer	12.6	1	**Armenia**	22.0	2
EBO					
by sectors			by regions		
	Average	Median		Average	Median
Extractive	2.2	0	Yerevan	28.7	0
Transformative	67.2	0	Other urban	47.3	0.5
Business	5.5	2	Rural	2.2	0
Consumer	4.2	0	**Armenia**	**16.9**	**0**

Source: GEM Armenia: Adult Population Survey, 2024

It is also interesting to compare job growth anticipations of different enterprises by motivations to start a business. TEAs with the motivation of "Living" have the highest job growth expectations, at 25.7 on average, while on median level their job creation expectations are the lowest (1.5 jobs). That's because of the fact, that a little number of TEAs accepting this motivation expect to create enormous amount of jobs in 5 years (up to 2000), while most of the starting businessmen with this motivation create 1-5 jobs. On the median level "Wealth" motivation is the most proactive in creating job opportunities among TEAs (3 more jobs in 5 years). For EBOs, the dominant motivation by average indicators is "Wealth", with expectation of 32.5 more jobs in 5 years. The lowest job expectations for both TEAs and EBOs come from businesses focused on "continuing a family tradition", where TEAs anticipate 10.7 jobs and EBOs only 2.3. This trend is likely linked to the more conservative approach to business management in the agricultural section of the economy, as this motivation is predominantly popular among the rural population. While in 2019 the entrepreneurs who were motivated "To make a difference in the world" expected to create more jobs during the next five years than entrepreneurs' who were driven by the other three motives, in 2024 their anticipations became humbler (11.3 for TEAs and 8.6 for EBOs).

Table 19. Armenia: Average number of job increase expected by TEA and EBO, by motivations to start a business

	TEA		EBO	
	average	median	average	median
Difference	11.3	2.5	8.6	2.5
Wealth	19.6	3	32.5	0
Family	10.7	2	2.3	0
Living	25.7	1.5	18.3	0

Source: GEM Armenia: Adult Population Survey, 2024

Internationalization: Market orientation

Another impact that entrepreneurship may have is market orientation (or internationalization). As entrepreneurial ventures often drive businesses to expand their market reach and adapt to global competition, internationalization becomes a key strategy for growth and long-term sustainability, especially for the countries with small domestic market, like Armenia. Entrepreneurs who prioritize market orientation focus on understanding customer needs, competitor strategies, and

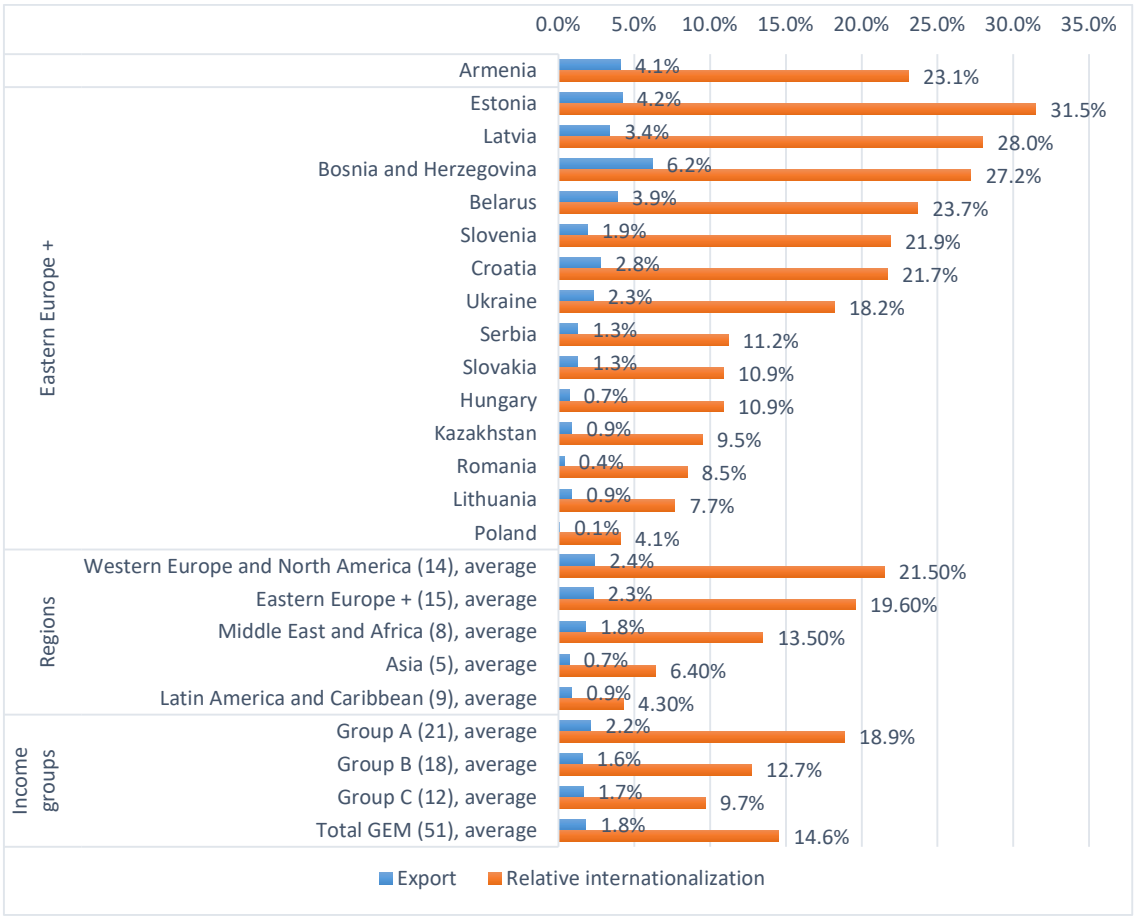
industry trends, which enhances their ability to innovate and create value. Internationalization plays a crucial role in enhancing business and brand recognition. By expanding into foreign markets, companies not only increase their revenue potential but also establish a stronger global presence, which can lead to long-term growth and competitiveness. Several factors influence positive outcome in internationalization process. Internally, strong market orientation, innovative products, financial resources, and managerial expertise enhance a company's ability to expand globally. Externally, favorable trade policies, strategic partnerships, technological advancements, and strong brand recognition facilitate smoother market entry. When these elements align, businesses can achieve successful and sustainable global expansion.

Armenia ranks 5th with TEA internationalization absolute indicator (4.1%) among 51 GEM countries (after Bosnia and Herzegovina, Canada, United Arab Emirates and Estonia) and 11th with internationalization relative indicator (23.1%). Like in 2019, more than 4% of adults both starting or running a new business are anticipating 25% or more of revenue from outside their country. Even though in 2019 one of the reasons of the appearance of Armenia in top-3 countries was relatively large share of TEA activity (Armenia was 7th out of 50 countries in 2019 GEM), in 2024 the internationalization indicator remained almost the same (4.1% in 2024 vs 4.3% in 2019), while the share of TEAs in adult population decreased from 21.0% to 17.6% (placing Armenia at 13th position out of 51 countries). Therefore, it can be stated that internationalization indicator of TEA's in Armenia in 2024 increased compared to the 2019: the share of TEAs expecting more than 25% of their income from abroad increased from 20.3% in 2019 (14th out of 50 counties) to 23.1% in 2024 (11th out of 51 GEM countries). Such a high level of internationalization for Armenia could have been assessed as unexpected given the numerous negative factors affecting Armenia's exports, such as the lack of access to the sea, closed borders with two of its four neighboring countries, underdeveloped logistics systems, and other economic and geopolitical challenges and economical risks, such as huge concentration level of Armenian exports, which in situation of changing geopolitical conditions in the world could have led to a decrease of Armenia's international presence. In addition to the aforementioned factors, the majority of Armenian exports are transported via land routes through neighboring Georgia and Iran. Due to additional fees for road usage and fuel price differences applied by these countries, transportation costs increase, which in turn raises the overall price of

goods. This makes Armenian products less competitive in international markets. Anyway, considering small market in Armenia, internationalization is the only possible way for the business development.

One of the reasons for increased internationalization compared to 2019 were the opportunities emerged in the Russian market as a result of the Russian-Ukrainian war. Particularly, export of goods from Armenia in 2024 was 4.9 times higher compared to 2019, which was significantly impacted by increase of the share of Russia as destination for the Armenia's export starting from 2022 also due to re-export. In this regard, Armenian aspiring entrepreneurs may perceive Russia as an easy market for export and expect a high share of their exports to be directed to this country. This impact could have been more noticeable in 2022-2023, and on bigger companies. Considering the fact that big share of TEAs in Armenia are one-man businesses, however expectations may be spread on smaller TEAs from bigger ones, and continue in 2024 as an inertia from 2023. However, even aside from this factor, it is reasonable for Armenian entrepreneurs to adopt an export-oriented approach, given the country's small domestic market and the necessity for businesses to seek growth opportunities abroad.

Figure 27. Absolute and Relative internationalization indicators of TEAs by countries and regions (% of adults expecting to have more than 25% of their TEA revenue outside of their country and % among TEAs)



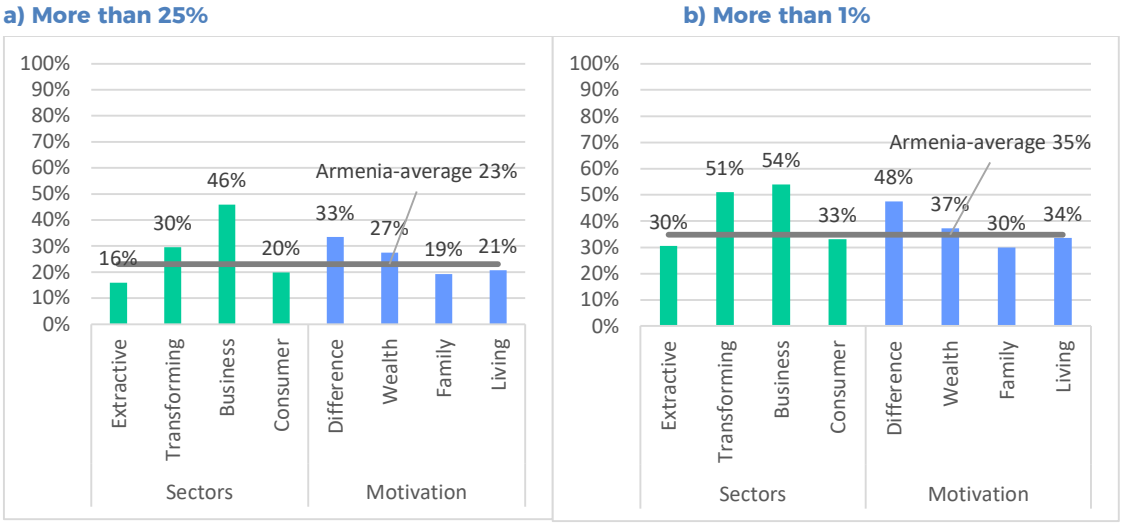
Source: GEM Adult Population Survey, 2024

As in 2019, in 2024 TEAs appear to be much more export orientated than EBOs (share of businesses with over 25% of revenues is 23.1% vs 14.0%). While the most logical explanation of such difference could be the difference in the sectoral structure of TEAs and EBOs, data on the structure do not explain such difference in internationalization. Particularly, share of tradable industries in EBO is even a bit higher than in TEA (58% vs 54%). One of the explanations of such difference could be the difference in GEM questionnaire for TEA and EBO: EBOs answered on their current revenues, while TEA answered on their upcoming revenues, therefore some expectations might be overestimated.

Also, interesting would be to look at the export orientations between TEAs by sectors of economy and also by motivations to start a business. **The Business**

services sector (mainly ICT and professional services) demonstrates the strongest export orientation, with 54.0% of TEAs expecting at least 1% of their revenues from exports and 45.9% anticipating over 25%. The Transformative sector follows, with 51.0% of entrepreneurs expecting at least minimal exports (29.5% expecting over 25% export in their sales), while Extractive and Consumer oriented services have much moderate expectations of internationalization. Interesting that compared to 2019 expectations, entrepreneurs in Business services have lower expectations on internationalization.

Figure 28. Armenia: TEAs expecting to have their revenue outside of their country (% of adults), by motivation and sectors of economy



Source: GEM Adult Population Survey, 2024

In terms of motivation, **the entrepreneurs with "Making a difference in the world" motivation have largest expectations on their internationalization (33.5% for those expecting over 25% of their revenues from abroad and 47.5% for those expecting at least 1% of revenues from abroad)**, which is quite expected and aligns with common perceptions of this motivation and its ambitions. Those, who are motivated "to continue family traditions" by starting a business (mainly in agricultural sector), are less optimistic about their internationalization. Thus, 19.3% of TEAs with "Family" motivation anticipate more than 25% revenues from exports, and 30.0% expecting at least 1% of their revenues from exports, which are the lowest indicators among all motivations.

GEM data allows also analyzing the businesses by location of their customers not only in and out of the country but also at local and/or national levels. Only 82.1% of TEAs and 73.2% of EBOs in Armenia indicated having customers in areas where they live (local market). These are one of the lowest indicators among 51 countries in 2024 GEM (47th out of 51 for TEA indicator and 51st out of 51 GEM countries for EBOs). On the other hand, Armenian TEAs and EBOs hold relatively high positions in terms of customer availability across the country on a national level. For instance, Armenia ranks 13th out of 51 countries for TEAs, with 75.5% reporting having customers nationwide. This indicator is higher than in countries like Norway (68.9%), Switzerland (73.5%) and Luxembourg (74.5%). Similarly, for EBOs, Armenia ranks 9th, with 82.7% indicating national orientation of established businesses, putting it at the same level with countries like South Korea (81.5%), Israel (81.3%) and Cyprus (80.8%). Such differences at local and nationwide level in Armenia, perhaps, can be explained by the availability of large economic disparity between different regions and concertation of economic activity in the capital. While purchasing power of regions is lower compared to Yerevan, flows of products and services to Yerevan are intuitively clear. Regional development is one of the main components to boost consumption of the created products and services on the local level.

Innovation: Product and production processes

Innovation is one of the drivers of economic growth in today's entrepreneurial realities. Innovations can be introduced as a new product or service at the local, national, or global level, contributing to what is known as product innovation in the economy. Another crucial aspect of economic innovation is process innovation, which involves the implementation of new technologies or procedures in the production of goods and services.

To assess the level of innovation in entrepreneurship in different countries GEM introduced 2 questions:

- Are any of your products or services new to people in the area where you live, or new to people in your country, or new to the world?
- Are any of the technologies or procedures used for this product or service new to people in the area where you live, or new to people in your country, or new to the world?

Around 31.2% of all TEAs (which is equivalent to 5.3% of population) in Armenia reported that they have product innovation (including new to people in the area

where you live, or new to people in your country, or new to the world). The share of product innovation is lower in EBOs: only around 19.9% of all EBOs in Armenia (or 2.0% of population) reported on product innovation. **Product innovation reported by TEA increased a bit compared to 2019 (28.8%), while product innovation among EBOs remained at the same level (19.3% in 2019).**

As in all countries in GEM 2024 product innovation largely is new to people in local area, while product innovation which is new to the world is very small. According to the GEM global report, it is a rare phenomenon to introduce product or service, which is new to the world among all participating countries.

Comparing product innovation between the sectors, the largest share of product innovation is noticed in Transformative and Business services sectors (in Armenia, correspondingly 42.2% and 41.4% of TEAs in these sectors reported on product innovation). Compared to 2019, product innovation in Business services sector decreased, while product innovation in Transformative sector increased. Increase in Transformative sector (industry, wholesale trade, transport) is mainly due to changes in part of local level innovation ("new to people on the area where they live"). Decrease in product innovations of Business services sector (ICT and other business related services) is noticed in innovations within the country, while innovations "to the world" remained at the same level (10.2% of TEAs of the sector in 2024 against 11.0% in 2019). Product innovation "to the world" are still the highest in Business services sector, compared to other sectors. As expected, the lowest share of product innovation is in Extractive sector (mainly agriculture) – 18.1% in 2024 and 17.3% in 2019.

Table 20. Armenia: Product innovation in TEA and EBOs by sectors (% in all TEAs/EBOs of each group)

	TEA				
	Sectors				
	Extractive	Transformative	Business	Consumer	**Total**
No, not new product or service	81.9%	57.8%	58.6%	72.4%	**68.8%**
New to people in the area where you live	10.7%	26.0%	15.2%	17.3%	**18.4%**
New to people in your country	7.4%	13.9%	16.0%	8.2%	**10.2%**
New to the world	0.0%	2.3%	10.2%	2.1%	**2.6%**

	EBO				
	Sectors				
	Extractive	Transformative	Business[10]	Consumer	**Total**
No, not new product or service	89.5%	64.3%	68.2%	81.3%	**79.4%**
New to people in the area where you live	9.0%	13.0%	16.5%	12.9%	**11.9%**
New to people in your country	1.5%	17.9%	15.6%	5.8%	**7.8%**
New to the world	0.0%	4.8%	0.0%	0.0%	**0.9%**

Source: GEM Armenia: Adult Population Survey, 2024

Armenia holds middle position (27th) between 50 countries in 2024 GEM with 31.2% of TEAs reporting product innovation (including for local market and global market): same position as in 2019 (out of 50 countries in 2019 GEM). Italy, Spain, Switzerland and Luxembourg are leaders here with over 40% of TEAs reporting product innovation. With this indicator Armenia is also in the middle 12 countries (7th) in the Group C (lowest income group of GEM countries). Regarding a part of product innovation (those "new-to-world") there is a significant correlation with country's GDP per capita, indicating that product innovation as "new to the world" is higher in higher income countries. Armenia is ranked 26th out of 51 countries with product innovation new to the world. At the same time, Armenia performs better with "new to the world" product innovation compared income comparable countries (Group C in GEM) and is second after Egypt with 2.7% indicator.

Technology or process innovation among TEAs remains lower than product innovation also in 2024 as it was in 2019. Around 26.2% of all TEAs (which is equivalent to 4.5% of population) in Armenia reported that they have technology or process innovation (including new to people in the area where they live, or new to people in their country, or new to the world). Similar to product innovation, the share of process innovation among EBOs is lower: only about 13.3% of all EBOs in Armenia (or 1.4% of the population) reported engaging in process innovation.

Like in case of product innovation, process innovation is also more widespread in Business and Transformative sectors of economy, compared to other sectors, but

[10] the number of established businesses in Business services sector in sample is small, so possible sample error or indicators is higher compared to other sectors

the difference between product and process innovation is larger here, which may mean that process innovation is more difficult to achieve than product innovation. Another interesting detail is that the Transformative sector has more global innovative impact in process innovation "new to the world" (3.4% process innovation vs 2.3% product innovation), while the Business sector excels in global impact of product innovation (2.7% process innovation vs 10.2 product innovation).

Table 21. Armenia: Process innovation in TEA and EBOs by sectors (% in all TEAs/EBOs of each group)

	TEA				
	Sectors				
	Extractive	Transformative	Business	Consumer	**Total**
No, not new technologies or procedures	79.7%	67.5%	66.5%	76.7%	**73.8%**
New to people in the area where you live	14.5%	18.8%	18.4%	13.4%	**15.8%**
New to people in your country	4.3%	10.3%	12.4%	8.5%	**8.4%**
New to the world	1.5%	3.4%	2.7%	1.5%	**2.1%**
	EBO				
	Sectors				
	Extractive	Transformative	Business[11]	Consumer	**Total**
No, not new technologies or procedures	91.1%	69.9%	93.3%	89.5%	**86.7%**
New to people in the area where you live	6.5%	9.5%	0.0%	6.6%	**6.8%**
New to people in your country	2.4%	15.8%	6.7%	3.9%	**5.6%**
New to the world	0.0%	4.8%	0.0%	0.0%	**0.9%**

Source: GEM Armenia: Adult Population Survey, 2024

Compared to 2019, process innovation among TEA has increased (26.2% in 2024 vs. 22.2% in 2019), while for EBO, this indicator has decreased (13.3% in 2024 vs. 16.3% in 2019). This can be explained by the fact that since 2022, there has been an influx of high-tech resources and capital from Russia to Armenia, leading to the establishment of numerous IT companies, which has boosted the level of process innovation among TEA in Armenia. In contrast, established companies (EBO) are

[11] the number of established businesses in Business services sector in sample is small, so possible sample error or indicators is higher compared to other sectors

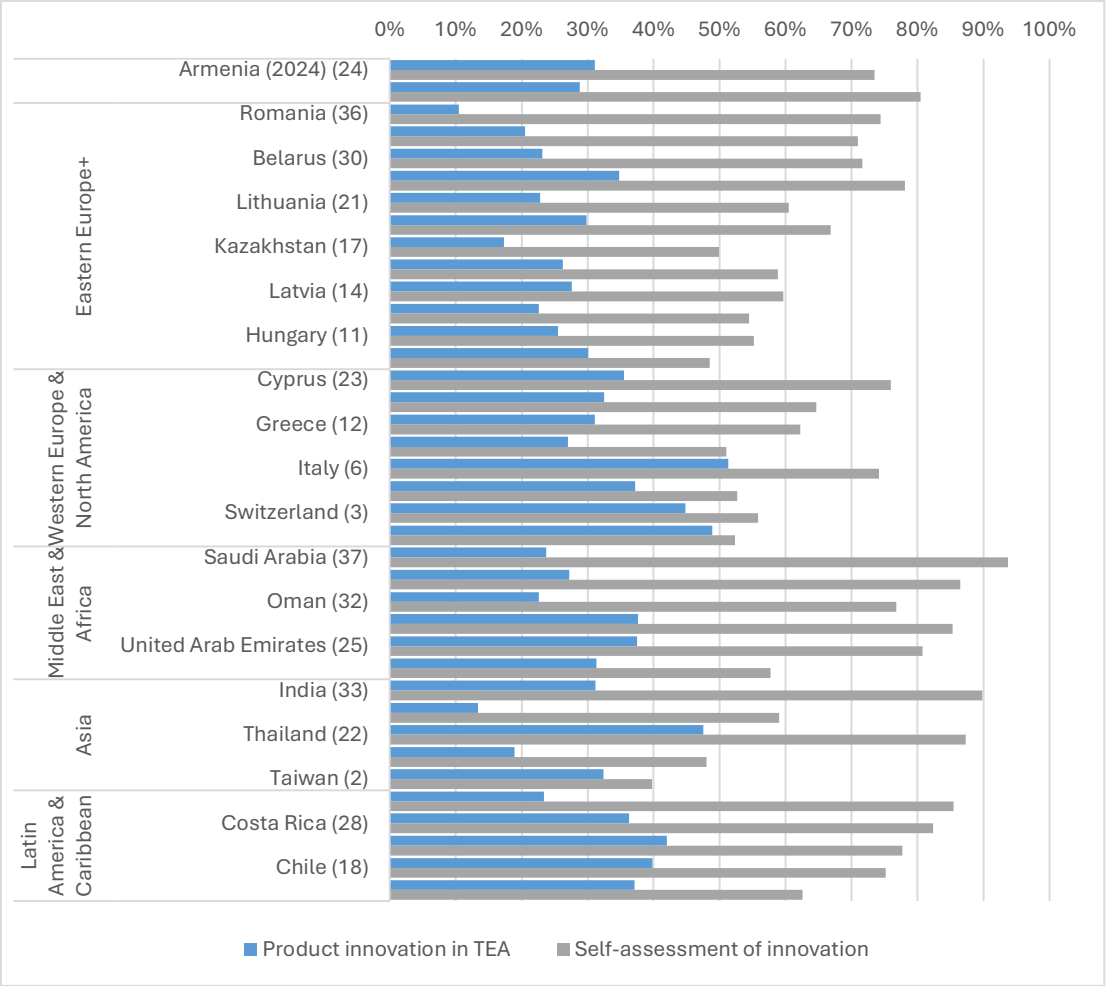
less focused on an innovative approach—on one hand, due to their existing market share and established customer base, and on the other hand, due to difficulties in attracting investments (since process and technology innovation is directly linked to attracting FDI or investing from their own resources).

Another interesting exercise is a comparison of information on self-assessment "of being innovative" (degree of agreement with the statement: "Other people think you are highly innovative") with the level of product innovation in entrepreneurship. Population of Armenia is at 16th position out of 51 GEM countries with 73.5% of respondents reporting themselves as innovative, while 27th with product innovation among TEAs (31.2%). The difference of these two indicators can be used to assess the level of overestimation of innovativeness in a country. As it can be observed from Figure 30, countries like Spain (1st with 3.5 p.p. difference), Taiwan (2nd with 7.3 p.p. difference) and Switzerland (3rd with 11 p.p. difference) have the lowest levels of overestimation about their innovativeness. Armenia with 42.4 p.p. is on 24th position out of 37[12] countries examined, and 5th in 13 "Eastern Europe+" countries. While all the countries overestimate their innovativeness level, there are some trends observed by world regions (perhaps showing cultural differences) and income level of the countries. "Western Europe and North America" countries have the lowest indicator of innovativeness overestimation (22.6 percentage points), while "Middle East and Africa" countries show the highest rate of overestimation (difference of 50.2 percentage points). Overestimation is higher for lower income countries ("income group C" countries – 44.5 percentage points, "income group B" countries – 38.4 percentage points and "income group A" countries – 29.6 percentage points).

Comparing the same indicator of Armenia in 2019 and 2024, positive change can be observed. While people became less confident about their innovativeness (80.5% in 2019 vs 73.5% in 2024), product innovation level of TEAs increased, which made overestimation level of population lower than it was in 2019 (decreased form 51.7p.p. to 42.4%). This can indicate, that Armenian population got wider understanding of what is product innovation and became more objective about their level of how much new products and services they introduce to the market.

[12] Comparison was possible only between 37 countries out of 51, as other countries didn't provide data on one or both mentioned questions.

Figure 29. Self-assessment of innovativeness (% of adults) vs Product innovation in business (% of TEAs) by countries[13]



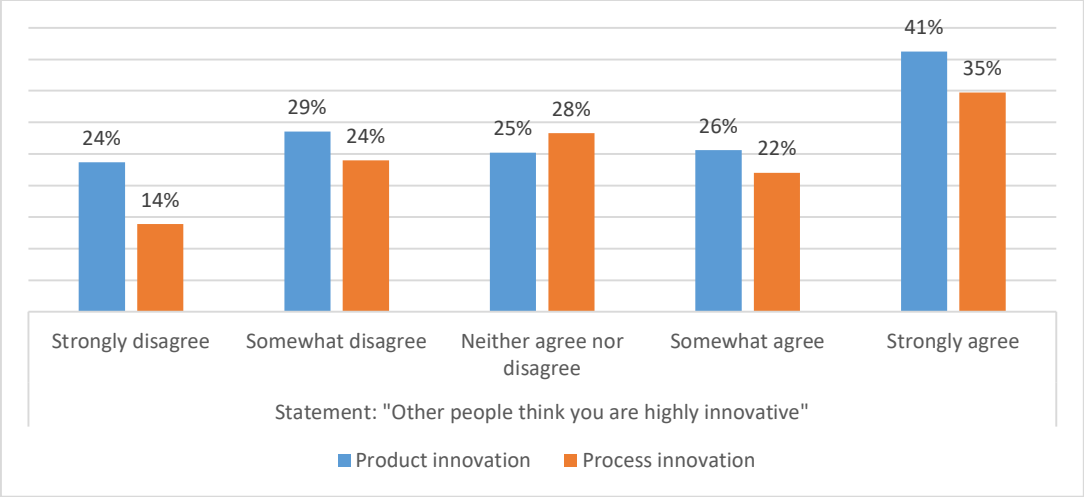
Source: GEM Adult Population Survey, 2024; GEM Global Report 2024/25

Examining the relationship between self-assessed innovativeness and actual innovation levels reveals a positive correlation. While in 2019, TEAs with lower self-assessments demonstrated higher levels of innovation, by 2024, businesses with greater self-assessments exhibit high levels of innovation in both products (41%) and processes (35%). Likewise, businesses with lower self-assessments tend to be less innovative in both aspects (24% and 14% of product and process innovation, respectively). **This shift compared to 2019 also confirms the hypothesis that**

[13] ranked by the difference between 2 estimates

people in Armenia have become more objective and overestimate their qualities less, at least, in terms of innovativeness.

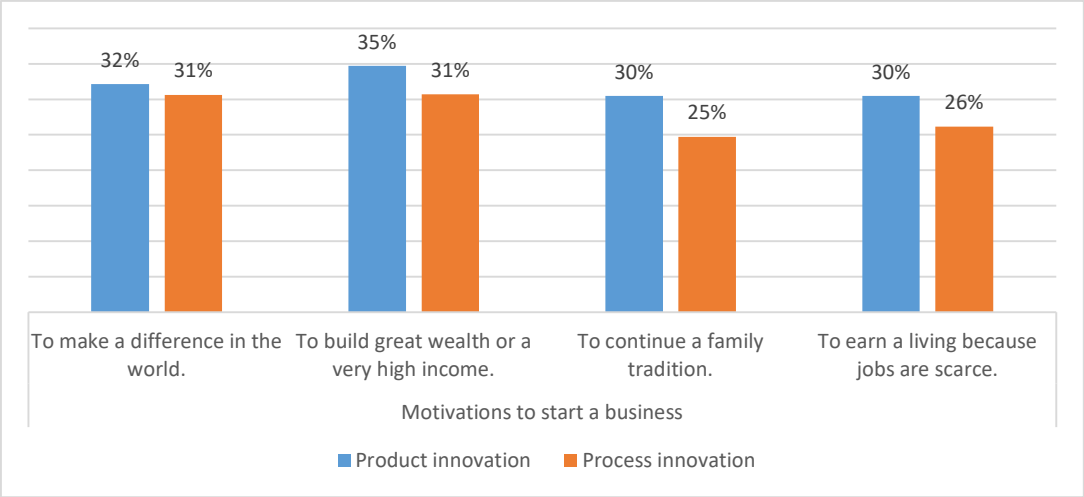
Figure 30. Armenia. Self-assessment of innovativeness vs Product and Process innovation in business (% of TEAs reporting innovation in business by level of agreement to statement)



Source: GEM Armenia: Adult Population Survey, 2024

Those who start a business with motivation "to make a difference in the world" and "to make a great wealth or higher income" have more product and process innovations compared to people with motivations of "to continue family traditions" and "to earn a living because jobs are scarce". Interesting is, that those with "Difference" motivation do not show the highest product and process innovations. Instead, those starting with "Wealth" motivation has the highest rate of product innovation (35%) and same level of process innovation with "Difference" (31%). Unsurprisingly, "Family" motivation has the lowest rates of both product and process innovation, conditioned with conservative approach of Extractive sector in Armenia (mainly agriculture), in which most of TEAs with the mentioned motivation start entrepreneurial activities.

Figure 31. Armenia. Motivations for business vs Product and Process innovation in business (% of TEAs reporting innovation in business by motivation to start a business)

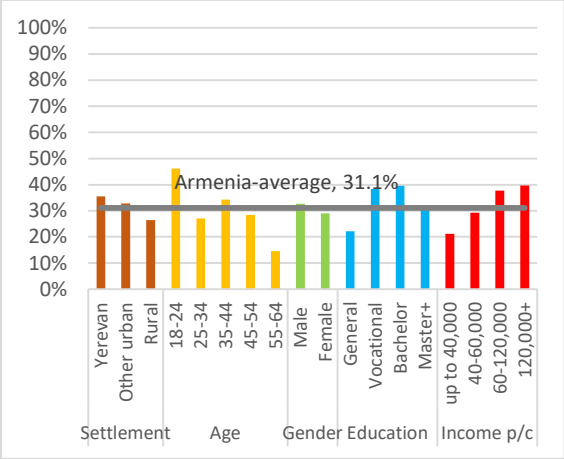


Source: GEM Armenia: Adult Population Survey, 2024

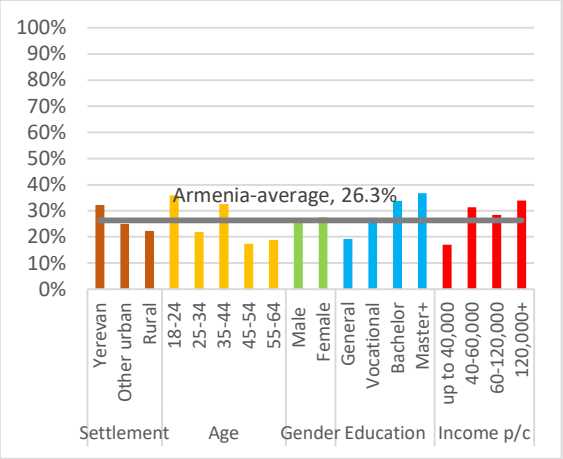
Male entrepreneurs appear to be more innovative than females only in terms of product innovation (32.7% vs 29.1% of TEAs), while in process innovation females excel more (27.5% vs 25.4% of TEAs). For both product and process innovation some similarities are identified by types of settlement and age groups. In both cases, people from Yerevan appear to be more innovative than those living in other urban areas, in turn, the latter are more innovative than the rural population. In age groups, those who are 18-24 and 35-44 years old introduce more product and process innovation, while older people of 55-64 ages appear to be the least innovative of all. While product innovation tends to rise with increasing income levels, process innovation is more strongly correlated with higher levels of education.

Figure 32. Armenia. Product and Process innovation in business (% of TEAs reporting innovation in business) by different groups of population

a) Product innovation



b) Process innovation



Source: GEM Armenia: Adult Population Survey, 2024

4.4 Conclusions

Motivation to start a business

- Necessity-driven motivation prevails among Armenian entrepreneurs. Armenia ranks 15th out of 51 GEM countries in terms of agreement with the motivation of starting a business to "Earn a living because jobs are scarce." The opposite purpose-driven motivation "to make a difference in the world," is rather uncommon among Armenian entrepreneurs: Armenia ranks 49th out of 51 GEM countries in terms of agreement of starting business with this motivation. Compared with 2019, situation hadn't change.
- The share of those motivated by "earn[ing] a living" is decreasing among younger age groups and also among those groups with higher education and income per capita. In 2024, the gap between female and male motivations for starting a business due to scarce job opportunities has been smoothed compared to 2019. In 2019, female respondents were more likely to agree with this statement.
- "Wealth" is the second most common motivation for Armenian businessmen. While the share of entrepreneurs motivated "To build great wealth or very

high income" decreases with age, it increases moving from Yerevan to other urban areas and most commonly observed in rural areas.

- The motivation "to continue a family tradition" is more widespread in Armenia compared with other GEM countries. Armenia ranks 8th and 7th in TEA and EBO, respectively, among 51 GEM countries in terms of agreement with this motivation.
- In 2024, the Extractive sector (mainly agriculture) stands out with the highest share across all four motivations—Living (86.2%), Wealth (71.8%), Family (60.0%), and Difference (29.2%). All sectors share "Living" as the dominant motivation, suggesting that scarceness of jobs remains the primary driver for entrepreneurship regardless of the sector.
- Male population of Armenia is relatively more motivated by "building a great wealth or very high income" and "continuing a family tradition", while female population is relatively more motivated by "making a difference in the world".
- Only two motivations - "Family" and "Living" - are significantly influenced by the sector of the economy. These two motivations negatively correlate with Business services sector, which indicates that entrepreneurs engaged in this sector are unlikely to start their entrepreneurial activities with the mentioned motivations. Conversely, "Family" motivation is positively associated with the Extractive sector.

Job creation

- Majority of new businesses (44%) and established businesses (53%) in Armenia provide no jobs, or in other words are "one-man businesses". Compared to 2019, these indicators increased by 21 and 22 percentage points for TEAs and EBOs respectively. These changes indicate a notable trend toward micro business dominance, which can be related to increased survivability of micro businesses in Armenia due to tax, customs and other benefits provided by the government. While such assistance is important, increase in share of micro businesses in Armenia on behalf of small or medium businesses could mean that there are no favorable conditions for their transition to a larger business, therefore hindering productivity growth in the business and therefore in economy as a whole.
- In both cases (TEA and EBO) expectations on number of jobs in their businesses is higher than now. If only 2% and 4% of TEAs and EBOs respectively have mentioned over 20 jobs currently, the share of businesses

with over 20 jobs is expected to increase to 17% in TEA and 8% in EBO. Relying on median values Armenian TEAs expect to create 2 more job places in 5 years, while EBOs do not expect any job place expansion.

Internationalization

- Armenia ranks 5th with TEA internationalization absolute indicator (4.1%) among 51 GEM countries (after Bosnia and Herzegovina, Canada, United Arab Emirates and Estonia) and 11th with internationalization relative indicator (23.1%).
- The share of TEAs expecting more than 25%+ of their income from abroad increased from 20.3% in 2019 (14th out of 50 counties) to 23.1% in 2024 (11th out of 51 GEM countries). As in 2019, in 2024 TEAs appear to be much more export orientated than EBOs (share of businesses with over 25% of revenues is 23.1% vs 14.0%).
- Starting entrepreneurs driven by the motivation "to make a difference in the world" are more export-oriented than others, with 33.5% expecting over 25% and 47.5% expecting at least 1% of their revenues from abroad. Among sectors, Business Services is the most export-oriented, with 45.9% of TEAs anticipating 25%+ and 54.0% expecting 1%+ of revenues from exports.

Innovations

- Armenia holds middle position between 51 countries in 2024 GEM with 31.2% of TEAs reporting product innovation (27th out of 50 countries).
- Technology or process innovation among TEAs remains lower than product innovation also in 2024 as it was in 2019. Around 26.2% of all TEAs (which is equivalent to 4.5% of population) in Armenia reported that they have technology or process innovation.
- Compared to 2019, the Armenian population's self-assessment of innovativeness has become more moderate. While people became less confident about their innovativeness (80.5% in 2019 vs 73.5% in 2024), product innovation level of TEAs increased, which made overestimation level of population lower than it was in 2019 (decreased form 51.7 percentage points to 42.4 percentage points).
- Male entrepreneurs appear to be more innovative than females only in terms of product innovation (32.7% vs 29.1% of TEAs). In process innovation females excel more (27.5% vs 25.4% of TEAs).

GEM national team had imposed hypothesis regarding entrepreneurial activities for TEA and EBO in Armenia before the surveys. APS results come to confirm or reject these hypotheses.

1. **Even though in 2019 main motivation for both TEAs and EBOs to start a business was scarceness of jobs, in 2024 it changed, and the main reason for starting a business is "to build a great wealth or higher income".**

The hypothesis is partially rejected. Even though the share of new entrepreneurs (79.3%) that start business because "jobs in the country are scarce" decreased compared to 2019 (88.8%), and, conversely, increased the share of entrepreneurs that want higher income or a great wealth (63.2% in 2024 vs 51.5% in 2019), however "Living" motivation remains the predominant across starting businesses.

2. **Majority of TEAs are "one man businesses".**

The hypothesis is confirmed. 44% of Armenian starting entrepreneurs do not provide any jobs, operating as one-man businesses. From this perspective, the hypothesis is indeed rejected. However, it is interesting to note that the share of one-man businesses among TEAs has increased by 21 percentage points compared to 2019. The same indicator for EBO has risen by 22 percentage points, reaching 53%. Combined mentioned trends highlight a clear shift toward one-man businesses in Armenia.

Therefore, according to the GEM National Team, the hypothesis is not entirely refuted, as the nearly twofold increase in the share of one-man businesses in Armenia indicates a strong trend. Under otherwise equal conditions, this trend is likely to lead to the realization of the hypothesis in the near future.

3. **In 2024-25 Armenia is in Top 10 countries by the indicator of anticipating more than 25% of their income from abroad.**

The hypothesis is partially confirmed. Armenia rates 11th with internationalization relative indicator of 23.1%, which means, that among TEAs, which amount for 17.6% of population ¼ expect 25%+ of their income from abroad, which is not enough to make it into Top 10 among 51 GEM countries. However, Armenia rates at 5th position with TEA internationalization absolute indicator (4.1%) (after Bosnia and Herzegovina, Canada, United Arab Emirates and Estonia), which means, that Armenia holds relatively high share of population, that not only start a business, but also anticipate high share of revenues from abroad.

CHAPTER V. INFORMAL INVESTMENTS

In the end, great ideas need both believers and backers

REID HOFFMAN
co-founder LinkedIn

AMERIA
MANAGEMENT ADVISORY

GEM Global Entrepreneurship Monitor

5.1 Introduction

In analyzing the entrepreneurial landscape in Armenia and the key conditions necessary for fostering business development, it is crucial to emphasize the significant role of financial resources in both starting and sustaining a business. The amount of capital required for the establishment and operation of a business is influenced by various factors, including the industry, scale, and scope of the venture. Overall, entrepreneurs have access to a range of funding sources, such as personal savings, business accelerators, government grants, and investments, which encompass both formal and informal channels.

Among these, informal investments—particularly those from family members, friends, and close associates—are especially vital for newly established businesses. These financial contributions can provide essential support in the early stages of a business development, often serving as a primary source of funding before more formal investment options become available. Given their importance in the entrepreneurial ecosystem, informal investments merit further examination to fully understand their impact on the growth and sustainability of businesses in Armenia.

5.2 Level of Informal Investment

The GEM APS questionnaire includes four key questions focused on informal investments in Armenia. These questions aim to gather insights from the population regarding their participation in informal investments over the past three years, the amount invested, as well as the gender and relationship of the individual to whom the investment was made. In addition to these primary questions, the GEM questionnaire offers an opportunity for further analysis, enabling a more comprehensive examination of the dynamics and impact of informal investments in Armenia's entrepreneurial ecosystem.

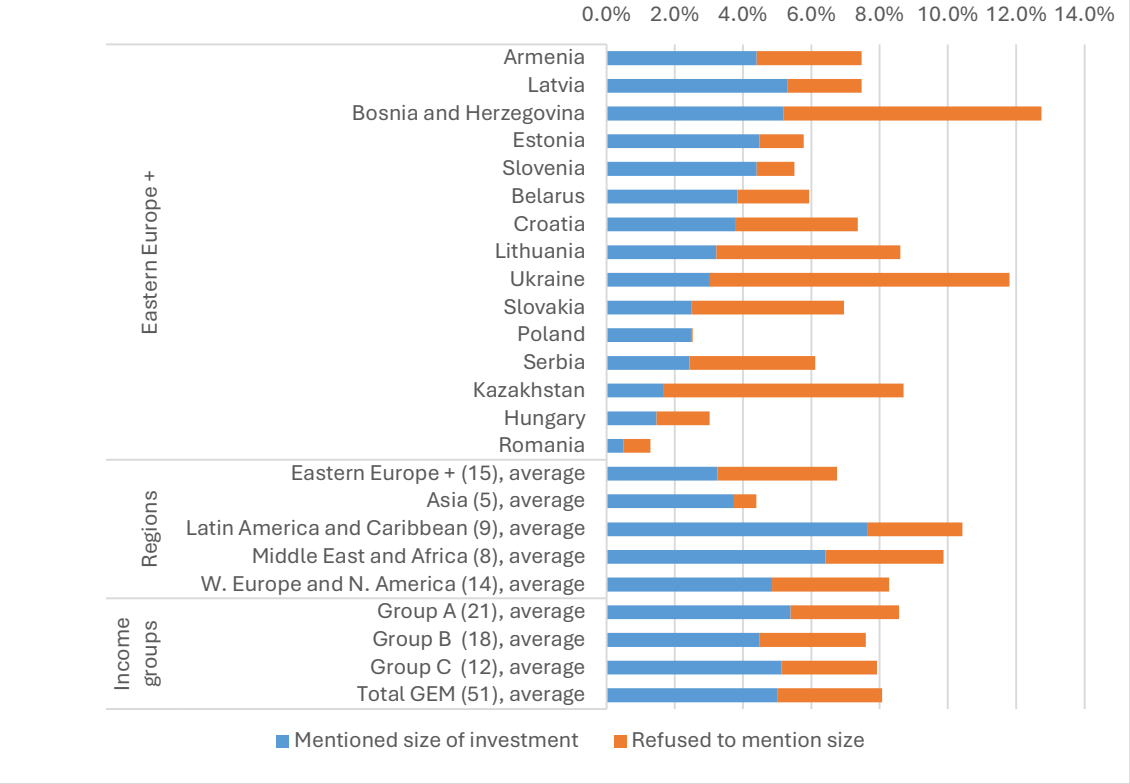
In Armenia, 7.5% of the adult population aged 18-64 has mentioned they personally provided funds for a new business started by someone else in the past three years. This represents nearly the same indicator as in 2019, when the share of adult population who has made informal investment was 7.9%, considering the possible sampling standard error of estimates. Of this group, only 4.4% provided details

regarding the size of their informal investment. This figure has remained almost unchanged since 2019, indicating that there has been little progress in encouraging transparency in informal investments. It suggests that a significant portion of the population remains unwilling to disclose the amount of money they have invested informally.

Armenia ranks middle positions in informal investments among 2024 GEM APS 51 countries. According to GEM 2024 results, Armenia ranks 27th out of 51 countries in terms of the share of the population that has mentioned they personally provided funds for a new business started by someone else in the past three years. This represents a significant decline since 2019, when Armenia ranked 14th among the GEM 50 countries. This downward trend is further highlighted when examining the 37 countries that participated in both GEM 2024 and 2019 surveys. In this group, Armenia has dropped to 19th place in 2024, compared to 13th place in 2019. Regionally, Armenia is 6th out of 15 countries in Eastern Europe (Eastern Europe +), a drop from its leading position in 2019, when it ranked 1st among 9 Eastern European countries. Despite nearly no change in the share of the population as mentioned they personally provided funds for a new business started by someone else in the past three years, the downward trend in Armenia could potentially be explained by significant shifts in other countries' indicators. Some countries, such as Puerto Rico, Morocco, and Brazil, have seen substantial positive changes, while others, including Guatemala, India, China, and Qatar, have experienced notable declines. Armenia is among the countries with little to no change in informal business investments, with fluctuations around ±1.0 percentage points, similar to countries like Luxembourg, Latvia, Slovenia, Slovakia, Switzerland, and Cyprus. Such significant and hectic changes noted for a range of countries can be attributed to the sensitivity of informal investments to formal investments and public financing programs aimed at supporting entrepreneurship. However, no correlation was found between the changes in informal investments in 2024 vs 2019 in these countries and the changes in foreign direct investment (FDI) net inflows as a percentage of GDP in 2023 vs 2018. In the same way, when comparing the results of the GEM NES with the data on informal investments of the GEM APS from 2024, there is no correlation observed between the level of informal investments in countries and the ease of obtaining funding. It is necessary to mention that with the share of population that has mentioned they personally provided funds for a new business started by someone else in the past three years is higher than the

average of Eastern European countries but is lower than the global average of the same indicator.

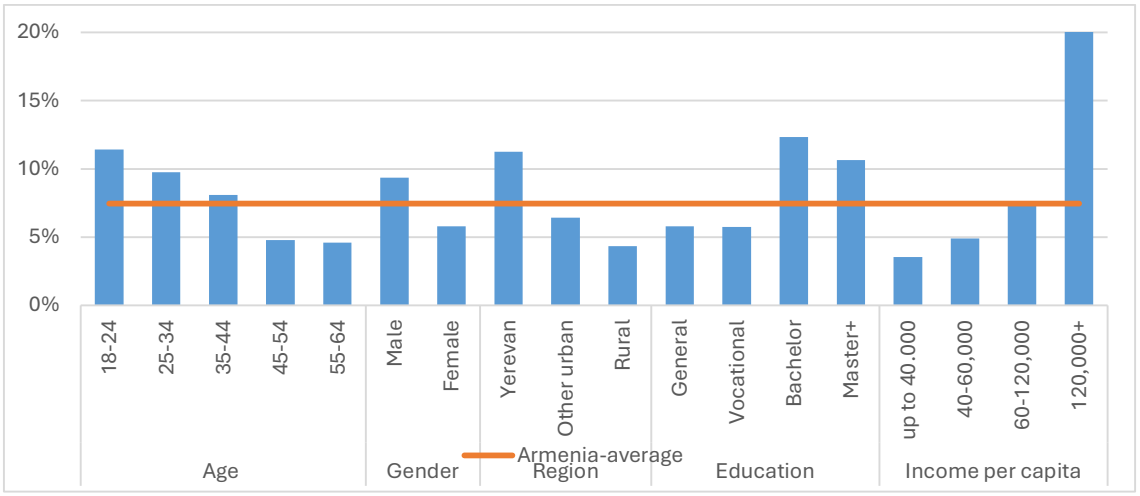
Figure 33. Informal Investors (% of adults) by country/region



Source: GEM Adult Population Survey 2024

Most informal investors are men, investing in businesses of male friends or neighbors: In Armenia, informal investors are predominantly male, accounting for 59.1% of the people that reported about making informal investments during past 3 years. The typical profile of an informal investor is a male aged between 18 and 44 years, who has higher education, is from Yerevan and is a representative of the highest quartile by income per capita (over 120 thousand AMD). Compared to 2019 GEM, the typical groups have not changed much with the only addition of 18-24 age group.

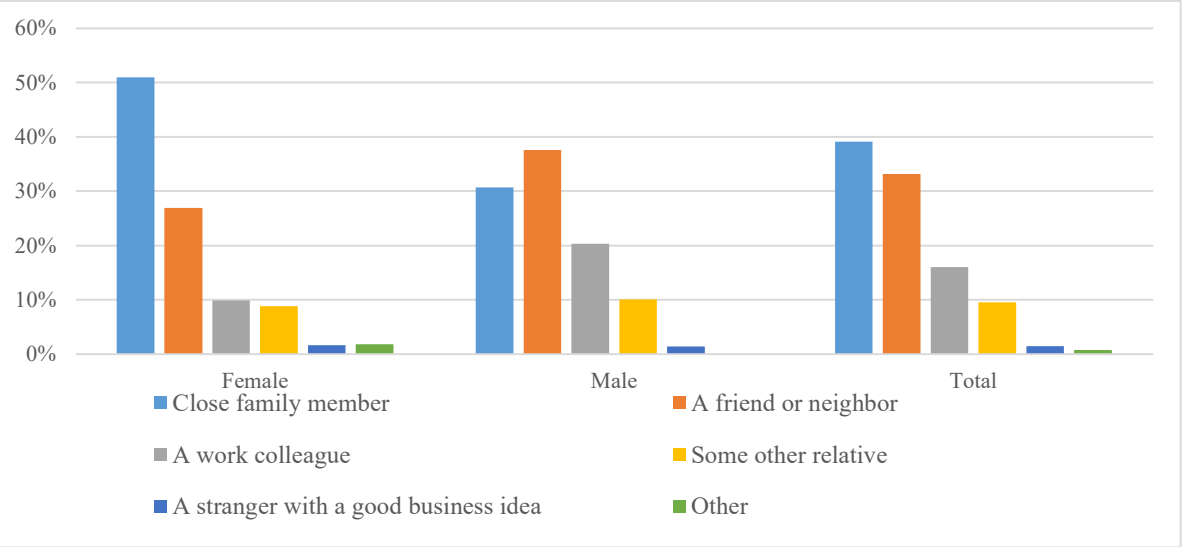
Figure 34. Armenia: Share of Informal Investors (% of adults) by different population groups



Source: GEM Armenia: Adult Population Survey 2024

The role of family in informal investments has grown in Armenia, with more men and women investing in close relatives. In Armenia, people are most likely to provide informal investments to close family members (39.1%), followed by friends or neighbors (33.2%), and work colleagues (16.0%). It is notable that the role of family has strengthened with people providing more informal investments to this group (26% in GEM 2019) rather than to a friend or neighbor (35% in GEM 2019). This may indicate a decline in trust, where individuals who have reported making informal investments in other people's businesses within the past three years are now perceiving higher risks in ventures outside their family. Consequently, they appear to be narrowing their trust circle, becoming more selective and cautious about engaging in investments beyond their immediate family network. Notably, women are more inclined to make informal investments to close family members, while men are more likely to invest in friends and/or close family member. However, it should be noted that the share of informal investors providing funds to close family members has increased in these groups. It is also worth noting that informal investments to work colleagues are particularly common among men. Informal investments in Armenia are primarily directed towards men, who receive 77.8% of such investments, compared to women, who receive 20.7%.

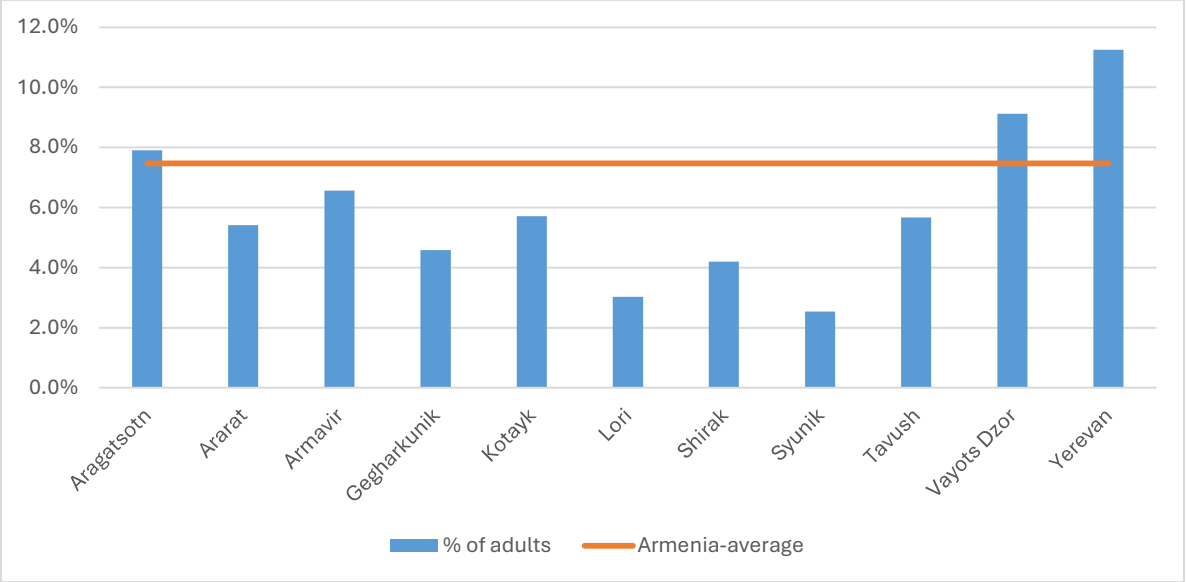
Figure 35. Informal Investor relationship with Person Received Informal Investment (% in informal investors of each group)



Source: GEM Armenia: Adult Population Survey 2024

Informal investments shifted from rural to urban areas in 2024 compared to 2019. The share of informal investors among adults is now slightly higher in urban areas (excluding Yerevan) than in rural areas, representing a notable shift since 2019 when the rural population had a higher proportion of informal investors compared to urban areas (excluding Yerevan). This can be attributed to the shift of early-stage entrepreneurial activity from agricultural-extractive sectors activities to more productive sectors: if the share of TEAs in Extractive sectors of economy was 31.1% in 2019, it decreased to 17.6% in 2024. On the other hand, the share of informal investors in total population aged 18-64 of the marzes, besides Yerevan (11.3%), is higher in Vayots Dzor (9.1%), Aragatsotn (7.9%) and Armavir (6.6%).

Figure 36. Armenia: Share of Informal Investors (% of adults) by region/marz



Source: GEM Armenia: Adult Population Survey 2024

The higher share of informal investments in these regions may be linked to greater financial resources and better employment opportunities. The GDP per capita in these regions is either higher than or close to the median of all regions (including Yerevan). Additionally, there is a moderate negative correlation between the unemployment rate and the share of informal investors in the population of these regions. This suggests that in regions with lower unemployment rates, the share of informal investments tends to be higher. The highest concentration of informal investors is found in Yerevan, with 56.3%, followed by Armavir (7.9%), Kotayk (7.2%) and Ararat (6.2%). The higher share of these marzes in total number of informal investors in Armenia is likely due to their proximity to Yerevan, as they are located close to the capital. This closeness may contribute to increased access to resources and networks, which could encourage higher levels of informal investment.

There appears to be a weak negative correlation between the share of informal investors and the availability of loans in regions (all marzes without Yerevan). The level of informal investments across the marzes shows a very weak positive correlation with the income per capita indicator. This suggests a slight tendency for higher informal investment levels in regions with higher income per capita, although the correlation remains weak.

The median size of informal investments is 3.6 times lower than the reported median annual income of informal investors. The average size of informal

investments in Armenia is 2.8 million AMD (approximately 5,900 USD when using average annual exchange rate of 2019), reflecting an increase of about 0.7 million AMD since 2019. In contrast, the median size of informal investments has remained unchanged since 2019, standing at 1 million AMD (around 2,100 USD using average annual exchange rate of 2019). When analyzed in AMD, the changes in both the average and median sizes of informal investments were not significant. However, the changes are noteworthy when considered in USD due to fluctuations in the exchange rate since 2020. Using the average annual exchange rate of 2024, the average size of informal investments in 2024 amounted to approximately 7,200 USD (compared to ~4,400 USD in 2019 based on the average annual exchange rate of 2019), while the median size of informal investments reached around 2,550 USD (up from approximately 2,100 USD in 2019). Interestingly, while the median size of informal investments in Armenia has remained unchanged, the median annual income of informal investors has doubled. For the median size of annual income, the total income of the household was considered. This shift has led to a notable decrease in the share of informal investments relative to total income. If in 2019 median size of informal investments accounted for around 60% of the median annual income of informal investors, by 2024, this share had significantly dropped to just 28%. This shift may possibly be attributed to the following reasons:

- decrease in the informal economy and an increase in funding opportunities for entrepreneurship within the country, is further supported by the GEM NES data, which demonstrates improvements in financial sufficiency, as well as in Government policies and programs related to entrepreneurship
- growing reluctance among people to invest more money in entrepreneurship and take on the associated risks particularly beyond the family circle because of intense uncertainty,
- In Armenia, people are more accustomed to measuring significant financial resources, such as those to be informally invested in someone else's business, in USD. As a result, fluctuations in the exchange rate have made the amount to be invested appear larger when calculated in USD. This is why they tend to avoid investing large sums of money when considering them in USD,
- Informal investments are primarily directed towards addressing urgent social issues within a family. As these issues are resolved, the proportion of informal investments relative to total income decreases. This trend is explained by the

fact that the proportion of median size of informal investments relative to total income has decreased, as the motivation to start a business to earn a living because jobs are scarce decreases (-9.5pp difference among TEA and -6.7pp among EB in 2024 vs 2019).

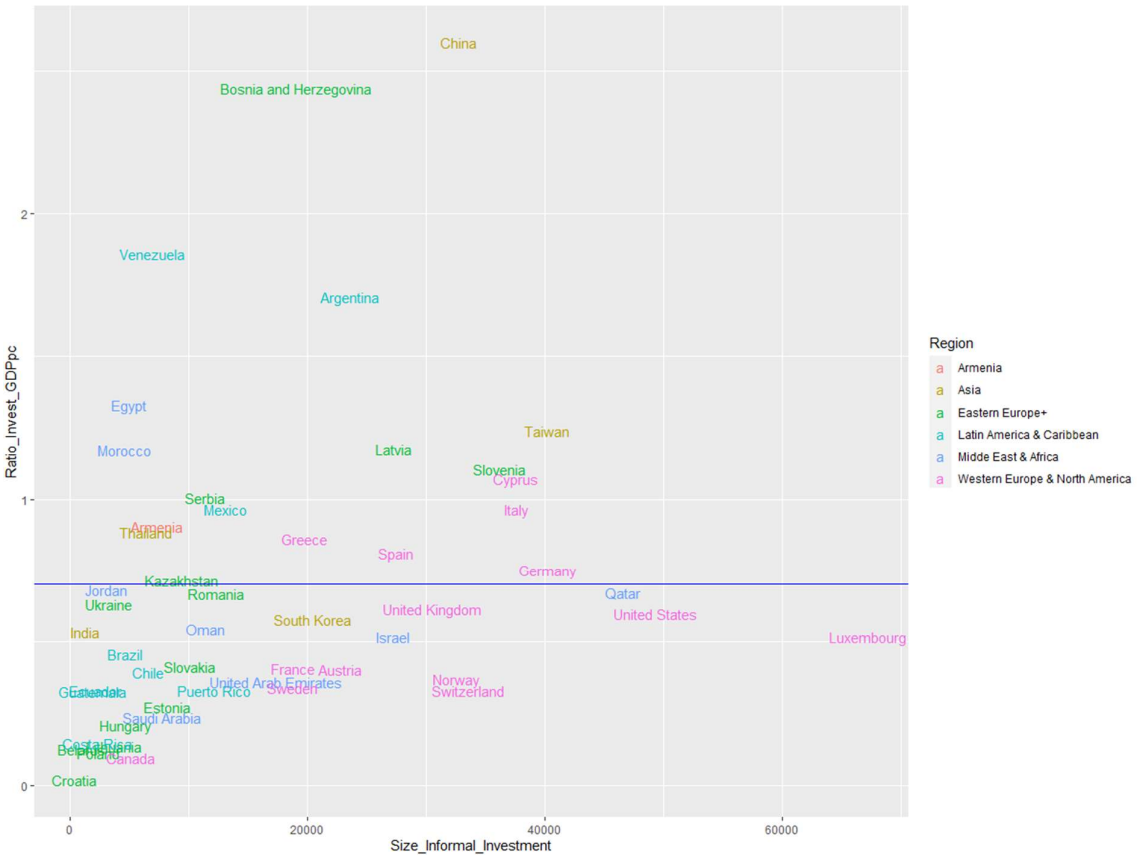
The best possible approach to comparing the relationship between the size of informal investments and income across countries is to utilize the GDP per capita indicator as a proxy for income. This is due to the lack of data on individual income levels across countries, making GDP per capita the most reliable and comparable metric for assessing economic capacity and investment behavior on a broader scale. As a result of the analysis, it is possible to note that there is a positive correlation between average size of informal investments and GDP per capita by countries in GEM 2024. However, an analysis of the correlation between GDP per capita and the ratio of the average size of informal investments to GDP per capita suggests that as GDP per capita increases, individuals tend to either maintain or only slightly increase the average size of their informal investments.

Figure 37. Average size of informal investments and GDP per capita by country

Source: GEM Armenia: Adult Population Survey 2024 and World Bank data

With an average size of informal investments, Armenia ranks 33rd out of 51 countries in the GEM 2024 report. However, when considering the ratio of the average size of informal investments to GDP per capita, Armenia rises to 14th place. Among Eastern European countries (Eastern Europe+), Armenia ranks 9th in terms of the average size of informal investments. In terms of the ratio of the average size of informal investments to GDP per capita, Armenia is 5th in the region. This suggests that informal investments play a relatively more significant role in starting a business in Armenia compared to the global and regional averages.

Figure 38. Ratio of Average size of informal investments and GDP per capita by country

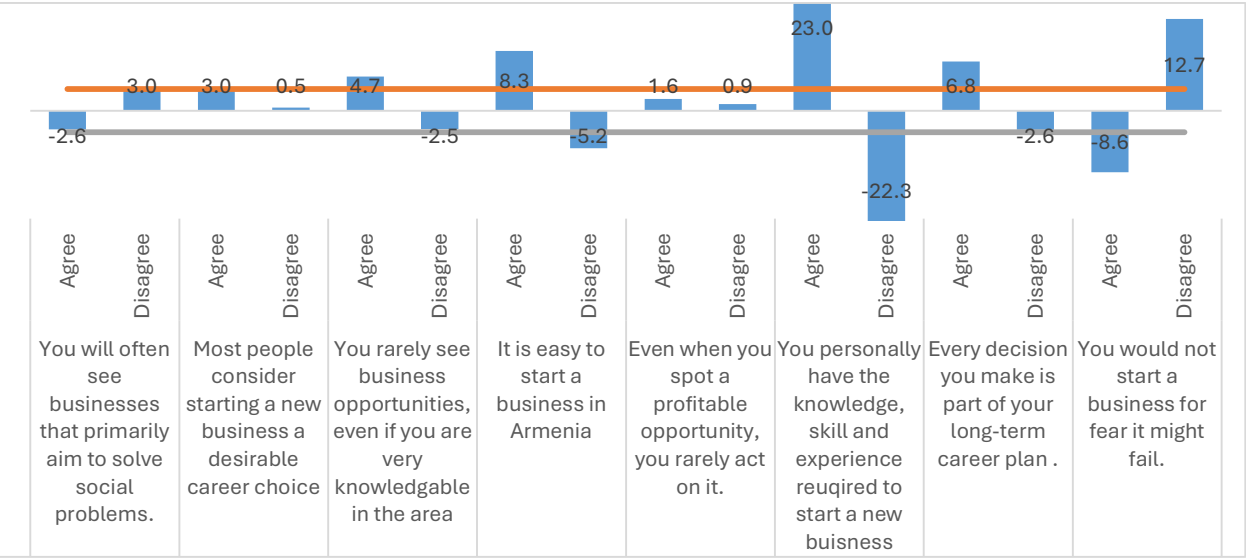


Source: GEM Armenia: Adult Population Survey 2024 and World Bank data

Most informal investors in Armenia are more confident in their knowledge, skills, and experience to start a business, and they are more likely to believe that starting a business in Armenia is easy. People that have mentioned they personally provided funds for a new business started by someone else in the past three years are more likely to agree that they rarely see business opportunities,

when compared to the general population, even if they are very knowledgeable in the area. When it comes to knowledge, skill and experience, they are more inclined to believe that they personally have the skills and expertise to start a business. However, they view each decision as part of a long-term career plan, perhaps meaning that, although they are more confident in their abilities, they tend to rely more on employment opportunities than on starting a business. Compared to the general population, these individuals are also more likely to believe that starting a business in Armenia is easy. Interestingly, they are also more likely to disagree with the idea that they would avoid starting a business out of fear of failure probably conditioned by reluctance to accept that fact because they associate the failure of a business with personal failure.

Figure 39. Differences in socio-economic and cultural perceptions of entrepreneurship between informal investors and total population, (percentage points)



Source: GEM Armenia: Adult Population Survey 2024

5.3 Conclusions

- The share of the adult population that has mentioned they personally provided funds for a new business started by someone else remained nearly the same in 2024 while the overall conceptual framework of informal investments in the country has undergone major changes.

- According to GEM 2024 results, 7.5% of the adult population aged 18-64 has made an informal investment over the past three years showing almost no change from 7.9% of 2019.
- The typical informal investor is a male aged 18-44, possessing higher education, residing in Yerevan, and belonging to the highest income quartile, with a per capita income exceeding 120,000 AMD.
- There was an increase in the average size of informal investments in Armenia since 2019, which is 2.8 million AMD in 2024, up from 2.1 mln AMD since 2019. Anyway, the median size of informal investments in Armenia has remained stable since 2019, at 1 million AMD.
- When measured in AMD, the changes in both the average and median sizes of informal investments were not significant. However, due to exchange rate fluctuations since 2020, these changes become notable when expressed in USD. Based on the average annual exchange rate for 2024, the average informal investment size in 2024 was approximately 7,200 USD, compared to around 4,400 USD in 2019 (calculated using the 2019 average annual exchange rate). Similarly, the median informal investment size rose to approximately 2,550 USD in 2024, up from about 2,100 USD in 2019.
- The actual decline in the size of informal investments, despite the increase in the average annual income of informal investors, suggests a reduced role of informal investments in the country. This can be attributed to improved access to finance and public programs supporting entrepreneurship, a heightened reluctance to take risks amid prevailing uncertainties, and various other factors. The median size of informal investments is 3.6 times lower than the median annual income of informal investors. Although the median size of informal investments in Armenia has remained stable, the median annual income of informal investors has doubled. As a result, the share of median informal investments relative to median annual income of informal investors has significantly decreased, dropping from 60% in 2019 to 28% in 2024.
- Informal investments play a relatively more significant role in starting a business in Armenia compared to the global and regional averages. In terms of the ratio of the average size of informal investments to GDP per capita,

Armenia is 5th out of 15 countries in the Easter Europe + region and 14th out of 51 countries in 2024 GEM APS.

- Informal investments in Armenia have shifted from rural to urban areas since 2019, with urban areas (excluding Yerevan) now having a slightly higher share of informal investors than rural areas, reversing the previous trend which can be attributed to the shift of early-stage entrepreneurial activity from agricultural-extractive sectors activities to more productive sectors.
- The importance of family in informal investments has risen in Armenia, with a growing number of both men and women investing in close relatives. In Armenia, people are most likely to provide informal investments to close family members (39.1% in 2024 and 26% in 2019) and to friends or neighbors (33.2% in 2024 and 35% in 2019). This shift may possibly indicate a growing reluctance to take risks associated with informal investments beyond the family circle, thereby reinforcing a more confined trust network.
- Informal investors in Armenia are more likely to believe they have the knowledge, skills, and expertise to start a business, although they tend to agree that they rarely see business opportunities. They are also more inclined to feel that every decision they make is part of a long-term career plan. These individuals generally think it is easy to start a business in Armenia and are less likely to say they would avoid starting one due to a fear of failure.

The GEM Armenia National Team prepared the following hypotheses regarding entrepreneurial activities for TEA and EBO in Armenia before surveys were conducted. The APS results either confirm or reject these hypotheses:

1. **Informal investments in Armenia are primarily directed toward financing the business ventures of family members.**

The hypothesis is confirmed. The role of family in informal investments has grown in Armenia, becoming the main group receiving such financial support. More men and women are prioritizing investments in close relatives, with 39.1% of individuals providing informal investments to family members in 2024, up from 26% in 2019. This trend may suggest a rising reluctance to take risks, leading to a more cautious investment approach that strengthens trust within family networks while reducing support for others.

2. **The higher an individual's level of education, the less likely they are to engage in informal investments.**

The hypothesis is rejected. The prevalence of informal investors differs across educational levels, with the highest participation among individuals holding a bachelor's degree (12.3%) and a master's degree (10.6%). In comparison, those with general education (5.8%) and vocational education (5.7%) are less likely to engage in informal investing.

3. **Informal investments are more common in the regions than in Yerevan, primarily due to the limited employment opportunities available in the regions.**

The hypothesis is rejected. The share of informal investors as a percentage of adults is notably higher in Yerevan, at 11.3%, compared to other urban areas (6.4%) and rural regions (4.3%). Additionally, a moderate negative correlation exists between the unemployment rate and the share of informal investors in these regions, suggesting that areas with lower unemployment rates tend to have a higher proportion of informal investments.

4. **Informal investors are predominantly men, with their investments primarily directed toward promoting the growth of women's entrepreneurship.**

The first part of the hypothesis is confirmed, while the second part is rejected. In Armenia, the majority of informal investors are men, making up 59.1% of those who reported engaging in informal investments over the past three years. However, a large share of these investments is also directed towards male recipients (79%).

5. **People in Armenia tend to be cautious about committing substantial amounts of money to informal investments, indicating that this trend is unlikely to have shifted significantly since 2019.**

The hypothesis is confirmed. Though the average size of informal investments in Armenia has increased since 2019, reaching 2.8 million AMD in 2024, up from 2.1 million AMD in 2019, however, the median size of informal investments has remained stable at 1 million AMD since 2019. Moreover, the median size of informal investments is 3.6 times lower than the median annual income of informal investors. While the median size of informal investments in Armenia has remained

unchanged, the median annual income of informal investors has doubled. As a result, the proportion of median informal investments relative to the median annual income has significantly decreased, falling from 60% in 2019 to 28% in 2024. This shift further underscores the growing reluctance of individuals to make larger informal investments.

6. **Informal investors do not tend to view starting a new business as a desirable career choice for most people in Armenia.**

The hypothesis is rejected. No significant difference is observed between informal investors and the general population regarding the statement, "Most people consider starting a new business a desirable career choice," with 84.4% of informal investors and 81.4% of the general population agreeing with it.

CHAPTER VI. EXITING A BUSINESS

To improve is to change; to be perfect is to change often

WINSTON CHURCHILL

AMERIA MANAGEMENT ADVISORY

GEM Global Entrepreneurship Monitor

6.1 Introduction

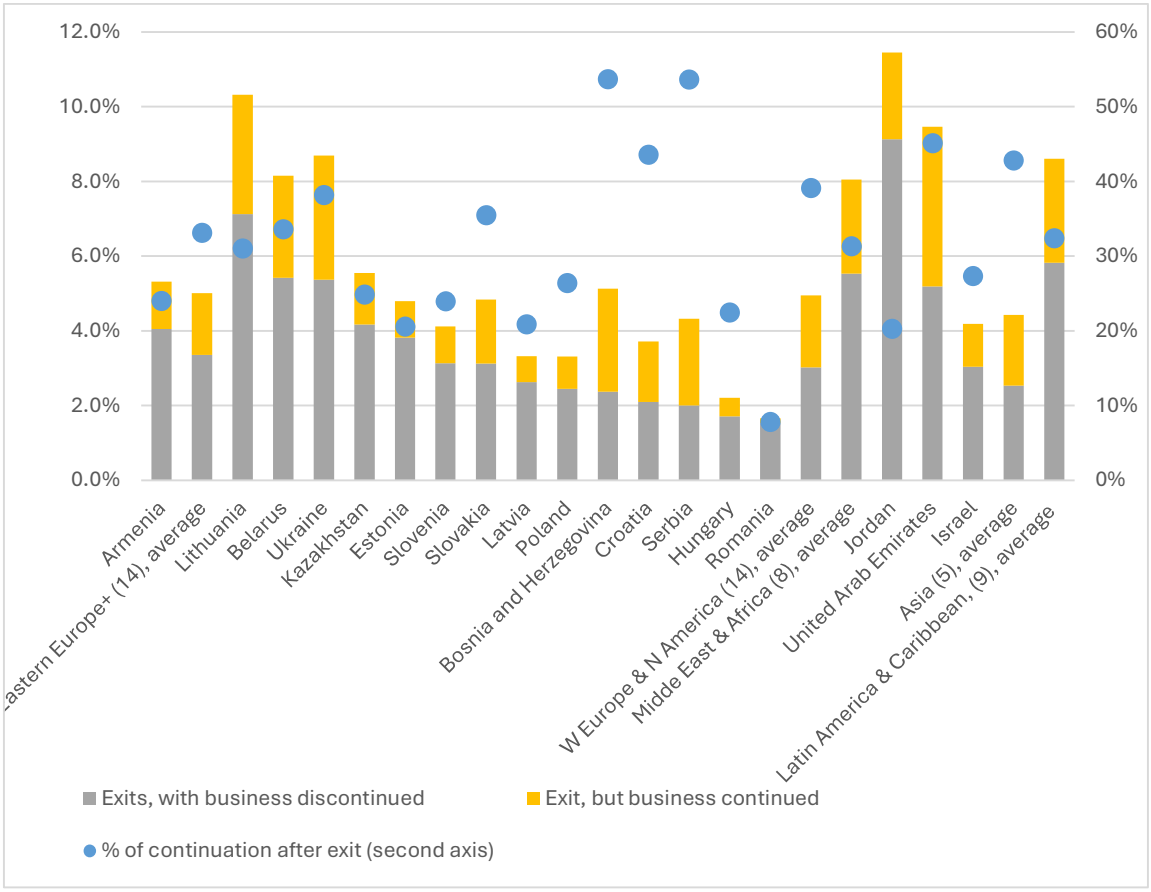
Exiting a business and the issues related to it are also important for assessing the entrepreneurial climate of an economy. Reasons for exiting a business may be negative (such as failure, losses) or positive (selling a business, retirement, starting another larger business). The shares of positive and negative reason also provide insights on the state and changes in the entrepreneurial climate in a country. Moreover, procedures for business exits influence decisions to start and run a business: if it is difficult to end a business, individuals will think twice about starting one. Exiting a business does not always mean the discontinuation of the business. There are cases when the owner exits or sells the business, but it continues to operate and create added value for the country.

The GEM APS attempts to estimate the rate of business exits in a given country, to understand the reasons for them, and to decipher if a business continued after the owner's exit.

6.2 Business Exits and Continuation rates

Although the business exits kept the pace relatively stable in Armenia, in the other countries, business exit rates increased. In 2024, 5.3% of the Armenian population aged 18-64 reported exiting their business in the past 12 months (i.e. sold, shut down, discontinued or quit a business they owned and managed), compared to 6.4% in 2019. Despite these similar results (considering size of possible sample errors), Armenia's ranking fell from 13th position among 50 countries in 2019 GEM to 24th out of 51 countries in 2024. Regionally, Armenia ranked 5th out of 15 countries in "Eastern Europe+" in 2024, compared to its top position in 2019. Such changes in the ranking, with no large changes in Armenia's indicator for 2019 and 2024, indicate that business exit rates in 2014 are overall globally higher compared to 2019, which perhaps is a result of "post-2020 global economic and geopolitical shifts".

Figure 40. Business exit rates (% of adults) in 2024 by country/region



Source: GEM Adult Population Survey 2024

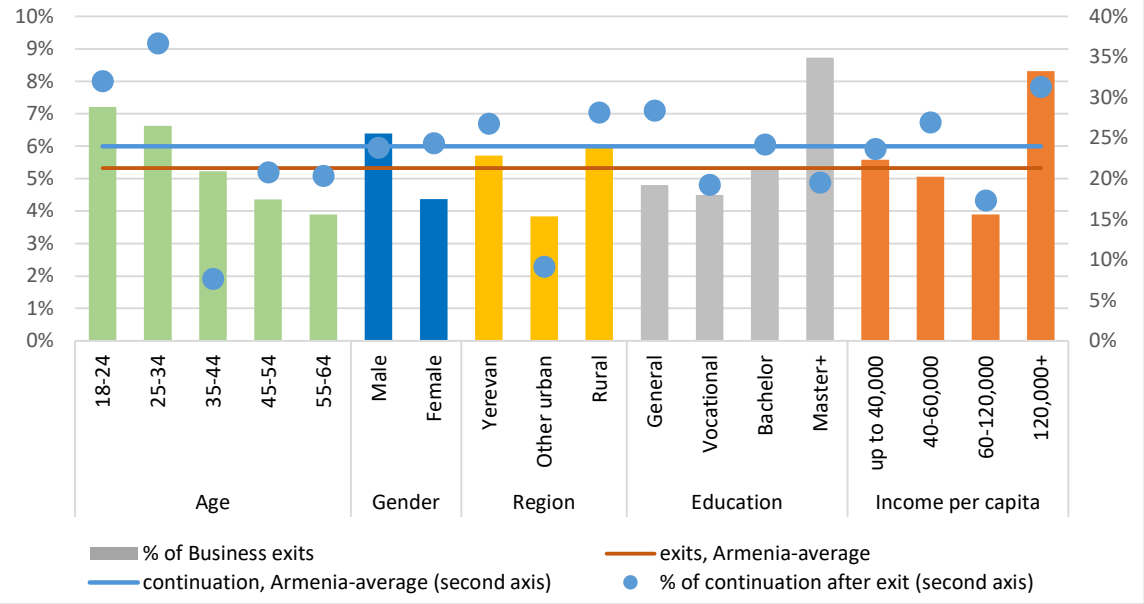
The correlation between business exits and new business formation (TEA rates by countries) is moderately high among all the 51 countries (0.71). This correlation persists by all 3 income groups of countries, but there are differences by the regions. The correlation is strong in Asia and West Europe & North America regions (over 0.85), but comparably lower in "Eastern Europe+" (including Armenia) and Middle East & Africa regions (0.43 and 0.51). It is interesting that compared to 2019 positive correlation weakened only in "Eastern Europe+" region (it was 0.80 in 2019), suggesting larger influence of "post-2020 global economic and geopolitical shifts" for the countries in this region in terms of entrepreneurship.

A concerning trend is the drop in the share of businesses that continue operating after the exit of the owner. While overall share of business exits in Armenia did not change much compared to 2019, In 2024 only 24% of businesses in Armenia managed to sustain operations post-exit, compared to nearly 33% in

2019. Armenia's global ranking in business continuation declined from 22nd highest position in 2019 to 40th in 2024.

In 2024, the trend of business exit rates and the post-exit business continuation rate dropping in higher age groups of adult population, persists compared to 2019. Nevertheless, declines in the after-exit business continuation rate in certain age groups, were identified as well. The age group of 18-24 had the highest exit rate at 7.2% in 2024, which is comparably close to 6.1% in 2019, while the age group of 55-64 had the lowest exit rate of 3.9% (close to the result of 2019 - 4.9%). Post-exit business continuation among the 18-24 age group fell from 47.2% in 2019 to 32.0% in 2024. In the 45-54 age group the drop was from 32% to 20.8%, but the most notable decrease was marked in the 35-44 age group (from 30% to 7.67%).

Figure 41. Armenia: Business exit rates (% of adults) by different groups of population



Source: GEM Adult Population Survey 2024

Compared to business exit rates, the post-exit business continuation shares dropped for both genders. Exit rates remained relatively similar as for males (7.8% in 2019 and 6.4% in 2024) and for females (2019 in 4.7% to 4.4% in 2024), with a slight inclination towards males. However, the share of business continuations in the business exits fell for both genders, with male-run businesses declining from 30.5% to 23.8%, and female-run businesses from 35.6% to 24.4%, having a similar result at the bottom-line.

Higher educational level holders' groups show higher business exit rates (similar to trend in 2019) and lower business continuation rates (change in trend noticed in 2019). Business exit rates for entrepreneurs with general, vocational and especially bachelor's degree education moderated compared to 2019, but the exit rates increased for entrepreneurs with Master+ degrees. Considering that post-exit continuation rates are the lowest for Master+ degree holders (with vocational education), we can state that, perhaps, people with such education are more engaged in start-ups and do not stay at one business for long. Moreover, higher the education, higher the availability of other alternatives. Also, the motivation to start a business is different. Particularly, those who start a business with motivation of "to earn a living because jobs are scarce" (decreases with increase in education), do not have better alternatives, so stay longer in their businesses.

Although the distribution of the business exit rates remained comparably unchanged by regional location of entrepreneurs with the lowest rates in Other Urban areas, the shares of continued businesses in rural and other urban areas decreased dramatically. The post-exit business continuation in rural areas fell sharply from 42.1% to 28.2%, and in other urban areas from 28.6% to 9.1%. As a result, in 2024, while business continuation rates after exit are the lowest in other urban areas and almost similar in rural areas and Yerevan, changes with 2019 allow to indicate that business concentration from regions to Yerevan took place.

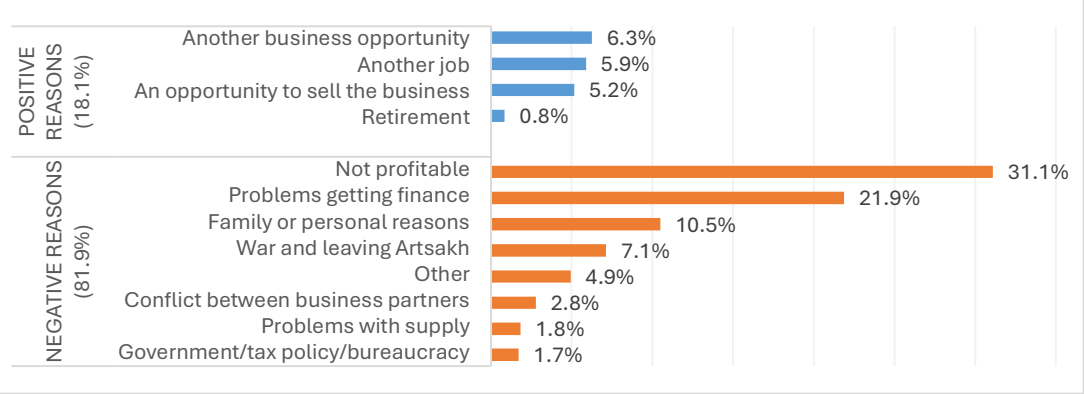
The picture of business continuation after exits changed in the income level groups of the entrepreneurs. Compared to 2019 higher-income groups experienced a decline in business exit rates, with the top income bracket decreasing from 10.8% to 8.3% in 2019. Business continuation after exit in the highest income group increased from 25.7% in 2019 to 31.3% in 2024, while the mid-income group saw a sharp drop from 54.4% to 17.3%.

6.3 Reasons for Exiting a Business

The reasons for exiting a business are grouped into two categories: positive reasons and negative ones.*14* In 81.9% of the cases, business exits in Armenia in 2024 were prompted by negative reasons.

While financial challenges remain a critical issue, new factors like geopolitical instability have emerged, bringing new changes in the business landscape of Armenia differently compared in 2019. Share of negative reasons in business exits decreased from 85.0% in 2019 to 81.9% in 2024, indicating a slight improvement in the business environment. Particularly, profitability concerns remained the leading cause, although decreasing from 37.8% in 2019 to 31.1% in 2024. The share of exits due to difficulties in obtaining financing remained significant and mainly unchanged 21.9% (21.4% in 2019), highlighting persistent financial struggles. It is noteworthy, that war-related reasons, specifically linked to the displacement from Artsakh, newly appeared in 2024, accounting for 7.1% of exits, reflecting the newly escalated geopolitical challenges the businesses faced. On the positive side, the share of positive reasons has slightly increased (18.1% from 15.0%). Businesses exiting due to better opportunities increased significantly in 2024 (17.4% from 5.3% in 2019), suggesting improved alternative prospects for entrepreneurs.

Figure 42. Armenia: Business exit reasons in 2024 (% in total business exits)

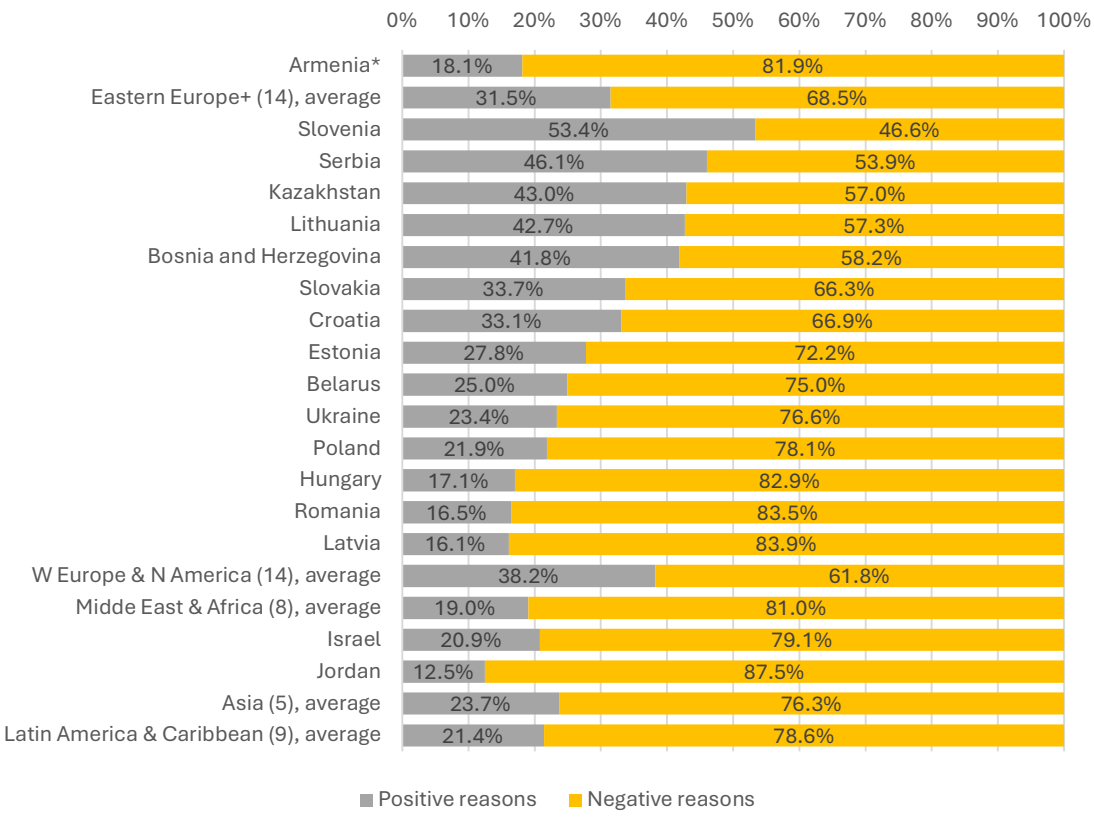


Source: GEM Armenia: Adult Population Survey 2024

14 Of course, this categorization may be ambiguous: for example, retirement may be a negative reason if forced by undesirable circumstances, or family reasons may be positive if it is to spend more time with them.

Between 2019 and 2024, the reasons for business exits across different countries and regions show notable trends and shifts. In Armenia, negative exit reasons declined slightly from 85.0% in 2019 to 81.9% in 2024, suggesting a marginal improvement in business conditions. This may be a result of overall economic growth between these two periods, particularly, comparable large decrease is noticed in the share of the largest negative reasons for exit. Share of "Not profitable" in negative reasons decreased from 37.8% in 2019 to 31.1% in 2024, while shares of positive reasons such as another job or business opportunities increased. However, **Armenia still had one of the highest negative exit rates compared to regional and global averages**. With the share of positive reasons to exit a business, Armenia (18.1%) is among the lowest indicators for the 51 GEM APS countries in 2024 (41th out of 51 – same position as in 2019). Across Eastern Europe+ region, the share of negative exits also decreased from 72.7% in 2019 to 68.5% in 2024, showing that businesses in the region faced less challenges over time. Meanwhile, in regions like the Middle East and Africa, negative exit reasons remained high.

Figure 43. Business exit by reasons by country/region



Source: GEM Adult Population Survey 2024

6.4 Conclusions

- In 2024, 5.3% of the Armenian population aged 18-64 reported exiting their business in the past 12 months, compared to 6.4% registered in 2019. Although the business exits indicator kept relatively stable in Armenia, in the other countries, business exit rates in 2024 increased compared to 2019.
- The rates of business exits are correlated with the rates of starting a business in countries. This correlation is strong overall (0.71). Lower correlation in "Eastern Europe+" (including Armenia) and Middle East & Africa regions (0.43 and 0.51) compared to Asia and West Europe & North America regions (over 0.85), as well as decrease in correlation for Eastern Europe region compared to 2019, suggests larger influence of "post-2020 global economic and geopolitical shifts" for the countries in this region in terms of entrepreneurship.
- A drop in the share of businesses that continue operating after the exit: In 2024 only 24% of businesses in Armenia managed to sustain operations post-exit, compared to nearly 33% in 2019. Armenia's global ranking in business continuation declined from 22nd highest position in 2019 to 40th in 2024.
- Higher educational level holders' groups show higher business exit rates (similar to trend in 2019) and lower business continuation rates (change in trend noticed in 2019). This may mean, perhaps, people with higher education are more engaged in start-ups and do not stay at one business for long. Moreover, higher the education, higher the availability of other alternatives.
- Share of negative reasons in business exits in Armenia registered slow decrease from 85.0% in 2019 to 81.9% in 2024, indicating a slight improvement in the business environment. This may be a result of overall economic growth, between these two periods: share of "not profitable" reason decreased, while shares of positive reasons such as another job or business opportunity increased.

- However, Armenia still had one of the highest negative exit rates compared global averages. With the share of positive reasons to exit a business, Armenia (18.1%) is 41st out of 51 GEM 2024 APS countries – same position as in 2019).

The GEM Armenia National Team prepared the following hypotheses regarding entrepreneurial activities for TEA and EBO in Armenia before surveys were conducted. The APS results either confirm or reject these hypotheses:

1. **The purposes for Business exits in Armenia have not improved: share of positive reasons for business exits has not increased.**

The hypothesis is mainly rejected. There has been a modest improvement in the structure of business exit reasons. The share of exits due to negative reasons declined slightly from 85.0% in 2019 to 81.9% in 2024, suggesting a marginally improved business environment. This change may be attributed to overall economic growth during this period, reflected in a reduced share of exits due to unprofitability and a slight increase in positive reasons, such as pursuing another job or business opportunity.

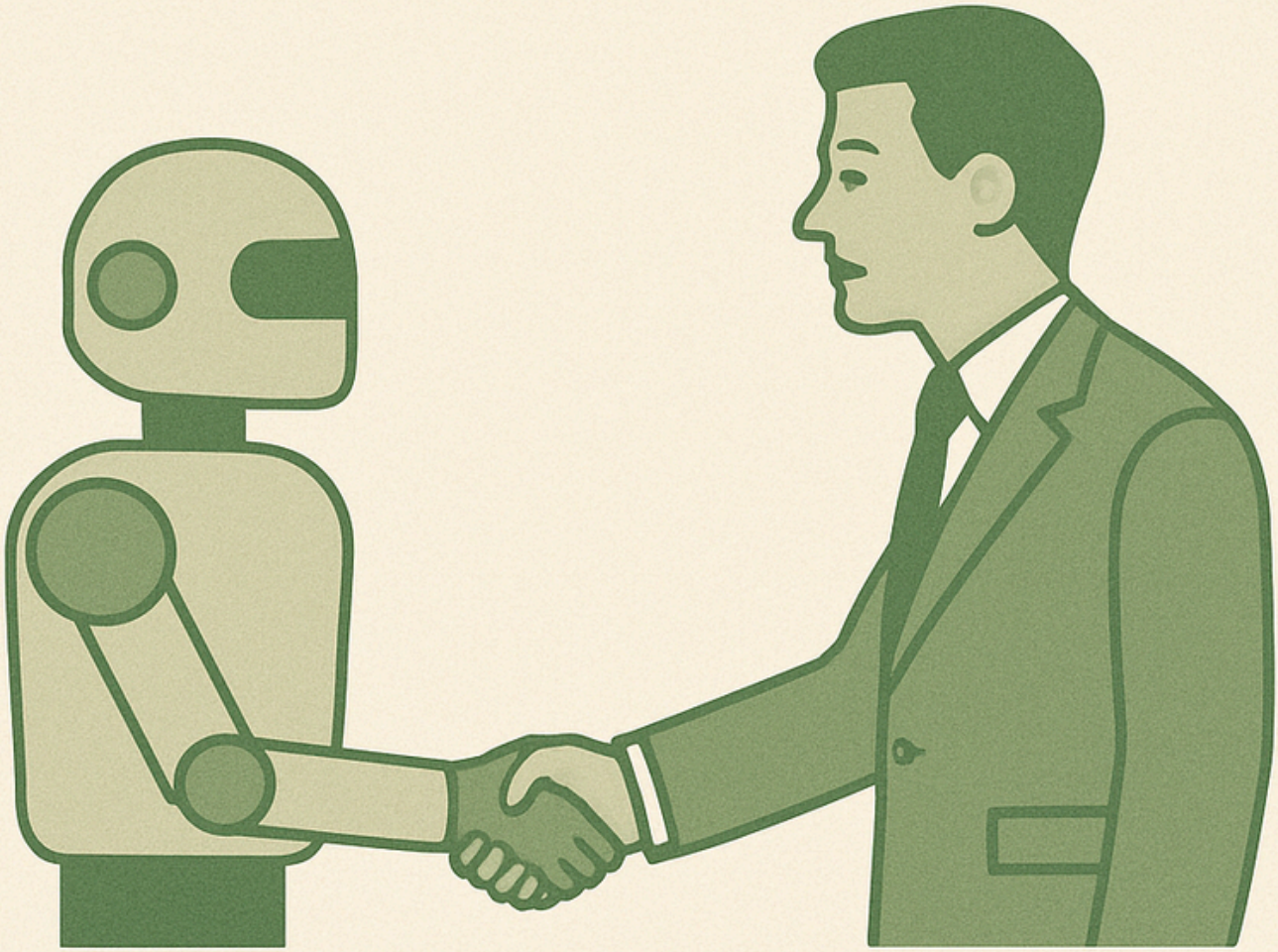
2. **Business continuation rates after exits have not improved.**

The hypothesis is confirmed. The sustainability of businesses post-exit has weakened. While the overall rate of business exits remained relatively stable compared to 2019, the share of businesses that continued operations after exit decreased from approximately 33% in 2019 to just 24% in 2024.

CHAPTER VII. ENTREPRENEURSHIP IN A NEW AGE OF DIGITIZATION AND ARTIFICIAL INTELLIGENCE

AI will empower the creative entrepreneur, not replace them

DR. FEI-FEI LI
Co-Director of the Stanford Institute for Human-Centered Artificial Intelligence (HAI)



AMERIA MANAGEMENT ADVISORY
GEM Global Entrepreneurship Monitor

7.1 Introduction

Digital marketing has become a commonplace phenomenon globally over the past decade, with consumers familiar with the daily influx of marketing emails and social media posts, bringing clear benefits such as cost-effective targeted access to global markets and niche audiences, while also posing risks like digital divides, unequal access to opportunities, security challenges, and ethical concerns about misinformation and bias. The rise of artificial intelligence (AI) further amplifies this transformation, enhancing decision-making through machine learning, faster algorithms, and data analysis, improving forecasting, identifying market gaps, and personalizing customer interactions via tools like chatbots. As outlined in the *Global Entrepreneurship Monitor 2024/2025 Global Report*, AI acts as a versatile team member for startups, covering skill gaps, accelerating innovation, and enabling rapid adaptation and scalability in a fast-moving market.

This chapter's focus on the relationship between entrepreneurship and digital marketing, including the dawning of AI, is crucial for Armenia. Early-stage entrepreneurs and established business owners can leverage digital tools to efficiently promote products, target specific audiences using data-driven analytics, and bypass first-mover advantages with cost-effective, adaptable strategies, as evidenced by the 2024 GEM APS data. 2024 GEM APS questionnaire has been revised to include new questions on the perceived importance of digital marketing tools—email marketing, company websites, and social media—alongside AI, marking a pivotal shift in understanding its entrepreneurial digital evolution.

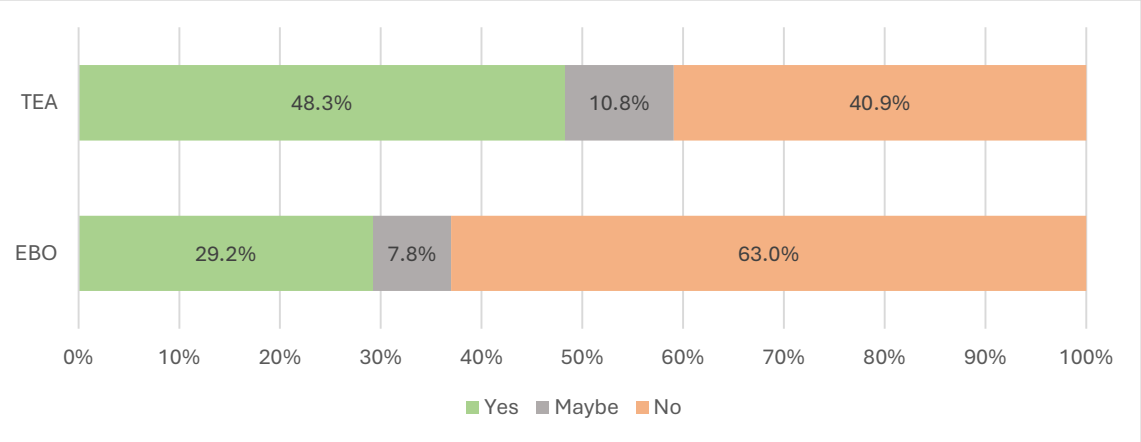
These patterns indicate Armenia's youthful, educated urban entrepreneurs are at the vanguard of digital transformation, yet established businesses and rural, less-educated groups lag, signaling a need for targeted interventions—such as AI training and cloud computing adoption—to bridge these gaps. By exploring these trends, this chapter not only fills a void in Armenia's prior GEM reporting but also aligns with the global shift toward digital marketing and AI, ensuring Armenia's entrepreneurs, particularly TEA, can compete in a fast-moving market and contribute to a more inclusive, innovative entrepreneurial future.

7.2 Preparing for the future

As digital transformation accelerates globally, entrepreneurs are increasingly integrating digital technologies into their business operations. However, the extent of this adoption varies based on factors such as business stage, location, as well as age, education, gender, and income of owners. Early-stage entrepreneurs (TEA) consistently exhibit higher expectations for leveraging digital tools compared to established business owners (EBO), signaling a shift toward digital-first business strategies.

In Armenia, TEA exhibit higher expectations than EBOs for increased digital technology use (Figure 45), with 48.3% of TEA expecting their business will use more digital technologies to sell products or services within the next six months, against 29.2% of EBOs. With this indicator for TEA, Armenia ranked below average (54%) for 2024 GEM 51 countries or 32nd among 51 countries, but a bit above average in 15 countries in "Eastern Europe+" group (46%) or 6th among these 15 countries. **Armenia has one of the lowest indicators with EBOs share expecting to increase digital technology use in 2024 GEM (45th among GEM's 51 countries and 13th among 15 countries in "Eastern Europe+" group)**. This perhaps may explain also comparative disadvantage in competitiveness of EBOs outside of Armenia.

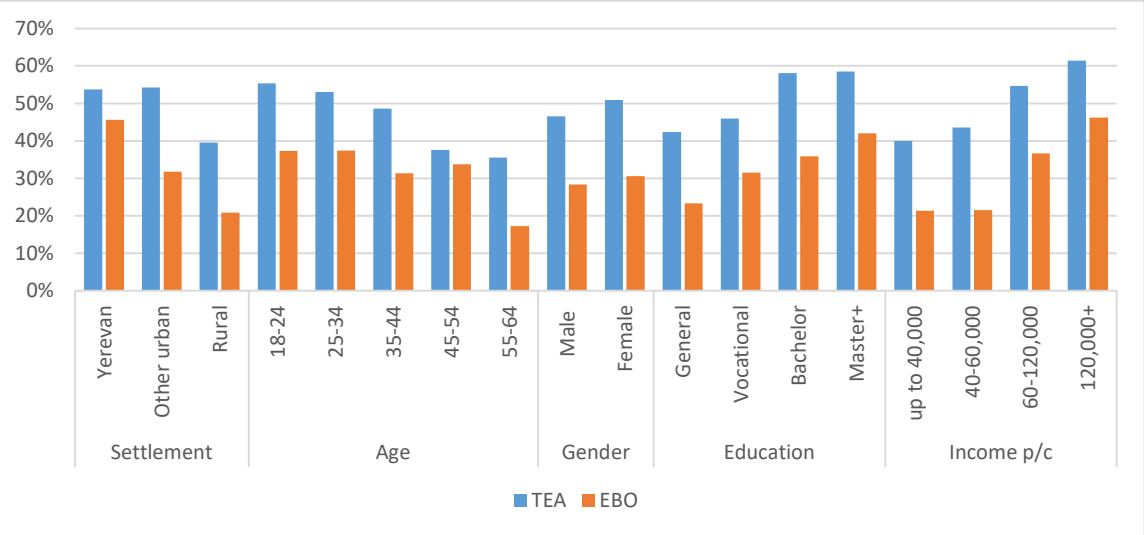
Figure 44. Armenia: TEA and EBO Expectations to use more Digital Technology for their Sales, %



Source: GEM Armenia: Adult Population Survey 2024

Considering location of TEA, it is obvious that those located in Yerevan and other urban areas (each representing approximately 54% of TEA) are more prepared to use more digital technology for their sales, than those in rural areas (39.6%). EBOs in Yerevan are more prepared to increase use of digital technology, than in other urban areas and rural areas. Such differences, perhaps, can be explained considering Yerevan, as the economic and tech hub, benefits from superior internet infrastructure, tech startups, and diaspora-driven innovation. The lower expectations for rural areas and also for EBOs in all areas, are perhaps due to potential reliance on traditional methods, consistent with Armenia's established industry sectors.

Figure 45. Armenia: Expectations of Increased Digital Technology Use by TEA and EBO in different groups of population (% of those who said "yes")



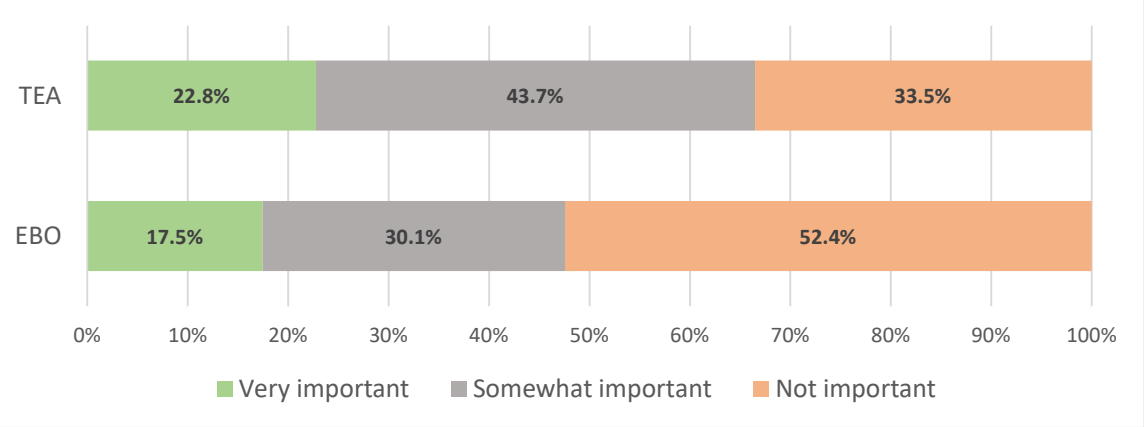
Source: GEM Armenia: Adult Population Survey 2024

As expected, the younger the age of an entrepreneur, the higher is his/her readiness to increase digital technology use in their sales. Another interesting peculiarity is that women entrepreneurs are more ready to increase digital technology use compared to men (50.9% vs 46.6% in TEA). The readiness to increase use of digital technology in their sales is growing with increase in education level and income level of entrepreneurs, which can be explained by awareness, skills and financial capabilities.

Considering readiness to increase the use of digital technology, Armenia's TEA exhibit above-average regional optimism (compared to other "Eastern Europe+" countries), but lag globally, while EBO underperform both regionally and globally, reflecting structural challenges such as digital divides, resource constraints, and probably, resistance to change.

Another question in GEM was "How important do you anticipate artificial intelligence tools will be for implementing your business model and strategy in the next three years?". **Regarding the importance of Artificial Intelligence tools for business models, TEA expressed higher importance than EBOs in Armenia (Figure 47). Specifically, 22.8% of TEA anticipated leveraging advanced AI tools to enhance efficiency and drive business growth within the next three years, compared to 17.5% of EBOs.**

Figure 46. Armenia: Importance of Artificial Intelligence Tools for Business Models in the next three years for TEA and EBO



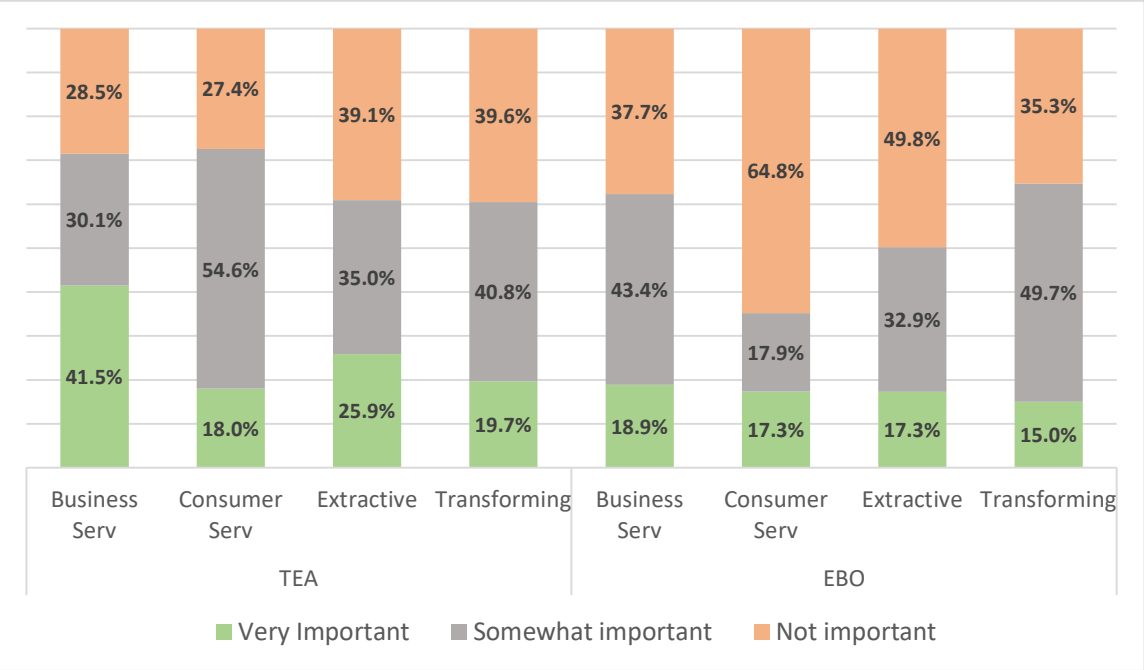
Source: GEM Armenia: Adult Population Survey 2024

With acknowledging high importance of AI tools for business models in next three years, Armenia's TEA and EBO ranked below the average for 50 countries in 2024 GEM. Armenia's indicator was 32nd for TEA and 37th for EBO out of 50 countries. However, Armenia performed relatively better on regional level, especially with TEA indicator, securing the 4th position out of 15 countries in the "Eastern Europe+" group for TEA indicator, and 9th out of 15 countries with EBO indicator. Particularly, TEA in Slovenia, Bosnia, Slovakia and Hungary are above Armenia with TEA's acknowledgment of AI tools, but difference with Armenia's indicators are not significant (24.5-27.2% vs 22.8% for Armenia). With the same indicator for EBO, the leader in "Eastern Europe+" is Kazakhstan with 43.9%

indicator, while all other countries have indicators below 30%. Overall leaders in 2024 GEM with indicator of acknowledgement of high importance of AI tools for business models in next years are: UAE and Chile for TEA and Puerto Rico, Ecuador and again Chile for EBO.

Acknowledging the importance of AI tools for business models in next three years by Armenian entrepreneurs is different by economic sector groups: TEAs in Business Services sectors give much higher importance (41.5% mentioned as "very important"). The importance of AI tools is not considered that much important for EBOs in Business services sector, which means established businesses in Armenia overall do not accept the importance of AI tools (even some easily adopted and managed digital tools) regardless of their sector.

Figure 47. Armenia: Importance of Artificial Intelligence Tools for Business Models in the next three years for TEA and EBO by economic sector groups

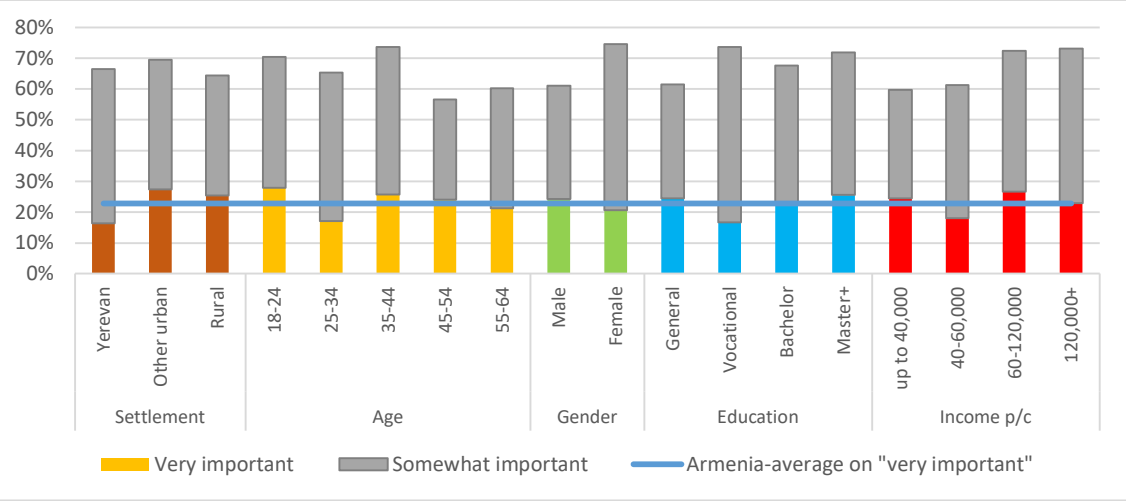


Source: GEM Adult Population Survey 2024

No formed trends can be observed by different groups of entrepreneurs in TEA. While average indicator for all TEA considering AI tools as "very important" in next three years for TEAs in Armenia was 22.8%, higher indicators are observed for age groups 18-24 and 35-44, while 25-34 age group had lower indicators. Similar ups and downs are also observed in education groups, income groups and also by settlement type and size of their business, therefore we can conclude that **there**

are no definite trends by different groups of TEA in Armenia on importance of implementation of AI tools in their business model and strategy in the next three years, which may indicate that entrepreneurs in Armenia have different awareness (even within their groups) on AI tools and their importance. This is also confirmed with the fact that large share of participants selected "Don't know" as answers to this question (15% in TEA and 21% in EBO).

Figure 48. Armenia. Anticipated Importance of Artificial Intelligence Tools for Business Models for TEA in the next three years by different population groups

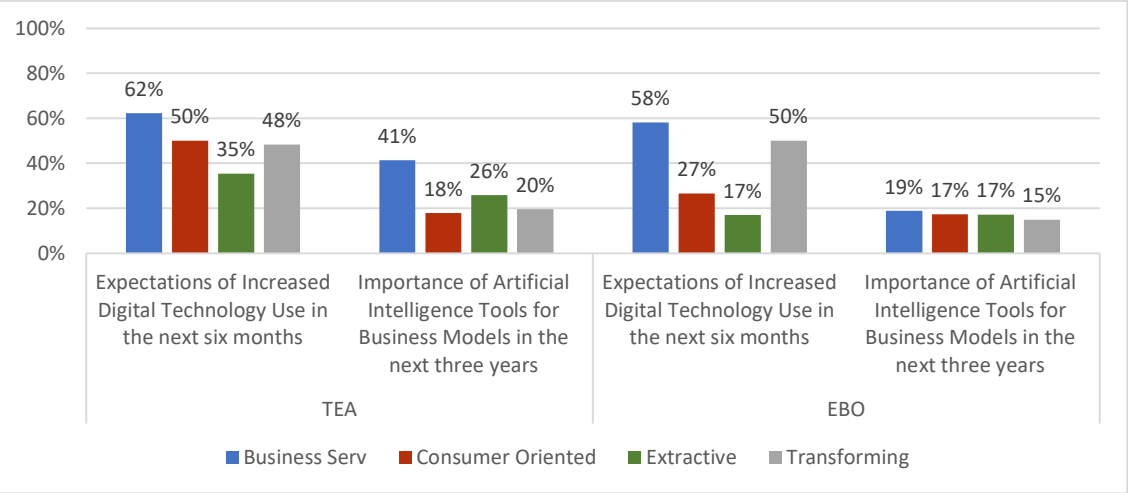


Source: GEM Armenia: Adult Population Survey 2024

While socio-demographic indicators of business owners do not explain expectations on use of digital technology and importance of AI for their business, industry sector of business as well as size of the business is more important to understand differences in perceptions toward digital technology and AI use in business.

Business services industry are definitely more intended to use digital technology and AI in business than businesses in other sectors. Anyway, sector of a business doesn't matter for EBOs to acknowledge importance of AI use in business. Another sector where businesses are intended to use digital technologies is Transforming sector, while businesses in Extractive and Consumer oriented services sectors do not acknowledge importance of digital technology and AI in business.

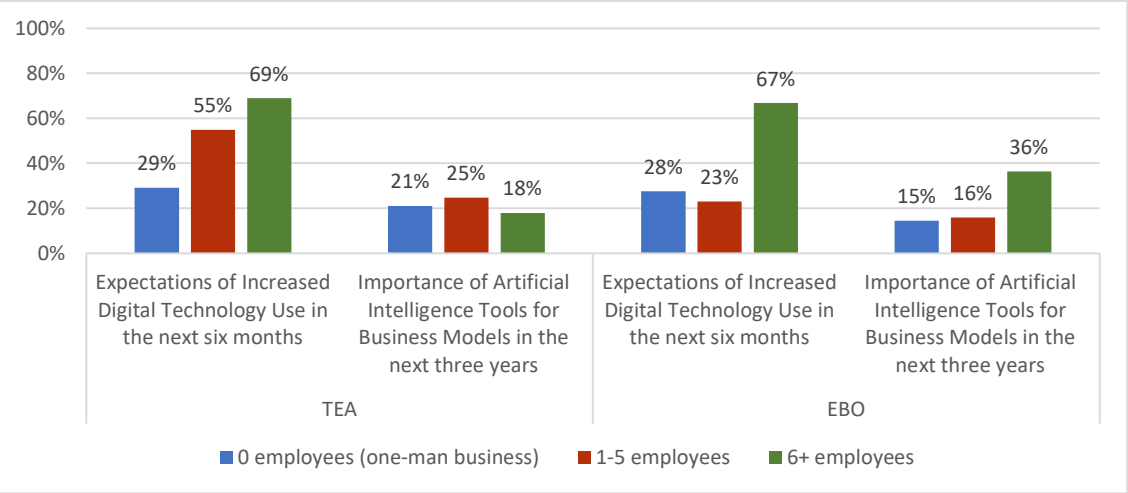
Figure 49. Armenia. Expected increase in Digital Technology use (% of TEA and EBO answering "yes") and Anticipated Importance of Artificial Intelligence Tools for Business (% of TEA and EBO answering "very important") by Industry sectors



Source: GEM Armenia: Adult Population Survey 2024

Looking at the responses by size of the businesses, it becomes clear that low acknowledgment by Armenian TEA and EBO on use of digital technology and importance of AI in business is due to small size of TEA and EBO in Armenia. Particularly, the businesses with over 6 employees gave much higher importance to the use of digital technology and AI in business, while "one-man businesses" did not emphasize the need for digital technology use in business. Although the aforementioned, the pattern in international market displays the opposite, the fewer employees an entrepreneur's company has, the greater importance to use digital technology in their business strategy.

Figure 50. Armenia. Expected increase in Digital Technology use (% of TEA and EBO answering "yes") and Anticipated Importance of Artificial Intelligence Tools for Business (% of TEA and EBO answering "very important") by size



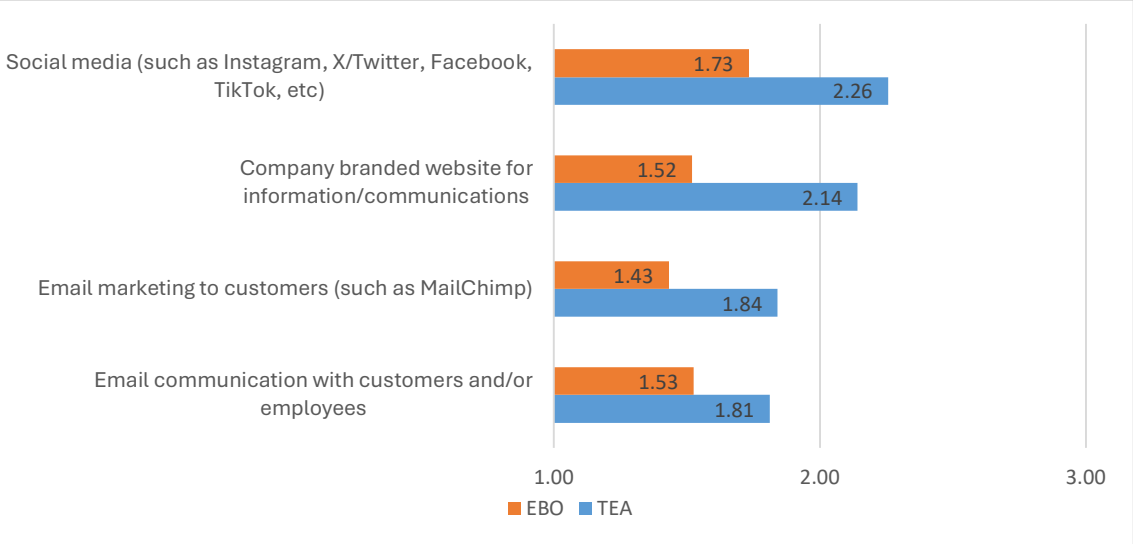
Source: GEM Armenia: Adult Population Survey 2024

7.3 Importance of use of digital tools for Armenian Entrepreneurs

While Armenian entrepreneurs have lower than average expectation among all 2024 GEM countries on "use more digital technologies to sell product or service in the next six months" (as presented in the previous sub-chapter), it is interesting to look at the details in digital tools, such as use of email communication, email marketing, company websites and social media.

The entrepreneurs (both TEA and EBO) were asked to mention the importance of each of 4 types of digital tools mentioned in the questionnaire to their day to day business operations. The respondents could select "not important", "somewhat important", "very important" responses. Ranking the responses on a scale from 1 to 3, allows comparing the importance of these 4 tools for Armenian businesses (Figure 52).

Figure 51. Armenia: Importance of Digital Marketing Tools for TEA and EBO



Source: GEM Armenia: Adult Population Survey 2024

Notably, social media platforms (such as Instagram, X/Twitter, Facebook, and TikTok) emerged as the most valued digital tool for Armenian businesses (both TEA and EBO), while Email communication with customers and employees (for TEA) as well as Email marketing to customers (for both TEA and EBO) received the lowest ranking against importance. TEA exhibits higher expectations than EBOs regarding the importance of utilizing digital marketing tools into their business models and strategies.

Importance of all four digital tools in their day-to-day operations (observed by 2024 GEM APS questionnaire) is assessed as one of the lowest by Armenian EBOs compared to other countries in 2024 GEM. Armenia's EBOs average indicators are on 48-50 positions (out of 51 GEM countries) with acknowledging high importance of email communication, email marketing and company branded websites and 45th by social media.

Table 22. Armenia vs GEM 51: Importance of the selected digital tools for day to day business operations in next six months (% in all TEAs/EBOs answering "very important")

		Armenia: % of entrepreneurs assessing it as "very important"	GEM 51 countries average	15 "Eastern Europe+" countries average	Armenia's rank		Difference (Armenia vs World), pp	Difference (Armenia vs E. Europe+), pp
					in all 51 countries of GEM	in 15 countries E. Europe+		
TEA	**Email communication** with customers and/or employees	26.4%	51.4%	51.5%	49	15	-25.0	-25.1
	Email marketing to customers (such as MailChimp)	26.8%	35.5%	30.8%	39	12	-8.7	-4.0
	Company branded website for information/communications	43.7%	52.5%	48.7%	39	9	-8.8	-5.0
	Social media (such as Instagram, X/Twitter, Facebook, TikTok, etc)	53.1%	60.7%	56.2%	35	10	-7.5	-3.1
EBO	**Email communication** with customers and/or employees	18.9%	52.5%	54.1%	49	15	-33.6	-35.2
	Email marketing to customers (such as MailChimp)	13.4%	31.2%	28.9%	48	14	-17.8	-15.5
	Company branded website for information/communications	18.2%	43.7%	38.4%	50	15	-25.5	-20.2
	Social media (such as Instagram, X/Twitter, Facebook, TikTok, etc)	27.8%	47.1%	38.9%	45	14	-19.2	-11.0

Source: GEM Adult Population Survey 2024

Armenia's TEAs have a bit better rank (except email communication) in GEM compared to EBOs. While the difference between Armenian TEAs' indicators of importance of digital tools with the world average indicators is smaller compared to those of EBO, **Armenia's TEAs' average indicators for the importance are again much lower than average for 51 countries in 2024 GEM and also in "Eastern Europe+" countries.**

The situation with importance of more advanced digital tools, such as websites for e-commerce, data analysis, cloud computing services and AI seems similar for Armenian EBOs, but Armenian TEAs give higher importance to these tools. Armenian EBOs do not consider the importance of these tools (46-49th positions among 51 GEM countries). Instead the indicators of importance of these tools for TEAs in Armenia are more or less close to average indicators of 51 countries in 2024 GEM (Table 24).

Table 23. Armenia vs GEM 51: Importance of the more advanced digital tools for implementing in their business model and strategy (% in all TEAs/EBOs answering "very important")

		Armenia: % of entrepreneurs assessing it as "very important"	GEM 51 countries average	15 "Eastern Europe+" countries average	Armenia's rank		Difference (Armenia vs World), pp	Difference (Armenia vs E. Europe+), pp
					in all 51 countries of GEM	in 15 countries E. Europe+		
TEA	Company branded **website for e-commerce**	44.5%	45.0%	40.7%	24	3	-0.5	3.9
	Data analytic tools (such as Excel, Tableau, Amazon QuickSight, Zoho Analytics, SAS Visual, Google Cloud Datalb, etc.)	35.1%	40.1%	36.7%	34	10	-5.0	-1.6
	Cloud computing services (not data analytics)(such as online storage and document management (Dropbox), video conferencing (Zoom), work management (Asana), accounting (xero), customer relations management (Salesforce))	32.5%	37.3%	32.4%	34	9	-4.8	0.1
	Artificial Intelligence (such as ChatGPT)	24.9%	27.3%	20.9%	30	6	-2.4	4.1
EBO	Company branded **website for e-commerce**	19.2%	37.5%	31.3%	47	14	-18.2	-12.1
	Data analytic tools (such as Excel, Tableau, Amazon QuickSight, Zoho Analytics, SAS Visual, Google Cloud Datalb, etc.)	15.3%	35.8%	32.0%	49	15	-20.5	-16.7
	Cloud computing services (not data analytics)(such as online storage and document management (Dropbox), video conferencing (Zoom), work management (Asana),	18.0%	36.0%	31.4%	48	13	-18.1	-13.4
	Artificial Intelligence (such as ChatGPT)	11.3%	23.6%	18.1%	46	12	-12.2	-6.8

Source: GEM Adult Population Survey 2024

Considering the importance of use of digital tools by Armenian TEA and EBO we can state, that Armenian entrepreneurs lag far behind the world average and "Eastern Europe+" with the acknowledgment of the importance of digital tools for their business processes, which perhaps is an alarming signal. Considering global developments into digitalization, this behavior may decrease competitiveness of Armenian businesses.

However, there are some reasons which may explain acknowledgment of lower importance of digital tools, which is evidence by average Armenia data. Particularly,

different structure of Armenia's TEA by industry sectors as well as by size of businesses compared to the structure in other countries explains the difference.

Large share of Extractive sector in Armenia's TEA (21.0%, the largest share among all 51 countries in GEM) impacts the low level of digital tools usage in Armenia, as TEA in this sector gave very low importance to these tools (both by objective and subjective reasons). Particularly, the acknowledgement of the importance of 6 out of 8 digital tools for TEA in this sector is significantly lower than Armenia's average indicators (Table 25). Interesting that TEA's in business services gave significantly higher importance to 6 out of 8 digital tools (except "Email marketing" and "Cloud computing services"), TEA's in Transforming sector gave higher importance to 3 out of 8 digital tools, while TEA in Consumer oriented services sector did not give significant different than average importance to the use of digital tools.

Table 24. Armenia TEAs by Industry sectors: Importance of the more advanced digital tools for implementing in their business model and strategy (difference with average indicators for Armenia[15], percentage points)

Digital tools categories	Industry sectors			
	Business Services	Consumer Oriented	Extractive	Transforming
Email communication	14.3	-2.5	-4.9	1.6
Email marketing	1.8	-1.4	-0.4	0.7
Company branded website	20.6	-1.3	-20.4	8.4
Social media	14.6	3.2	-23.1	3.5
Website for e-commerce	16.1	-2.2	-17.9	10.8
Data analytic tools	12.2	-4.8	-10.5	5.1
Cloud computing services	2.9	1.5	-10.2	1.6
Artificial Intelligence	10.2	1.2	-10.7	3.2

Source: GEM Armenia: Adult Population Survey 2024

Another factor that explains low level of importance of digital tools in a business is the structure of Armenian TEA by size, particularly prevalence of one-man businesses. As Table 26 shows, TEA with at least 6 employees tend to assess the importance of use of digital tools in a business higher than on average in Armenia.

[15] The difference between % of TEA in selected sector who answered "very important" and % of all TEA in Armenia who "very important" (in percentage points).
Green- significantly higher (+5pp) than average, Red – significantly lower (-5pp) than average

Table 25. Armenia TEAs by size: Importance of the more advanced digital tools for implementing in their business model and strategy (difference with average indicators for Armenia*[16], percentage points)

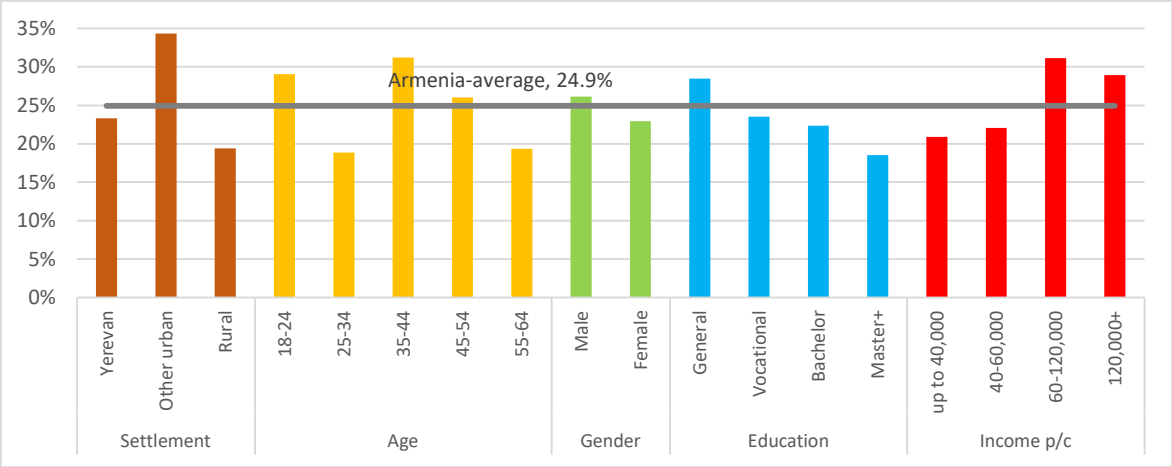
	Size of a business by number of employees		
	No employees, "one-man business"	1-5 employees	6+ employees
Email communication with customers and/or employees	1.8	-3.4	8.4
Email marketing to customers	-3.0	0.7	9.8
Company branded website	-0.9	0.2	3.2
Social media	0.2	-1.8	7.7
Website for e-commerce	-1.0	-1.4	11.5
Data analytic tools	-6.9	5.6	4.8
Cloud computing services	-6.0	2.1	16.2
Artificial Intelligence	-4.2	-1.4	20.5

Source: GEM Armenia: Adult Population Survey 2024

Even the socio-demographic indicators do not reveal trends on assessment of importance of digital tools in a business. Particularly, regarding the one of the digital tools which had grown importance recently (Artificial Intelligence), TEA and EBO have different indicators. If TEA owners with higher income gave higher importance to AI to be implemented in a business, EBOs show another trend. Such data show that behavior on implementation of digital tools in business in Armenia are more explained by Industry sector of a business, than by socio-demographic indicators of owners.

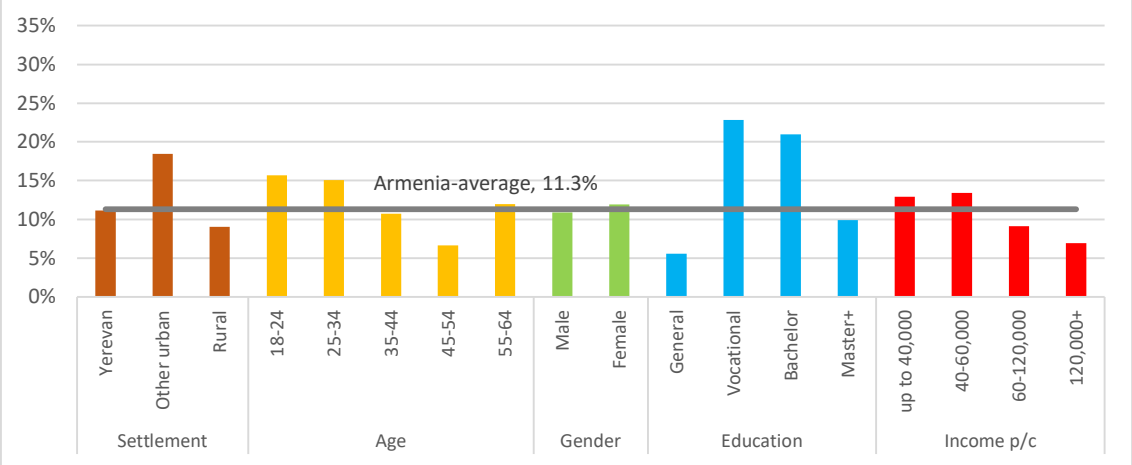
[16] The difference between % of TEA in selected sector who answered "very important" and % of all TEA in Armenia who "very important" (in percentage points).
Green- significantly higher (+5pp) than average, Red – significantly lower (-5pp) than average

Figure 52. Importance of Implementing Artificial Intelligence to Business for TEA, % (TEA)



Source: GEM Armenia: Adult Population Survey 2024

Figure 53. Importance of Implementing Artificial Intelligence to Business for EBO (% of EBO assessing as "very important") by different groups of population



Source: GEM Armenia: Adult Population Survey 2024

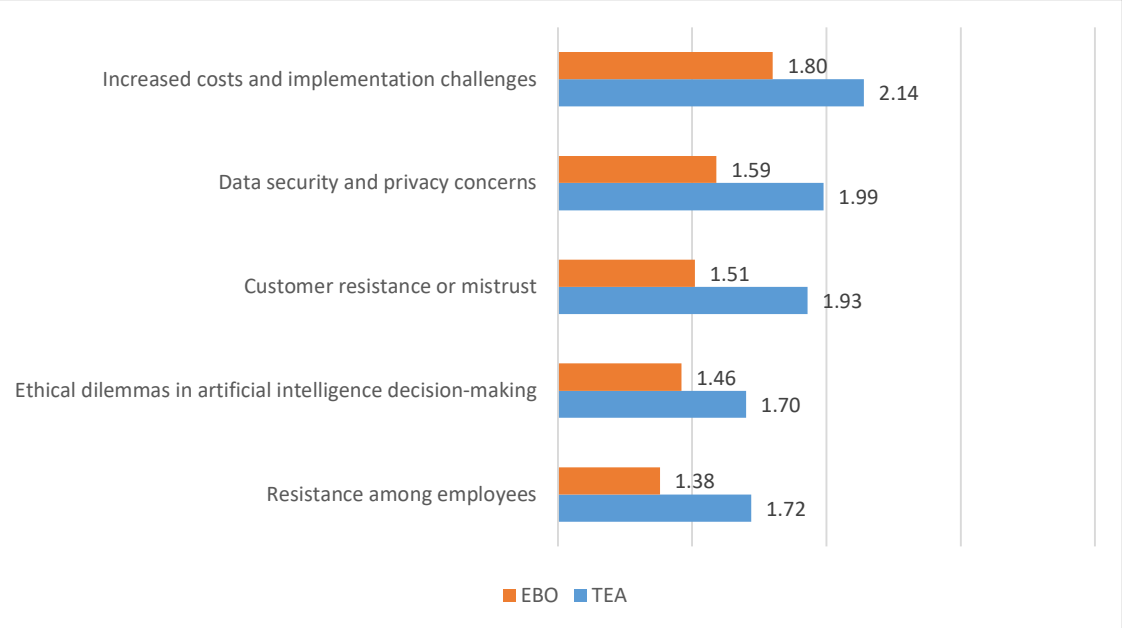
While the structure of Armenian TEA and EBO by industry sectors and size of businesses partially explains lower importance given to the use of digital tools in a business, use of digital tools in Armenian businesses still lag behind the average indicators of GEM. This perhaps can be explained by low level of entrepreneurial education in the country, low R&D transfer and not effective government policies. Considering the importance of digitalization worldwide, such trends can't help impacting negatively on competitiveness of Armenian businesses in the near future if that is not correctly addressed.

7.4 Impact of Artificial intelligence in a business: Concerns and Expectations

GEM questionnaire suggested the respondents (TEA and EBO owners) to assess the impact of AI implementation in a business: 5 negative and 5 positive impacts were proposed for the assessment with possibilities of answers as "High Impact," "Low Impact," and "No Impact." Ranking the responses on a scale from 1 (No impact) to 3 (High impact), allows comparing the impact assessment by Armenian entrepreneurs.

"Increased costs and implementation challenges" was perceived to be the most important negative impact for AI implementation in business by Armenian TEAs (with weighted index of 2.14) and EBOs (1.80), while other two components such as "Data security and privacy concerns" and "Customer resistance or mistrust" were also assessed as having quite high negative impact.

Figure 54. Armenia: Assessment of Negative Impact of AI Implementation in Business by TEA and EBO (using ranked approach[17])



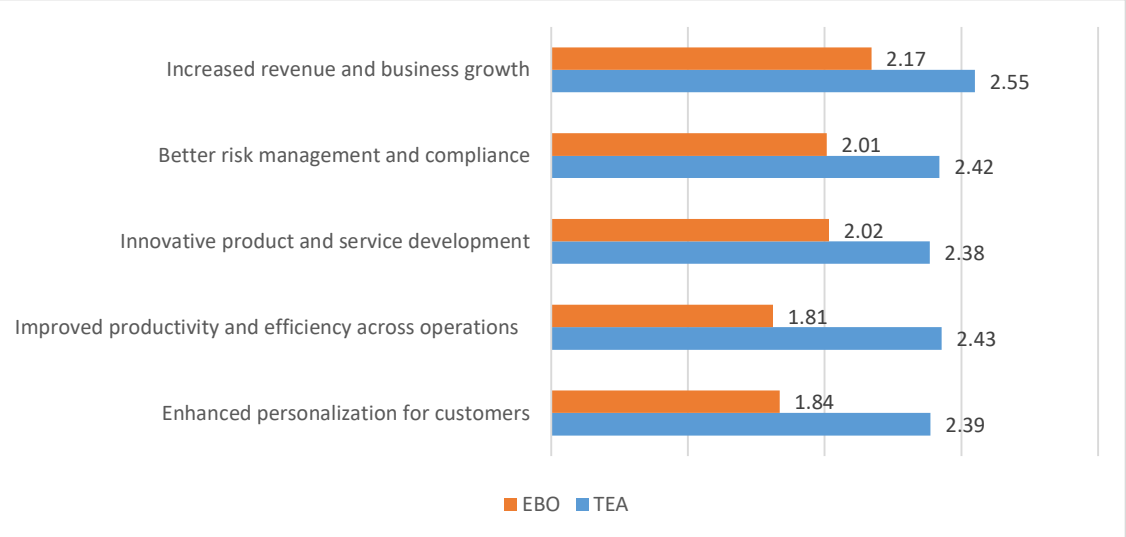
Source: GEM Armenia: Adult Population Survey 2024

[17] Weighted indicators using the ranks: 1- no impact, 2 – low impact, 3 – high impact

TEAs' highest assessment of negative impact given to "Increased costs and implementation challenges" is logical, considering average size of Armenian TEAs (median number of employees for Armenian TEA was only 1). This indicated that implementation of AI tools is restricted for such businesses due to costs. Therefore, assessment of other categories (negative and also positive) is based on other's experience and perhaps stereotypes, rather than their own experience. These data suggest that Armenia's AI adoption landscape is shaped more by limited implementation and awareness rather than outright skepticism or resistance. The low level of concern across multiple dimensions implies that businesses and consumers have not yet fully engaged with AI-driven transformations, making these challenges seem less pressing compared to global counterparts.

Regarding the assessment of categories of positive impact of AI implementation in a business, both TEA and EBO expected the highest positive impact to have "Increased revenue and business growth" category. The positive impact of other 4 categories is assessed as more or less similar by TEA, while EBOs gave higher assessment to "Innovative product and service development" and "Better risk management and compliance" versus or other two categories (Figure 55).

Figure 55. Armenia: Assessment of Positive Impact of AI Implementation in Business by TEA and EBO (using ranked approach[18])



Source: GEM Armenia: Adult Population Survey 2024

[18] Weighted indicators using the ranks: 1- no impact, 2 – low impact, 3 – high impact

Assessment of negative and positive impact of AI implementation in a business by Armenian entrepreneurs shows that overall AI implementation is perceived to have more moderate impact on established businesses than for the early-stage businesses.

Concerns and optimism of Armenian TEA and EBO on AI implementation in a business are different when comparing the assessment of the categories of negative and positive impact with the other countries in 2024 GEM. The comparison in GEM is done using the share of respondents (TEA and EBO) who selected "high impact" as an answer to the questions.

While "Data security and privacy concerns" are considered as the main category having highest negative impact for TEA and EBO on average for 50 countries in GEM, Armenia's TEA and EBO considered "Increased costs and implementation challenges" as the highest negative impact of AI implementation in a business. With the assessment of negative impact of "Increased costs and implementation challenges" TEAs in Armenia are 12th out of 50 GEM 2024 countries (and 3rd among 15 "Eastern Europe+" countries). "Data security and privacy concerns" are the second negative impact according to the assessment of Armenian TEA, but with this indicator Armenia is 36th among 50 countries in 2024 GEM which means, that this issue is not considered as important by Armenian TEA as worldwide.

Table 26. Armenia vs GEM 51: TEA Assessment of Impact of AI Implementation in a business

	Armenia: % of entrepreneurs assessing it as "high impact"	GEM 51 countries average	15 "Eastern Europe+" countries average	Armenia's rank		Difference (Armenia vs World), pp	Difference (Armenia vs E. Europe+), pp
				in all 51 countries of GEM	in 15 countries E. Europe+		
Negative impact categories							
Data security and privacy concerns	41.2%	44.9%	39.5%	36	10	-3.7	1.7
Increased costs and implementation challenges	46.7%	36.5%	31.2%	12	3	10.2	15.5
Resistance among employees	28.3%	28.9%	24.5%	25	3	-0.6	3.8
Ethical dilemmas in artificial intelligence decision-making	23.1%	32.1%	26.4%	43	12	-9.0	-3.4
Customer resistance or mistrust	36.2%	33.5%	30.0%	17	3	2.7	6.2
Positive impact categories							
Enhanced personalization for customers	63.1%	48.9%	43.8%	7	1	14.2	19.3
Improved productivity and efficiency across operations	61.6%	52.3%	48.2%	13	3	9.4	13.4
Innovative product and service development	59.2%	49.2%	45.4%	12	2	10.0	13.8
Better risk management and compliance	63.5%	42.8%	39.9%	2	1	20.7	23.6
Increased revenue and business growth	70.3%	48.7%	45.5%	1	1	21.6	24.7

Source: GEM Adult Population Survey 2024

Armenian TEAs and EBOs considered "Increased revenue and business growth" as the category which will have highest positive impact of AI implementation in a business, while on average 50 GEM countries considered "Improved productivity and efficiency across operations" as the most positive impact category. This difference, perhaps, shows the difference between the focus of Armenia's entrepreneurship and worldwide average TEA and EBO. Particularly, it is essential to highlight that in Armenia maybe it is related to the environmental and mindset causes. Entrepreneurs are more interested in getting revenue within short-term period rather than enhancing productivity. Probably it was a cause of absence of environmental competition.

Armenia's TEA are much more optimistic on positive impact of all 5 mentioned categories compared to the average TEA in 50 GEM countries. Particularly, Armenia is a leader among all 50 countries with assessment on high positive impact of "Increased revenue and business growth" and is 2nd with the category of "Better risk management and compliance". From one hand it is a higher optimism of positive impact of AI implementation, but from other hand this can be an

overestimation of expectations on implementation of AI into a business (compared to other countries TEAs). Armenia's EBOs are not that optimistic on positive impact of AI implementation compared to TEA.

Table 27. Armenia vs GEM 51: EBO Assessment of Impact of AI Implementation in a business

	Armenia: % of entrepreneurs assessing it as "high impact"	GEM 51 countries average	15 "Eastern Europe+" countries average	Armenia's rank		Difference (Armenia vs World), pp	Difference (Armenia vs E. Europe+), pp
				in all 51 countries of GEM	in 15 countries E. Europe+		
Negative impact categories							
Data security and privacy concerns	23.0%	44.7%	39.5%	48	14	-21.7	-16.4
Increased costs and implementation challenges	28.6%	36.5%	31.1%	37	7	-7.9	-2.5
Resistance among employees	14.6%	28.7%	24.5%	44	12	-14.1	-9.9
Ethical dilemmas in artificial intelligence decision-making	16.8%	32.9%	28.8%	48	14	-16.1	-12.0
Customer resistance or mistrust	18.7%	33.5%	30.7%	46	13	-14.7	-12.0
Positive impact categories							
Enhanced personalization for customers	29.5%	43.2%	38.0%	42	11	-13.7	-8.5
Improved productivity and efficiency across operations	29.4%	45.7%	39.7%	44	12	-16.4	-10.4
Innovative product and service development	40.7%	44.5%	39.6%	28	9	-3.8	1.1
Better risk management and compliance	40.1%	38.3%	35.8%	21	5	1.8	4.3
Increased revenue and business growth	46.3%	41.8%	37.6%	17	4	4.6	8.7

Source: GEM Adult Population Survey 2024

Optimism on impact of AI implementation may not necessarily indicate a high level of AI acceptance in businesses. Such optimism of micro-sized TEAs on positive impact with higher indication of increased costs for AI implementation highlights a critical need to raise awareness, enhance regulatory frameworks, and support AI adoption. The country's relatively low concern for data security, ethics, and workforce resistance may reflect limited AI exposure rather than confidence in AI governance. Addressing these gaps through education, policy development, and strategic investment will be essential for Armenia to effectively integrate AI into its economy and remain competitive in the global digital landscape.

7.5 Conclusions

- As digital transformation accelerates globally, In Armenia, TEA exhibit higher expectations than EBOs for **increased digital technology use** with 48.3% of TEA expecting their business will use more digital technologies to sell products or services within the next six months, against 29.2% of EBOs.
- With expectations to use more **digital technology** for their sales for TEA, Armenia ranked below average for 2024 GEM 51 countries or 32nd among 51 countries, but a bit above average in 15 countries in "Eastern Europe+" group (6th among 15 countries). Armenia has one of the lowest indicators with EBOs share expecting to increase digital technology use in 2024 GEM (45th among GEM's 51 countries and 13th among 15 countries in "Eastern Europe+" group). This perhaps may explain also comparative disadvantage in competitiveness of EBOs outside of Armenia.
- **Women entrepreneurs** are more ready to increase digital technology use compared to men (50.9% vs 46.6% in TEA). The readiness to increase use of digital technology in their sales is growing with increase in education level and income level of entrepreneurs, which can be explained by awareness, skills and financial capabilities.
- Although the pattern in international market displays that the fewer employees an entrepreneur's company has, the greater importance to use digital technology in their business strategy, in Armenia **"one-man businesses"** did not emphasize the need for digital technology use in business.
- 22.8% of TEA and 17.5% of EBO expressed high importance for introducing **Artificial Intelligence tools** in their business models in next three years in Armenia. With acknowledging high importance of AI tools for business models in next three years, Armenia's TEA and EBO ranked below the average for 50 countries in 2024 GEM: 32nd for TEA and 37th for EBO out of 50 countries.
- **Business services** industry are definitely more intended to use digital technology and AI in business than businesses in other sectors. This notion can explain the pattern that TEA owners with higher income gave higher importance to AI to be implemented in a business, rather than EBOs. Another

sector where businesses are intended to use digital technologies is Transforming sector, while businesses in Extractive and Consumer oriented services sectors do not acknowledge importance of digital technology and AI in business.

- While the structure of Armenian TEA and EBO by **industry sectors and size** of businesses partially explains lower importance given to the use of digital tools in a business, use of digital tools in Armenian businesses still lag behind the average indicators of GEM. This perhaps can be explained by low level of entrepreneurial education in the country, low R&D transfer and not effective government policies. Considering the importance of digitalization worldwide, such trends can't help impacting negatively on competitiveness of Armenian businesses in the near future if that is not correctly addressed.
- Importance of **all four digital tools** in their day to day operations (email communication, email marketing, social media, company website) is assessed as one of the lowest by Armenian EBOs compared to other countries in 2024 GEM. Armenia's EBOs average indicators are on 48-50 positions (out of 51 GEM countries) with acknowledging high importance of email communication, email marketing and company branded websites and 45th by Social media. Armenia's TEAs have a bit better ranks (except email communication), but Armenia's TEAs' average indicators for the importance are again much lower than average for 51 countries in 2024 GEM and also in "Eastern Europe+" countries.
- The situation with importance of **more advanced digital tools**, such as websites for e-commerce, data analysis, cloud computing services and AI seems similar for Armenian EBOs, but Armenian TEAs give higher importance to these tools. Armenian EBOs do not consider the importance of these tools (46-49th positions among 51 GEM countries). Instead the indicators of importance of these tools for TEAs in Armenia are more or less close to average indicators of 51 countries in 2024 GEM.
- **"Increased costs and implementation challenges"** was perceived to be the most important negative impact for AI implementation in business by Armenian TEAs (with weighted index of 2.14) and EBOs (1.80), while other two components such as "Data security and privacy concerns" and "Customer resistance or mistrust" were also assessed as having quite high negative

impact. “Data security and privacy concerns” are considered as the main category having highest negative impact for TEA and EBO on average for 50 countries in GEM.

- **Armenia is a leader among all 51 countries** with assessment on high positive impact of “Increased revenue and business growth” (70.2%) and is 2nd with the category of “Better risk management and compliance” (63.5%). From one hand it is a higher optimism of positive impact of AI implementation, but from other hand this can be an overestimation of expectations on implementation of AI into a business (compared to other countries TEAs).
- Optimism on impact of AI implementation may not necessarily indicate a high level of AI acceptance in businesses. Digital adoption in Armenia still lags behind global averages, pointing to deeper issues like weak entrepreneurial education, low innovation transfer, and limited government support. Without focused action in these areas, Armenian businesses risk falling behind in the global digital economy. Such optimism of micro-sized TEAs on positive impact with higher indication of increased costs for AI implementation highlights a critical need to **raise awareness**, **enhance regulatory frameworks**, and **support AI adoption**. The country’s relatively low concern for data security, ethics, and workforce resistance may reflect limited AI exposure rather than confidence in AI governance. Addressing these gaps through education, policy development, and strategic investment will be essential for Armenia to effectively integrate AI into its economy and remain competitive in the global digital landscape**.**

The GEM Armenia National Team prepared hypotheses regarding entrepreneurial activities for TEA and EBO in Armenia before surveys. The APS results either confirm or reject these hypotheses:

1. **Women entrepreneurs in Armenia will adopt digital tools at a higher rate.**

The hypothesis is confirmed. In the context of digital tools adoption in the future, women entrepreneurs demonstrate a higher propensity than men to leverage digital tools. Specifically, 50.9% of female TEA anticipate increased use of digital technologies compared to 46.6% of male TEA, while 30.5% of female EBO expect greater digital adoption versus 28.4% of their male counterparts.

2. Armenian regions with higher GDP per capita show a higher adoption of digital tools among entrepreneurs

The hypothesis is confirmed. While there is no significant correlation between use of digital technology and GDP per capita by countries, some patterns are visible for the TEAs by Armenia's regions (marzes). Three marzes with highest GDP per capita (Yerevan, Syunik and Kotayk) show higher adoption of digital technology use compared to other regions. While Armenia's average indicator was 48.3%, expectations to use digital technology in their business for TEAs in Yerevan was 53.8%, in Kotayk – 65.3% and in Syunik – 63.5%.

CHAPTER VIII. THE ENTREPRENEURSHIP CONTEXT

The environment shapes entrepreneurial decisions — tax policies, education systems, access to capital — all of it matters

DANIEL ISENBERG
Entrepreneurship professor and founder of the Babson Entrepreneurship Ecosystem Project

AMERIA
MANAGEMENT ADVISORY
GEM
Global Entrepreneurship Monitor

8.1 Introduction

This report has primarily focused on the decisions involved in starting a new business or expanding an existing one, as well as the attitudes and motivations driving these choices. However, the broader context in which these decisions are made is equally important. The entrepreneurial environment includes a range of factors—economic, political, institutional, financial, educational, and social—that can significantly influence the decision to embark on an entrepreneurial journey. This context can either support and encourage individuals to become entrepreneurs and transition from new ventures to established businesses, or it can serve as a deterrent. Furthermore, the entrepreneurial landscape is shaped by national and global events, societal changes, and government priorities, all of which play a crucial role in fostering or hindering entrepreneurial activity.

As noted, the main source used for previous chapters is a survey of individuals representing the population (APS), while this chapter focuses on the results of national expert survey (NPS) assessing the entrepreneurial environment of the country.

8.2 The GEM Entrepreneurship Framework Conditions

GEM evaluates the entrepreneurial environment in economies by defining and analyzing nine specific Entrepreneurship Framework Conditions (EFCs). Four of them have sub-conditions, so overall 13 sub-conditions of entrepreneurship framework are assessed in each GEM participating economy. These conditions/sub-conditions shape the ease or difficulty of starting a new business and transforming it into a sustainable enterprise.

Table 28. GEM's entrepreneurship context: National Entrepreneurship Framework Conditions

A		**FINANCE:**	
	A1	a) Entrepreneurial Finance:	Are adequate financial resources accessible to new startups, including informal investments, bank loans, government grants, and venture capital?
	A2	b) Ease of Access to Entrepreneurial Finance	Are these financial resources, such as informal investments, bank loans, government grants, and venture capital, easily accessible to entrepreneurs seeking to establish and grow their startups?
B		**GOVERNMENT POLICIES:**	
	B1	a) Support and Relevance.	Do government policies actively encourage entrepreneurship and provide support for individuals launching new business ventures?
	B2	b) Taxes and Bureaucracy:	Are business taxes and fees manageable for new enterprises? Are the rules and regulations straightforward, or do they impose an excessive burden on new businesses?
C		**GOVERNMENT PROGRAMMES:** Government Entrepreneurship Programs.	Are high-quality support programs accessible to new entrepreneurs at the local, regional, and national levels?
D		**EDUCATION & TRAINING**:	
	D1	a) Entrepreneurship Education at School.	Are schools fostering entrepreneurial values by introducing concepts of entrepreneurship and encouraging skills like inquiry, opportunity recognition, and creativity among students?
	D2	b) Entrepreneurship Education Post-School.	Do colleges, universities, and business schools provide effective courses on entrepreneurial topics, along with practical training on starting a business?

E		**R&D TRANSFER**: Research And Development Transfers.	To what extent can findings from universities and research centers be transformed into commercial ventures?
F		**COMMERCIAL INFRASTRUCTURE**: Commercial And Professional Infrastructure.	Does access to affordable professional services, such as legal and accounting support, contribute to the success of new ventures within a framework of property rights?
G	G1 G2	**MARKET OPENNESS**: a) Ease of Entry: Market Dynamics. b) Ease of Entry: Market Burdens And Regulations.	Are there free, open, and expanding markets where entry and pricing are not dominated by large corporations? Do regulations facilitate, rather than restrict, entry?
H		**PHYSICAL INFRASTRUCTURE**	How adequate and accessible are physical infrastructures—such as roads, internet access and speed, the cost and availability of physical spaces—for entrepreneurs?
I		**SOCIAL AND CULTURAL NORMS**	Does national culture hinder or foster entrepreneurship by providing role models, mentors, and social support for risk-taking?

Source: GEM National Expert Survey 2024

This approach is grounded in over 25 years of research and practical experience. Each year, the National Expert Survey (NES) gathers insights from at least 36 carefully selected experts per country, who evaluate various aspects of the entrepreneurial environment in their economy, leveraging their knowledge and expertise. By asking the same questions across different economies, the survey enables comparisons both between economies and within the same economy over time. The experts, who possess significant experience and knowledge of their economy's entrepreneurial landscape, include professionals such as bankers, business journalists, academics, policymakers, and entrepreneurs, among others. Each expert completes an online survey, rating the accuracy of statements about

the Entrepreneurial Framework Conditions (EFCs) on an 11-point scale, ranging from completely false (0), to neutral (5), to completely true (10).

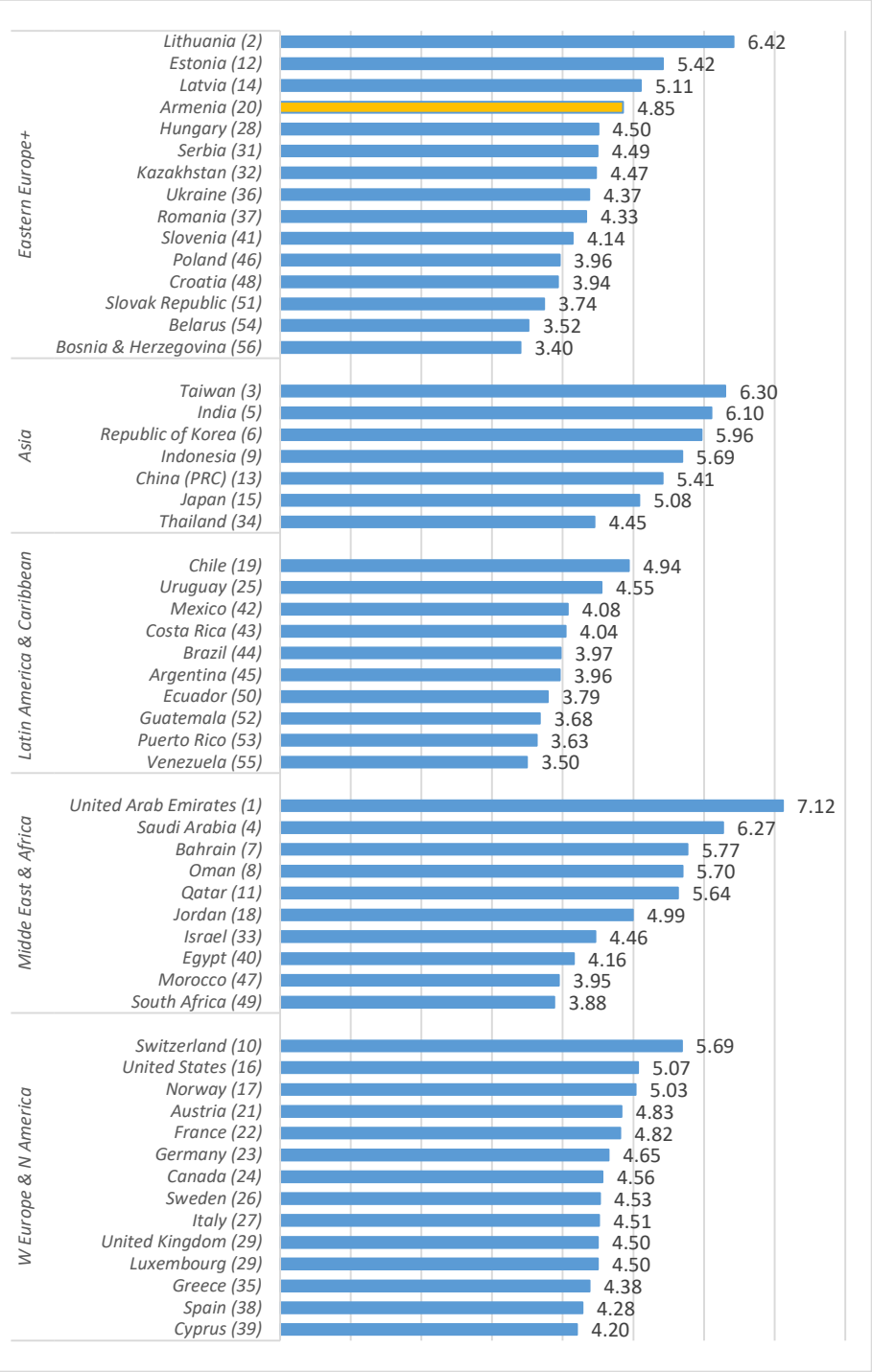
The experts are selected according to their knowledge and each of 9 areas within defined national entrepreneurship framework conditions are represented by at least 4 experts. Armenia's results for 2024 are based on opinion of 37 experts, which is near to the median value in the list of 56 countries: 22 countries had 36 experts in their NES, 10 countries – 37-38 experts and 15 countries – over 40 experts. Oman and Egypt had the highest number of experts in 2024 NES – 90 and 86 respectively. In each GEM economy, national experts evaluate the adequacy of each framework condition. The summarized variables are then averaged across all experts.

8.3 The National Entrepreneurship Context Index (NECI)

National Entrepreneurship Context Index (NECI) is a composite index representing in one figure the weighted average state of the set of national Entrepreneurship Framework Conditions within GEM.

Armenia with its 4.85 NECI score is ranked 20th among 56 countries who have participated in NES in 2024 GEM. With 4.85 NECI score in 2024 GEM Armenia ranked 4th among 15 countries in Eastern Europe+ group (only Lithuania, Estonia and Latvia are ahead of Armenia).

Figure 56. National Entrepreneurship Context Index (NECI) for 56 economies

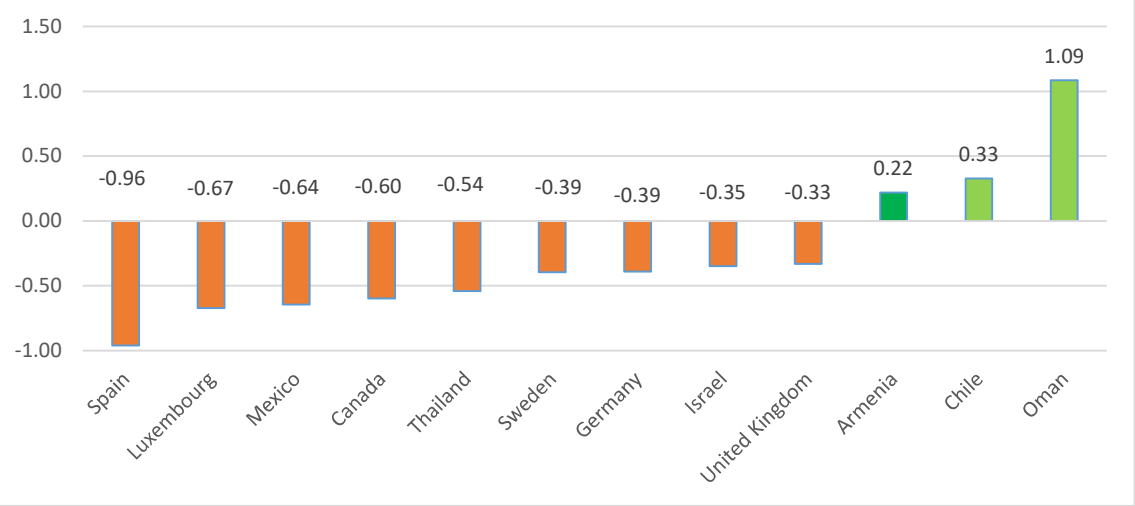


Source: GEM National Expert Survey 2024

Armenia's NECI score as well as position have been improved in 2024 GEM compared to 2019 GEM. NECI score of 4.85 with 20th position among 56 countries in 2024 GEM shows an improvement from 2019 GEM, where Armenia positioned

27th among 54 countries with 4.63 NECI score. However, while comparing 2024 GEM with 2019 GEM, we must take into consideration that the list of countries has also changed. Particularly only 40 countries from 56 countries in 2024 GEM are present in 2019 GEM. Considering only these 40 countries, Armenia has climbed from 23th position to 16th. This was not only due to Armenia's score improving, but also because nine countries that previously ranked higher than Armenia experienced a decline in their scores. Meanwhile, only two countries that had lower scores than Armenia improved and managed to surpass it. It is significant, that seven of these nine countries that have fallen behind Armenia, are Group A (highest income group) countries.

Figure 57. NECI score changes (2024 GEM vs 2019 GEM) for selected countries



Source: GEM National Expert Survey 2024

The impact of entrepreneurship framework conditions on entrepreneurial activity is different and perhaps depends on income and cultural peculiarities of a country. It is significant that the set of national Entrepreneurship Framework Conditions represented as NECI levels do not show a strong and even same direction correlation with TEA & EBO levels by country. Moreover, the correlations are totally different considering different regional and income groups of the countries. NECI level has weak positive correlation with both TEA and EBO for high income countries (Group A), but the correlation is largely negative for lower income countries in 2024 GEM (Group C). Interestingly, Asian countries (where 2 are from Group A and 3 from Group C) have shown a negative correlation between NECI and both TEA and EBO levels, while NECI levels in Eastern European+ countries,

including Armenia, have shown a weak negative correlation with TEA, but at the same time, a weak positive correlation with EBO. Such results may indicate that developed entrepreneurship conditions do not necessarily bring to higher entrepreneurial activity in all countries as its influence depends on income and cultural peculiarities of a country. If better conditions show higher entrepreneurial activity in high-income countries, that may negatively impact number of entrepreneurial activity in lower income countries. One of the possible explanations is that potential entrepreneurs in lower income countries have less skills and knowledge and also the average size of their business is usually smaller. In these conditions less regulated environment is perhaps more favorable for them (even if the risk of fail is much higher). Regional differences also indicate possible impact of cultural values. Anyway, it should be mentioned that this correction is about the quantity of entrepreneurs and not the quality of entrepreneurship.

Table 29. Correlations of NECI score with TEA and EBO by regional and income groups of the countries in 2024 GEM

	TEA-NECI	EBO-NECI
GEM, total	-0.105	-0.010
Regional groups		
Asia	-0.389	-0.343
Eastern Europe+	-0.439	0.320
Latin America	0.027	0.154
Middle East	0.371	0.387
W Europe & North America	-0.221	0.117
Income groups		
Group A	0.119	0.268
Group B	0.085	-0.033
Group C	-0.541	-0.239

Source: GEM National Expert Survey and Adult Population Survey 2024

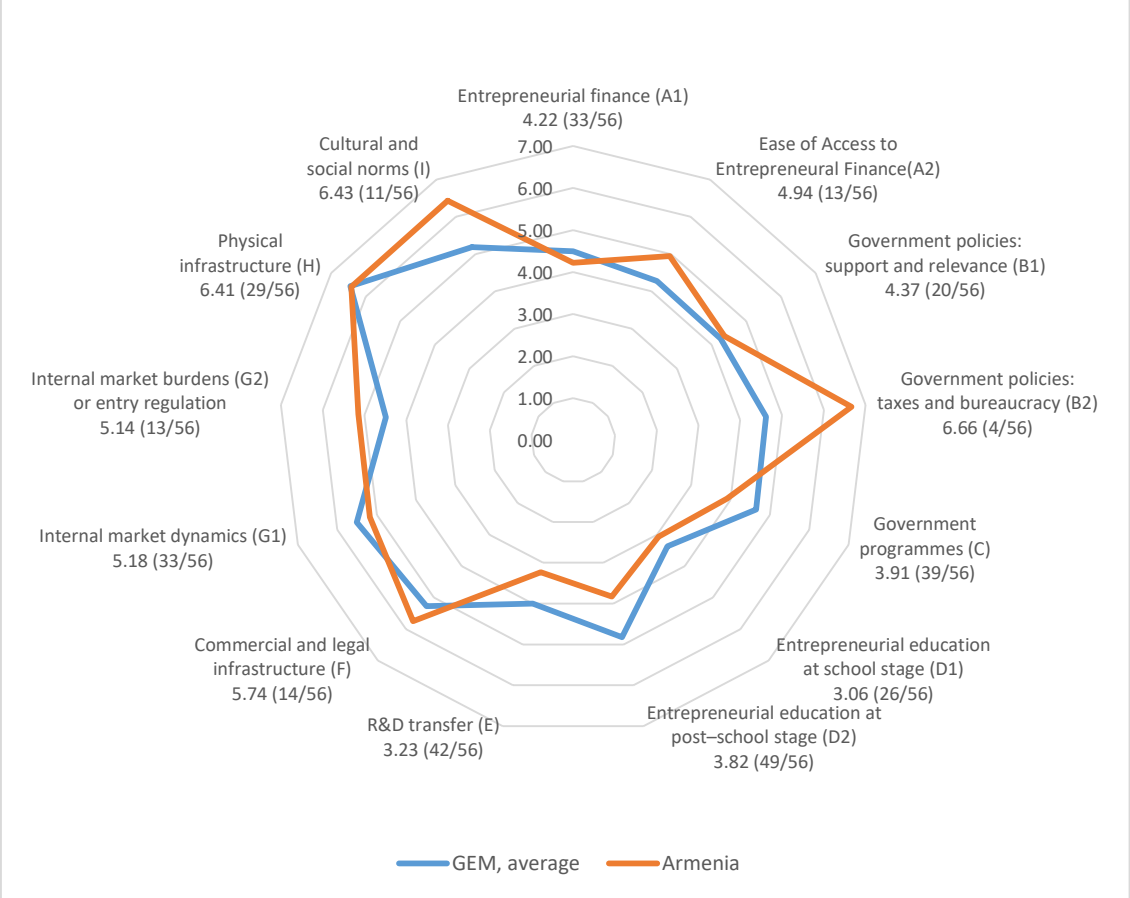
8.4 Expert ratings of Entrepreneurial Framework Conditions

The overall NECI level is determined based on experts' evaluations of the framework conditions for entrepreneurship as defined by GEM. GEM identifies nine framework conditions, four of which are further divided into two subcategories, resulting in a

total of 13 sub-conditions to be assessed. Each condition is evaluated through several questions or statements, typically ranging from 5 to 8 per condition.

Armenia has higher score compared to 2024 GEM average for six out of thirteen indicators, in 2019 GEM it was six out of twelve. Like in the 2019 GEM report, the largest positive difference (over 2.0 point) is registered for Government policy: taxes, bureaucracy (4th position out of 56), also there is a significant difference (over 1.0 point) in Cultural, and social norms (11th out of 56). The largest negative difference between Armenia's scores and 2024 GEM average scores are in two sub-categories of Entrepreneurial education: at post school stage (1.0 point) and at school stage (0.3 point) and R&D Transfer (0.8 points).

Figure 58. Armenia vs 2024 GEM NES: average by assessment of Entrepreneurial framework conditions

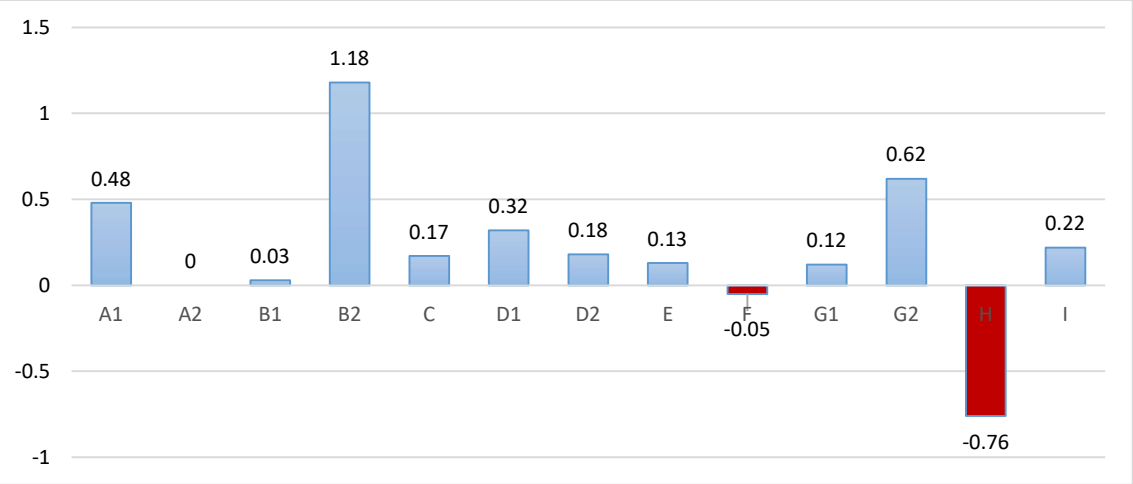


Source: GEM National Expert Survey 2024

Overall most of the scores for sub-components have been improved for Armenia in 2024 GEM compared to 2019 GEM. This may indicate although slow but positive

changes in the country in five years that have passed between two reports. The score of 9 sub-components out of 12 sub-components available in both years have improved, while the score of two components worsened. The largest worsening of the score is registered for the component of Physical infrastructure, which had the highest score in 2019 GEM NES for Armenia (19th out of 54 countries in 2019 GEM NES).

Figure 59. Armenia's 2024 GEM NES score changes vs 2019 GEM NES by sub-components



Source: GEM National Expert Survey 2024

The largest improvement is registered in Government policies: taxes and bureaucracy component, where Armenia has 4th best score out of 56 countries in 2024 GEM NES (It was also in top-7 scores in 2019 GEM NES). High assessment of Government policy was surprising in 2019, and was explained by positive expectations at that time. The fact that the Government policy is still assessed high and even has improved its positions tells us that there is a real improvement in that field. If we break down government policies—specifically the taxes and bureaucracy component—into its sub-components, we see that Armenia ranked first in a new subcomponent: "Entrepreneurs can register new firms/businesses at reasonable cost" with score of 9.059. The other four sub-components that regard the Speed of getting permits and licenses, Taxes not being burden for new firms, Predictability of taxes and regulations for new firms, and Bureaucracy, regulations & licensing being manageable for new firms have seen improvements and exceeded GEM average scores, ranking respectively 7th, 6th, 13th, and 4th.

The assessment of only two components in 2024 GEM NES showed worsening against 2019 GEM NES for Armenia: Commercial and Legal Infrastructure has gone down by 0.05 points and Physical Infrastructure by 0.76 points compared with Armenia's 2019 results. Within the Physical Infrastructure component, some subcomponents have performed particularly poorly, namely: The physical infrastructure's (roads, utilities, communications, water disposal) provision of enough support for new firms (ranked 39th), Quick access to utilities by new firms (ranked 38th), Affordability of rental office spaces for new firms (ranked 43rd), Affordability of rental production spaces for new firms (ranked 44th). On the other hand, Affordability of utilities and Affordability & accessibility of communication services for new firms were ranked rather satisfactory (9th, 23rd and 14th respectively). The issue of unsatisfactory physical infrastructure, which has been improving at a slow pace, has been further compounded by a new challenge: the affordability of rental spaces. This obstacle has arisen due to the sharp increase in real estate prices since 2022.

Entrepreneurial education is still the lowest ranked component in Armenia that needs an improvement. According to 2024 GEM assessment of expert in Armenia and other countries entrepreneurial education at primary and secondary stage and especially at post-school stage underperforms compared to most of the countries. All three sub-components related to starting and growing new firms—the provision of adequate preparation by educational institutions, the quality of practical business and management education, and the vocational, professional, and continuing education systems—are significantly underperforming and lag far behind the GEM average. When comparing scores across different countries, no clear patterns emerge based on country groups, NECI scores, or regions. Instead, the performance in these areas appears to depend on government policies and their prioritization of business education as a key factor for fostering the establishment and growth of new firms.

A significant challenge for entrepreneurship in Armenia is the inefficiency of R&D transfer. Despite the Armenian government promoting various ICT development projects, the country continues to perform poorly in transferring R&D to new and growing firms. The efficiency of transferring new technologies, scientific knowledge, and other innovations from universities and public research centers ranks among the lowest, placing Armenia second to last in this area. Key issues include limited access to new technologies for startups, insufficient support for

engineers and scientists to commercialize their ideas, and an inadequate scientific and technological foundation to support technology-based ventures. The only subcomponent showing notable improvement is government subsidies for new firms to acquire new technologies. However, the underlying issue is linked to weakened scientific and technological environment in Armenia. To address this, the government could complement direct subsidies with measures to make science and research careers more appealing. Investments in scientific infrastructure and targeted tax incentives for critical fields could foster a stronger ecosystem for innovation and entrepreneurship.

A detailed assessment of each component and its subcomponents are presented in Annex 7.

8.5 Is Sustainability Prioritized by Armenian Businesses?

While assessing statement series, national experts had to assess the level prioritization that new and growing businesses in Armenia give to sustainability. It refers to how people or stakeholders view or understand the importance that new and expanding companies place on sustainability in their operations, strategies, and decision-making processes. Sustainability here highlights how the actions in terms of social and environmental impacts, how these considerations are incorporated into their long-term strategies, and whether prioritize the sustainability over profitability or growth. Sustainability-oriented new entrepreneurs actively work to reduce their businesses' environmental impact, enhance their social contributions, integrate social and environmental factors into their future planning, and prioritize these considerations in their decision-making processes.

Overall, national experts have been asked thirteen questions on Pursuing the UN's Sustainable Development Goals (SDG), which on their part were grouped in five blocks concerning their perception on rather new and growing firms give high priority to (1) good practices of social contribution and social responsibility, (2) economic performance, (3) good environmental practices, (4) sustainability and (5) business sustainability by government through regulations.

Table 30. Perception about the degree of priority assigned to sustainability by new and growing firms

	Armenia's score on Topic	Armenia's rank		GEM 55 countries' average score	Difference between Armenia's & GEM scores
		In 55 GEM countries	In 15 EE+ countries		
Perception about the degree of prority assigned to good practices of social contribution and social responsability in new and growing firms (SGDS)	4.29	46	10	5.18	-0.90
Perception about the degree of prority assigned to economic performance in new and growing firms (SDGE)	5.74	13	3	5.04	0.71
Perception about the degree of prority assigned to good environmental practices by new and growing firms (SDGN)	4.33	47	12	5.34	-1.00
Perception about the degree of prority assigned to sustainability by new and growing firms (SDGC)	4.30	49	12	5.55	-1.25
Perception about the degree of prority assigned to business sustainability by governments/policy makers thorugh new regulations/laws (SDGG)	3.80	43	11	4.74	-0.94

Source: GEM National Expert Survey 2024

Perception of national experts on sustainability priority in Armenia are lower than average for 56 countries in 2024 GEM NES. The results have shown that highest scoring countries generally are either developed ones, or those who are rapidly developing. In Armenia, the issues regarding sustainability do not cause much concern, people are mostly concentrated on mundane challenges. For that reason, from all question blocks, the one where Armenia's score is higher than average is the one which is about perceived level of priority given to economic performance. In the last block the questions were asked about whether the national government has specific regulations that support sustainability-focused startups, and whether the national government supports sustainability-focused firms through grants, special rights and/or tax cut. Low score in this issue compared with Armenia's high score NECI's Government Policies component, shows that the government with all its interest in supporting entrepreneurship just doesn't prioritize the sustainability at this point. Armenia's lower place can indicate larger challenges (and not only economic ones) in the country compared to other countries. Particularly, Israel which is a developed country with higher economic prosperity has lower ranks even compared to Armenia, indicating that prioritizing current issues over sustainability can be a result of non-economic conditions.

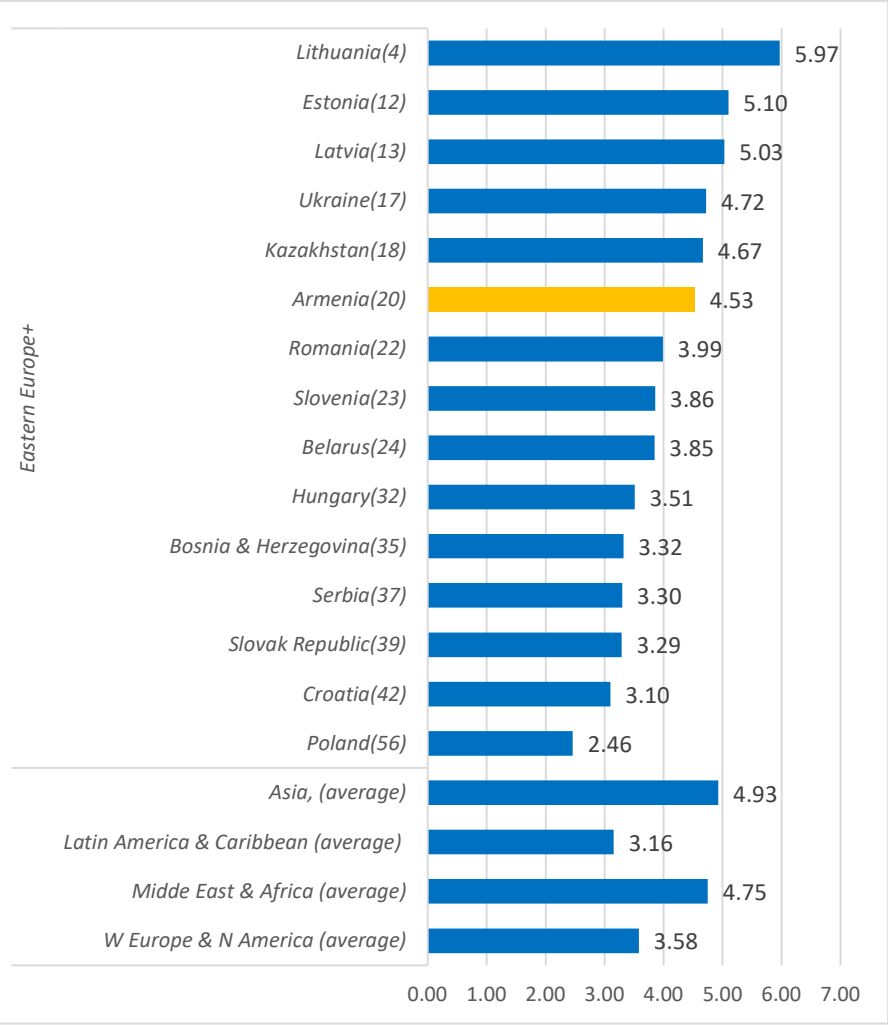
8.6 Do Women Get Equal Access to Entrepreneurial Resources?

In many economies across the globe, men are more likely than women to start new businesses. As we have seen in the Chapter 3, according to APS the male-female difference in TEA and EBO is one of the largest in Armenia. This disparity can be attributed to various factors, including cultural influences, opportunities, social norms, and differing motivations. However, a significant contributing factor may be the unequal access to entrepreneurial resources. Overall, eight questions were asked to national experts within 2024 GEM NES in this regard, the results of which are aggregated into 2 blocks describing the level of support for women entrepreneurship and accessibility of resources for women.

It is interesting that the results of scores show more favorable conditions for women entrepreneurs in Middle East (like Saudi Arabia and Bahrain) and Eastern European countries and less favorable conditions in West Europe, North America and Latin America. This, at first glance, unexpected result can be explained by cultural differences and recent changes towards women entrepreneurship in different countries. So even if cultural differences exist, the experts' assessment perhaps indicates recent changes in regulations toward women entrepreneurship and increased equality in their country.

Armenia's score based on experts' assessment of support services, regulatory favorability, and cultural attitudes toward women entrepreneurs is higher than average GEM score (20th out of 56 countries in GEM NES and 6th out of 15 countries in Eastern Europe + region).

Figure 60. Perception of the level of support for women's entrepreneurship in terms of services, regulations, and cultural norms



Source: GEM National Expert Survey 2024

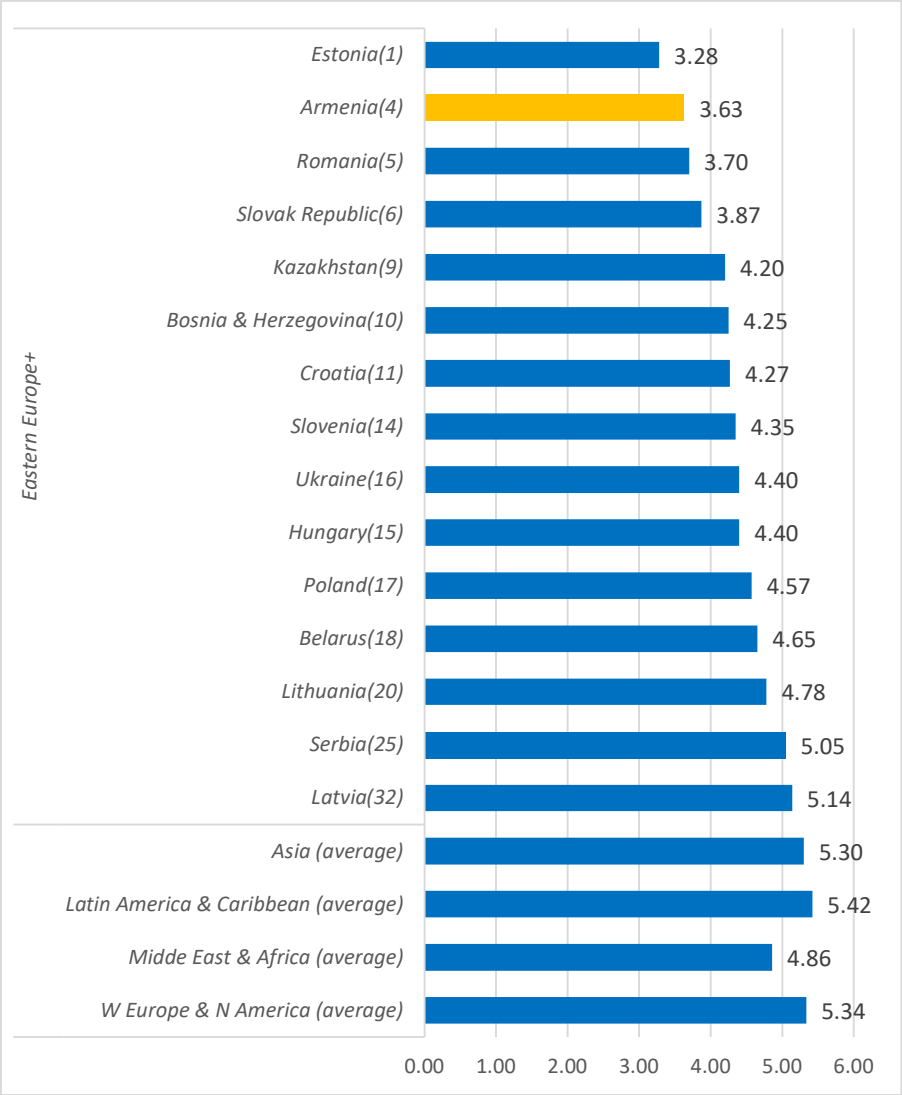
Almost all countries that see barriers for women's entrepreneurship do efforts to improve the situation. It is significant that countries like UAE, Saudi Arabia, and Bahrain rank highest in that regard, that is due to several factors. These include legal reforms that allow women full business ownership and improve access to credit, as seen in Saudi Vision 2030. Institutional support, like programs offering training, mentorship, and funding, has also played a key role. Cultural shifts have improved societal attitudes toward women in business, and international recognition in reports like the Women, Business, and the Law Index has highlighted their progress. Lastly, economic diversification strategies view women entrepreneurs as essential contributors beyond traditional industries.

Women entrepreneurship is under the focus of different initiatives, including government policies in Armenia. Particularly the issue is also considered within 2 strategic action plans approved by The Armenian Government in 2024: "2024-2040 Strategy on Improvement of Demographic Situation in The Republic of Armenia" and "Employment Strategic Plan for 2025-2031". Both address issues of women's employment and entrepreneurship and propose measures on improving the situation.[19]

According to the national experts, Armenia ranks among the leading GEM countries in terms of gender equality in access to finance and markets. The questions examined whether men have a more favorable position in terms of market access, public procurement opportunities, access to financing, and ease of obtaining seed funding. So lower score in this index means more equal access for women and men. According to the national experts' assessment women in Armenia enjoy one of the most equal opportunities compared to men in these areas. Armenia ranks 4th out of 56 countries in 2024 GEM NES and 2nd out of 15 countries in Eastern Europe + region.

[19] Both strategies have been developed by AMERIA CJSC.

Figure 61. Perception of the accessibility of resources (such as financing and markets) for women compared to men in developing entrepreneurial activities (lower the score, higher the equality in access between women and men)



Source: GEM National Expert Survey 2024

As mentioned, the results seem to present a rather paradoxical pattern. Experts from countries well known for their gender equality have largely given scores indicating that men have greater access to resources for entrepreneurial activities compared to women. In contrast, experts from many countries traditionally perceived as having more gender disparities have assigned lower scores, suggesting that they do not view women as being at a significant disadvantage in accessing resources for entrepreneurial development.

In our opinion, these differences between countries stem from varying perceptions among experts regarding these questions. In "progressive" societies, experts tend to focus on unofficial barriers they believe contribute to inequalities, such as the gender pay gap. In contrast, in other countries, the absence of formal barriers or their reduction in recent years is often considered sufficient to view the country as more equal in terms of entrepreneurship.

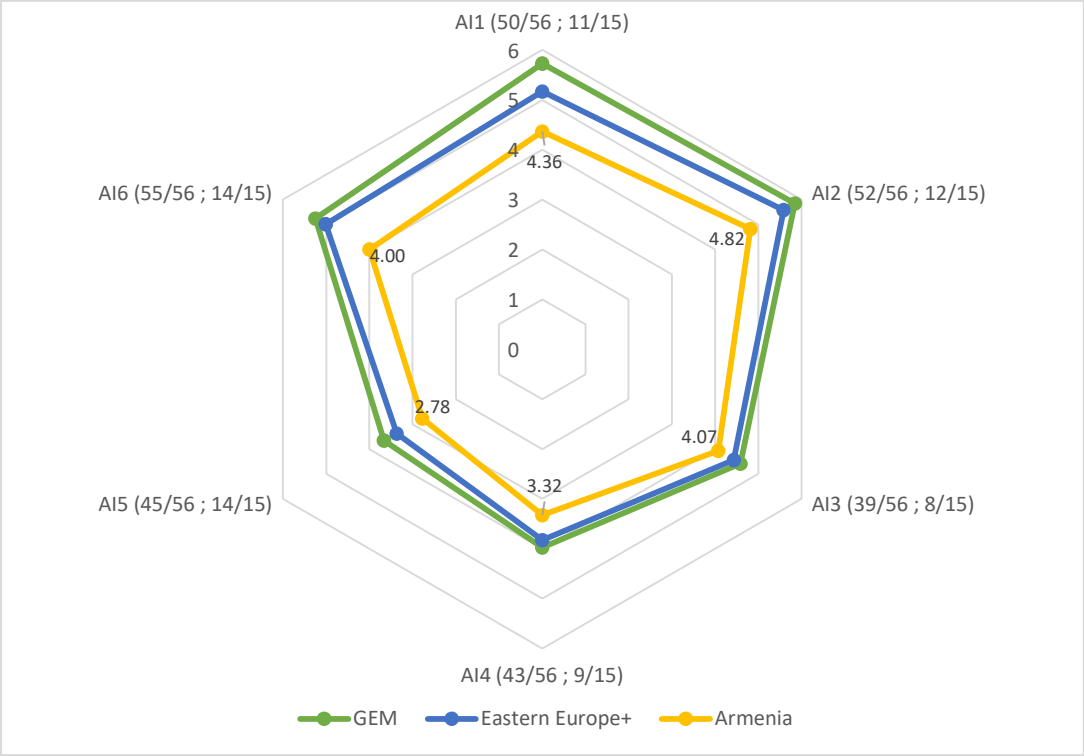
8.7 Are Entrepreneurs aware of the need to develop and implement AI solutions for their business?

National experts were asked fourteen question regarding their perception of the awareness among new entrepreneurs and owner-managers about the need to develop AI-based business solutions. These fourteen questions were condensed into six weighed ratios, namely:

- **AI1** - Awareness about the need to develop and implement AI solutions among entrepreneurs and owner-managers
- **AI2** - Companies'/ business development and progress linked to AI implementation
- **AI3** - Perception on employees' adequate awareness, competences and knowledge related with AI
- **AI4** - Perception on availability of education and training on AI at different stages
- **AI5** - Perception on public institutions and their support to AI implementation
- **AI6** - Perception on ethics' linked with AI: consumers' confidence, data security, media awareness.

According to 2024 GEM NES, Armenia lacks behind GEM NES 56 country average as well as "Eastern Europe+" group countries with awareness and perception on availability, support and ethics related to implementation and use of AI by entrepreneurs.

Figure 62. Perception on Implementation and use of AI by entrepreneurs: Armenia vs GEM & Eastern Europe+ average



Source: GEM National Expert Survey 2024

While IT industry shows accelerated growth in Armenia, use of AI by entrepreneurs is perceived lower compared to the world and the region, perhaps due to being new and relatively unknown technology outside of the IT industry, and many entrepreneurs are not yet fully familiar with its potential applications or benefits. Gaining familiarity with AI involves learning how it can be integrated into their business processes, addressing any concerns or misconceptions, and developing confidence in its use. Over time, as entrepreneurs become more comfortable with AI, they are likely to adopt it more consistently and leverage it to enhance efficiency, decision-making, and innovation within their organizations. Anyway, one of the restrictions of AI use in Armenia, could be ethical concerns lined with AI, such as confidence, data security and awareness (Armenia's indicator on perception on ethics linked with AI is the second worst among 2024 GEM NES 56 countries).

The other side of the issue could be linked to the fact that Armenian businesses are predominantly active in traditional or low-tech sectors, where AI and advanced technologies are less applicable yet. This challenge is likely to be addressed over

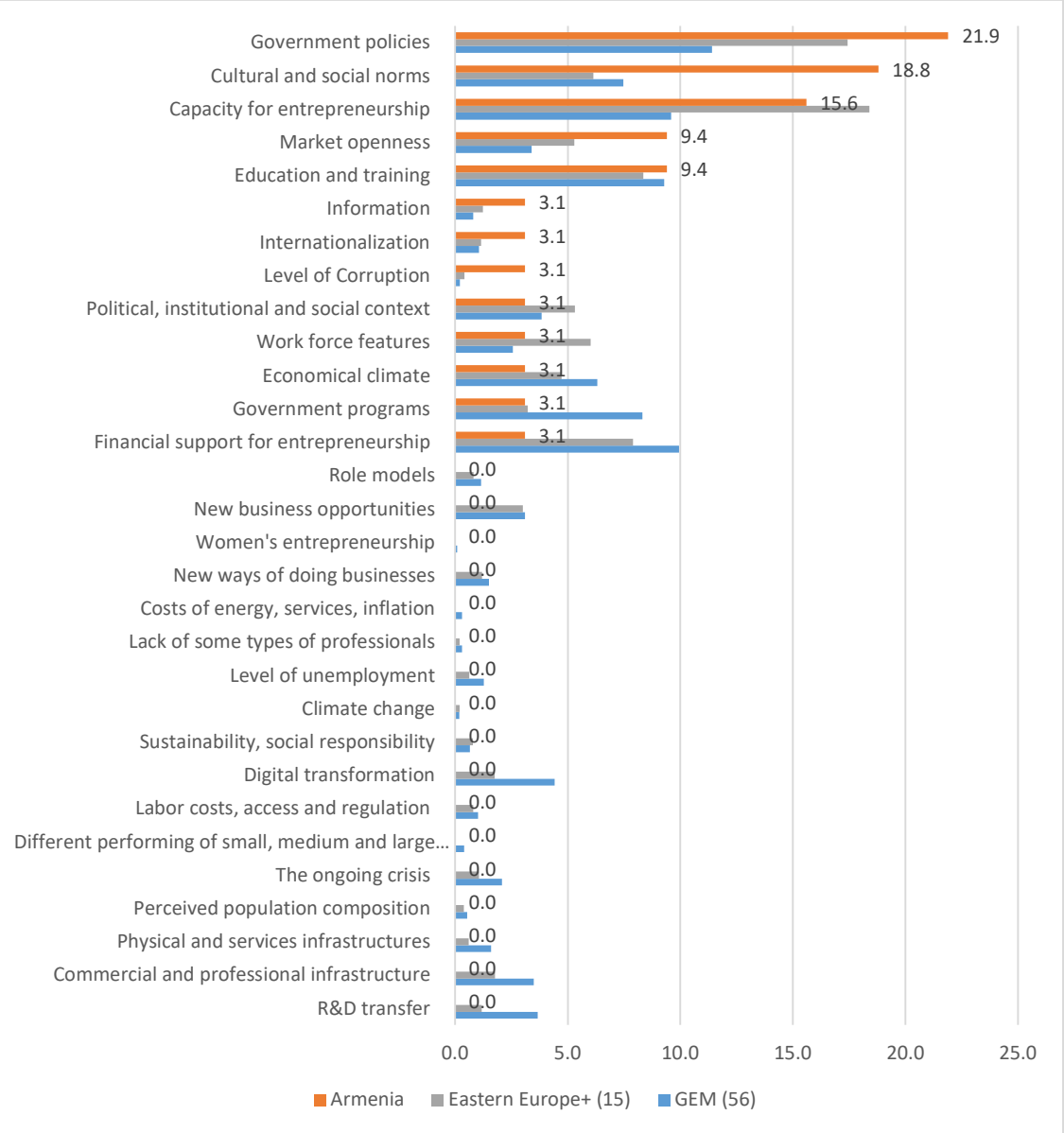
time as the country's economy evolves and transitions into a more modern and technologically advanced structure.

8.8 Recommendations to improve the context of entrepreneurial activity

The previous section outlined the results of experts' assessment of the entrepreneurial framework conditions in Armenia and highlighted the strengths and weaknesses of Armenia's entrepreneurship conditions as well as questions on sustainability, AI use and equal gender accessibility to resources. In addition to their assessments, experts were asked to provide recommendations for strengthening entrepreneurial activity in the country. Particularly two open-ended questions were asked. The open-ended answers were summarized on a list of 20 topics for further analysis to be used for all countries in 2024 GEM.

According to the experts, "Government Policies", "Cultural and social norms" and "Capacity for Entrepreneurship" are the main areas fostering entrepreneurial activity in Armenia. Cultural and social norms such as the national mentality and traditions of supporting entrepreneurs and creative and innovative activity, were mentioned as the main area supporting entrepreneurship in Armenia in 2019 GEM. While this area remained in top-2, the experts' answers indicate significant increase in the role of "Government policies" to support entrepreneurial activity in 2024 GEM compared to 2019 GEM. The Government policies that were recognized as fostering entrepreneurial activity mostly concentrated on ease of registering business, tax incentives, and ease of doing business.

Figure 63. Topics/Areas that are fostering entrepreneurial activity (%)



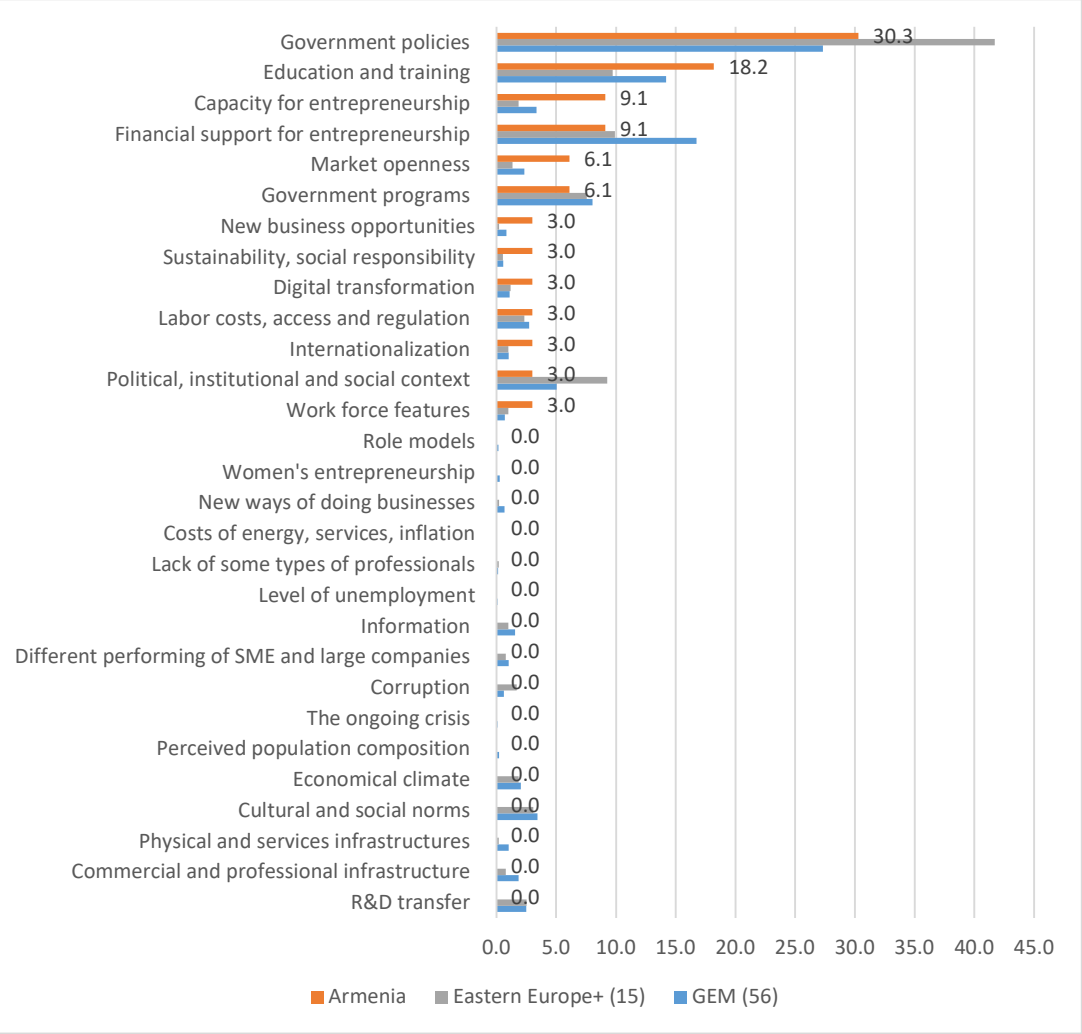
Source: GEM National Expert Survey 2024

"Government policies" and "Capacity for entrepreneurship" are two main areas also mentioned by "Eastern Europe+" group of countries. This perhaps indicated the focus of the governments in the countries in the region. Compared to an average indicator of "Eastern Europe+" countries, Cultural and social norms are much more supportive for entrepreneurial activities in Armenia. On the other hand, "Financial support for entrepreneurship" has much important role for

entrepreneurship on average for GEM countries and also for "Eastern Europe+" group compared to Armenia.

"Government policies" and "Education and training" areas are the leading topics mentioned by the experts as key recommendation for improving the context for entrepreneurial activity. Government policies is the area leading for the recommendations for the experts worldwide. These two areas were the leading areas for recommendations also mentioned by the Armenian experts in 2019 GEM. The difference with 2019 GEM is that the share of recommendations in "Government policies" increased, while in "Education and training" decreased.

Figure 64. Topics/Areas recommended to improve entrepreneurial activity (%)



Source: GEM National Expert Survey 2024

Regarding the kind of government policies, national experts emphasized the importance of a stable and transparent regulatory environment, particularly in taxation and government policies, to support entrepreneurial activity. They highlighted the need for efficient government protection and support, especially for businesses expanding internationally. Ensuring a fair and competitive economic landscape, with equal conditions for all market players, was also a key concern. Experts stressed the necessity of transitioning to knowledge-based and service-oriented industries to reduce dependence on physical exports. Additionally, they pointed out the significance of maintaining long-term stability in legal and tax regulations, along with implementing special conditions to encourage business growth in its early stages. Finally, enhancing national security and economic stability was seen as a crucial factor in fostering entrepreneurship.

Regarding the education and training, the experts mostly have emphasized the importance of introduction of entrepreneurial education either in high schools or in all education levels. Interesting, that the same recommendations were also mentioned in 2019 GEM. This perhaps indicate, that experts see no improvements in this direction during recent years.

8.9 Conclusions

- **Armenia ranked 20th out of 56 countries in 2024 GEM NES with the assessment of overall entrepreneurial activity by NECI.** With its 4.85 NECI score Armenia ranked 4th among 15 countries in "Eastern Europe+" group (only Lithuania, Estonia and Latvia are ahead). Armenia was 27th out of 54 countries in 2019 GEM. Considering only 40 countries are presented in both 2019 and 2024 GEM, Armenia has climbed from 23rd position to 16th. This was not only due to Armenia's score improving, but also because several countries experienced a decline in their scores.
- **The impact of entrepreneurship framework conditions on entrepreneurial activity is different and perhaps depends on income and cultural peculiarities of a country.** While NECI level has weak positive correlation with both TEA and EBO for high income countries, this correlation is largely negative for lower income countries in 2024 GEM. Moreover, NECI levels in

Eastern European+ countries, including Armenia, have shown a weak negative correlation with TEA, but at the same time, a weak positive correlation with EBO.

- Armenia has higher score compared to 2024 GEM average for six out of thirteen indicators assessed by national experts. In 2019 GEM it was six out of twelve. The largest ***positive*** difference is registered for **Government policy**: taxes, bureaucracy (4th out of 56) and in **Cultural, and social norms** (11th out of 56).

- The largest ***negative*** difference between Armenia and 2024 GEM average are in **Entrepreneurial education**: at post school stage and at school stage and **R&D transfer**. Entrepreneurial education is still the lowest ranked component in Armenia that is a result of lack of focus on entrepreneurial education in Government policies which requires immediate attention. A significant challenge for entrepreneurship in Armenia is the inefficiency of R&D transfer.

- **Assessment of national experts on sustainability prioritization by Armenian businesses is lower than average for 56 countries in 2024 GEM NES.** The results have shown that highest scoring countries generally are either developed ones, or those who are rapidly developing. In Armenia, sustainability issues do not attract significant concern, as people tend to focus on more immediate, everyday challenges. One contributing factor may be the general uncertainty about the future, which leads entrepreneurs to prioritize the present and pay less attention to long-term considerations that are often seen as unclear or uncertain. The government also does not prioritize sustainability issues for business. Prioritization of sustainability by government is necessary for long-term development of businesses and entrepreneurial environment.

- Armenia's score, based on experts' evaluation of support services, regulatory favorability, and cultural attitudes **toward women entrepreneurs**, ranks above the average GEM score (20th out of 56 countries in the 2024 GEM NES and 6th out of 15 countries in the Eastern Europe+ region.

- Armenian experts' assessment indicated that Armenia ranks among the leading GEM countries in terms of **gender equality** in access to finance and markets. Armenia ranks 4th out of 56 countries in 2024 GEM NES and 2nd out

of 15 countries in Eastern Europe + region. Despite one of the best indicators of gender equality in access to finance and markets, as well as attention towards women entrepreneurs, difference in entrepreneurship between men and women in Armenia remains high. This may indicate the need for better understanding women entrepreneurs' needs in Armenia to focus government and society support.

- **While IT industry shows accelerated growth in Armenia, use of AI by entrepreneurs is perceived lower compared to the world and the region.** Armenia lags behind the 2024 GEM NES average and the Eastern Europe+ group in terms of awareness, perception, and understanding of the availability, support, and ethical considerations surrounding the implementation and use of AI by entrepreneurs. This could be linked to the fact that Armenian businesses are predominantly active in traditional or low-tech sectors (particularly share of Extractive sectors in Armenia's TEA is the highest among all GEM countries), where AI and advanced technologies are less applicable yet.
- **According to the experts, "Government Policies", "Cultural and social norms" and "Capacity for Entrepreneurship" are the main areas fostering entrepreneurial activity in Armenia**. The Government policies that were recognized as fostering entrepreneurial activity mostly concentrated on ease of registering business, tax incentives, and ease of doing business.
- "Government policies" and "Education and training" areas are the leading topics mentioned by the experts as ***key recommendation*** for improving the context for entrepreneurial activity.
- Recommendations under the **Government policies** are different, such as stable and transparent regulatory environment, particularly in taxation, efficient government protection and support for businesses expanding internationally.
- Recommendations under the **Education and training**, the experts mostly have emphasized the importance of introduction of entrepreneurial education in all education levels, which were also mentioned in 2019 GEM. This perhaps indicate, that experts see no improvements in this direction during recent years.

The GEM Armenia National Team prepared the following hypotheses regarding entrepreneurial activities in Armenia before the surveys. NES results come to confirm or reject these hypotheses:

1. **Financial resources are easy to access but they are not sufficient**

The hypothesis is confirmed. According to the Armenian NES, financial resources, such as informal investments, bank loans, government grants, and venture capital, are easily accessible to entrepreneurs seeking to establish and grow their startups (Ease of getting financing scored 4.94 and ranked 13th among 56 countries), but on the other hand those resources are considered as insufficient (Finance sufficiency score was 4.22, ranked 33rd out of 56).

2. **Entrepreneurial education and R&D transfers represent weak links in the entrepreneurial development process**

The hypothesis is confirmed. The 2024 GEM assessment highlights that entrepreneurial education in Armenia, particularly at post-school levels (with score of 3.82 ranked 49th out of 56), while R&D transfers scored 3.23 and ranked 42 out of 56 countries. These remain the weakest components needing improvement, lagging significantly behind most countries. Performance in these areas varies widely across countries, driven more by government policies and prioritization of business education than by regional or economic groupings.

3. **The government policies and programs are supportive for new and growing firms**

The hypothesis is partially confirmed. Business taxes and fees are manageable for new enterprises, and the rules and regulations are quite straightforward according to NES scoring 6.66 and ranking one of the highest – 4th out of 56 countries. Meanwhile, the support and encouragement of new businesses by government policies (scored 4.37), and the accessibility of high-quality government support programs (scored 3.91) are estimated as insufficient or bad by the same NES, ranking respectively 20th and 39th out of 56 countries.

Recommendation:

- A new policy could enhance the scale and flexibility of existing funding options, such as increasing government grants and encouraging larger informal investments. Additionally, fostering partnerships between banks, venture capitalists, and startup incubators could ensure a more robust and tailored financial support system to meet the growing needs of new firms.
- Entrepreneurial education and government entrepreneurial programs (especially focusing on sustainability) are areas that are in critical need of being strengthened in order to better foster entrepreneurship activity in the country.
- R&D transfer (particularly government subsidies for firms to acquire new technologies) and financial support for new and growing businesses are areas which should be taken into account while improving educational components and designing governmental entrepreneurship programs.
- While supportive regulations and legislation are crucial for new enterprises, their effectiveness may be limited without clear implementation steps from the government. To enhance success, the government should focus on improving how policies are executed and ensure that support programs are more accessible and practical for entrepreneurs.

CHAPTER IX. AN EXAMPLE OF STATISTICAL ANALYSIS AND POLICY IMPLICATIONS

The goal is to turn data into information, and information into insight.

CARLY FIORINA,
former CEO of Hewlett-Packard

AMERIA
MANAGEMENT ADVISORY

GEM Global Entrepreneurship Monitor

9.1. Introduction

Entrepreneurship is a key driver of economic growth, innovation, and job creation, especially in developing economies like Armenia. Understanding the underlying factors that influence entrepreneurial activity is therefore essential for designing effective development policies. In addition to the numerous comparative analyses enabled by the GEM, this extensive international dataset also allows for the application of diverse statistical and econometric methods. These models, in turn, make it possible to uncover specific patterns and features that can be critically important from a policy development perspective. The analysis presented in this chapter is one such example, illustrating how GEM data can be used to identify key entrepreneurial drivers and challenges through advanced analytical techniques.

For this analysis, we used two types of GEM data: the Armenian individual-level APS data from 2019 and 2024, and national-level global indicators covering a wide set of countries. The APS data contains rich information on individual entrepreneurial activity, motivations, perceptions, and socio-demographic characteristics, enabling micro-level modeling of TEA and EBO. The global national-level dataset provides aggregated country indicators, which we use to benchmark Armenia's performance and better understand its position within the international entrepreneurship landscape.

9.2. Methodological Framework and Research Objectives

To examine the factors influencing entrepreneurial activity in Armenia, we employed a combination of statistical and machine learning techniques, including logistic regression, random forest classification, and unsupervised clustering. Each of these methods serves a distinct analytical purpose aligned with the overall research objectives.

Logistic regression was used to estimate the probability that individuals engage in either TEA or EBO, based on a set of socio-demographic, perceptual, and

motivational variables. This method was selected for its interpretability and its ability to quantify the direction and magnitude of associations via odds ratios.

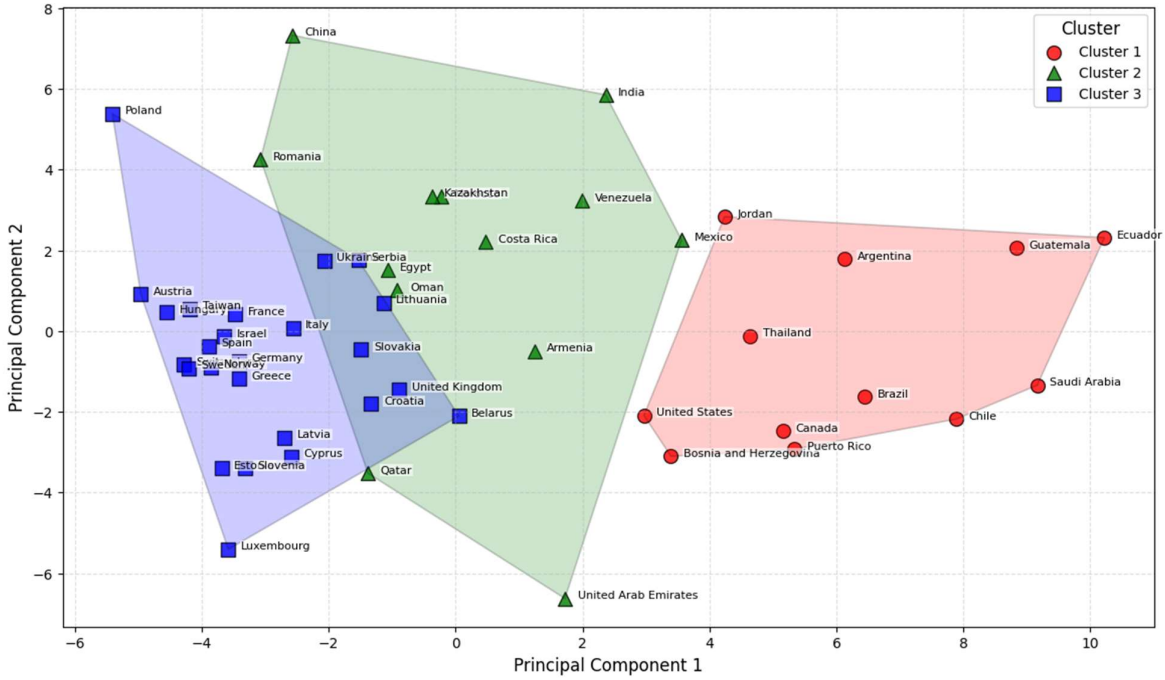
To complement this, we applied a random forest model — an ensemble-based, non-parametric machine learning algorithm — to enhance predictive accuracy and assess the relative importance of variables in a non-linear context. Random forest proved particularly valuable in capturing complex variable interactions and identifying hidden patterns that may be overlooked in traditional linear models.

Logistic regression for TEA, based on 2019 data, revealed the non-significance of several predictors, such as the ease of starting a business, considering starting a business as a good career choice, education level, and later for 2024 the fear of failure as a preventing factor to start a business, which was also confirmed by further random forest classification. The opportunity recognition, skill confidence, and future intention were confirmed to be the core predictors of early-stage entrepreneurship for both periods, whereas, for example, household income gains more importance in 2024. Extended analysis applying random forest classification for both 2019 and 2024 in its turn ranks the age, self-perceived skills and future entrepreneurial intentions as the most important factors for TEA.

To identify the determinant of EBO, two additional logistic regression and two random forest models were applied. Age was revealed to be not significant for both periods by logistic regression models, while random forest model for only 2019 ranked it as the most important factor. In both periods, motivational drivers, such as family tradition, necessity and societal impact were the important predictors making the firms more likely to sustain over time. In contrast, random forest model for 2019 ranked age and perception score as the most influential predictors of EBO, while motivational variables reported lower importance. However, the 2024 model highlighted perception score, growth orientation and the new variable of digital adoption as the top factors.

Finally, we employed unsupervised clustering techniques, specifically K-means with Principal Component Analysis (PCA) for visualization, to identify latent subgroups within the entrepreneurial population. This cross-national clustering was conducted for both TEA and EBO, using key perceptual, motivational, and structural indicators. In the case of TEA, Armenia clustered with countries, characterized by high entrepreneurial motivation and digital openness but weaker institutional ecosystems.

Figure 65. Cross-Country Clusters Based on Entrepreneurial Indicators (TEA, 2024)



A similar clustering procedure was applied to EBO indicators, revealing Armenia's alignment with more structurally conservative economies, where business continuity is sustained by necessity or tradition rather than dynamic growth. Full details and interpretation of the TEA and EBO clustering results are provided in the **Annex 9 (Section 9.3.).**

Together, these methods provided a robust analytical framework for understanding both the individual-level drivers and broader patterns of entrepreneurial activity in Armenia.

9.3. Policy Implications

The analytical results presented in this chapter offer valuable insights for shaping entrepreneurship-related policies in Armenia. By combining logistic regression, random forest models, and clustering techniques, we were able to identify both individual-level drivers and broader systemic patterns influencing entrepreneurial activity across early-stage and established business phases. A full overview of model assumptions, variable selection, and clustering methodology is provided in the **Annex 9**.

1. **Prioritize Skills Development and Entrepreneurial Confidence:** The analysis confirms that *self-perceived entrepreneurial skills* and *entrepreneurial intention* are the strongest predictors of early-stage activity (TEA), across both linear and non-linear models. These findings, detailed in **Annex 9 (Section 9.1.)**, suggests that increasing individuals' confidence and perceived capabilities should be a central policy goal. Government and educational institutions should expand entrepreneurship education, hands-on training programs, and simulation-based learning (e.g., business labs, startup hackathons), particularly targeting youth and women who remain underrepresented in TEA participation.
2. **Reinforce Motivational Quality and Long-Term Orientation:** In the EBO models, the most powerful predictors were motivational factors such as family tradition, opportunity-driven entrepreneurship, and impact orientation. These results are supported by both regression and random forest models presented in **Annex 9 (Section 9.2.)**. This highlights the importance of cultivating deeper, values-based entrepreneurial motivation. Policy interventions could include recognition programs for impact-driven businesses, family enterprise development incentives, and multi-year support schemes that align with long-term entrepreneurial journeys rather than short-term startup grants alone.
3. **Support the Transition from TEA to EBO:** Despite high TEA rates, Armenia struggles with sustainability and transition to established business ownership (see **Annex 9 (Sections 9.1-9.2)**). Policymakers should focus on creating bridge mechanisms that support startups beyond the initial launch phase—such as second-stage funding, coaching for formalization, and scaling toolkits tailored to local contexts. Establishing regional entrepreneur support centers outside Yerevan could also help address geographic imbalances and digital fragmentation.
4. **Accelerate Digital Adoption for Business Sustainability**: The introduction of the Digital Adoption Index into the 2024 EBO model revealed a strong, positive relationship between digital engagement and business survival (detailed in **Annex 9 (Section 9.2.)**). Targeted digitalization programs should address rural and low-income entrepreneurs to close the digital divide.
5. **Tailor Policies by Entrepreneurial Segment (Clustering Results):** The cross-country clustering analysis (see **Annex 9 (Section 9.3)**) revealed that Armenia aligns with high-TEA but low-sustainability countries, and resembles

structurally conservative EBO systems. These dual patterns suggest a fragmented entrepreneurial ecosystem: strong enthusiasm at the entry level, but limited structural support for growth.

To address this duality:

- For high-motivation early-stage clusters: Enhance access to mentorship, incubation, and early capital, especially for youth-led and digitally inclined startups.
- For EBO-like traditional segments: Introduce modernization programs that promote digital integration, professionalization, and regional export readiness among legacy or family-owned businesses.

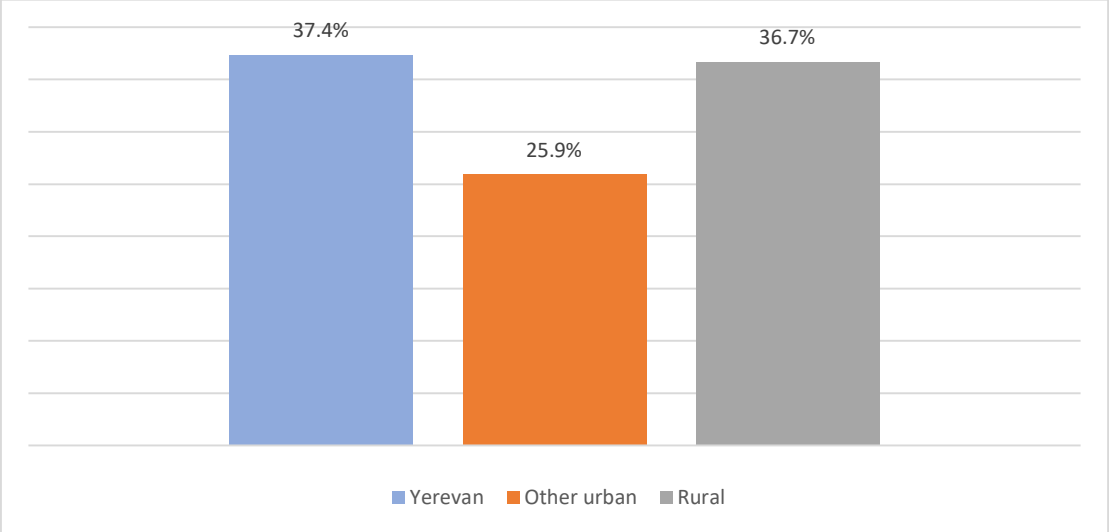
6. **Close Gender and Income Gaps in Entrepreneurship**: Gender and income continue to significantly affect both TEA and EBO participation (see **Annex 9 (Sections 9.1.-9.2.)**). Policies should promote inclusive entrepreneurship through targeted funding for women-led businesses, childcare-linked startup support, and graduated funding tiers for low-income entrepreneurs, enabling them to progressively scale with less upfront risk.

ANNEXES

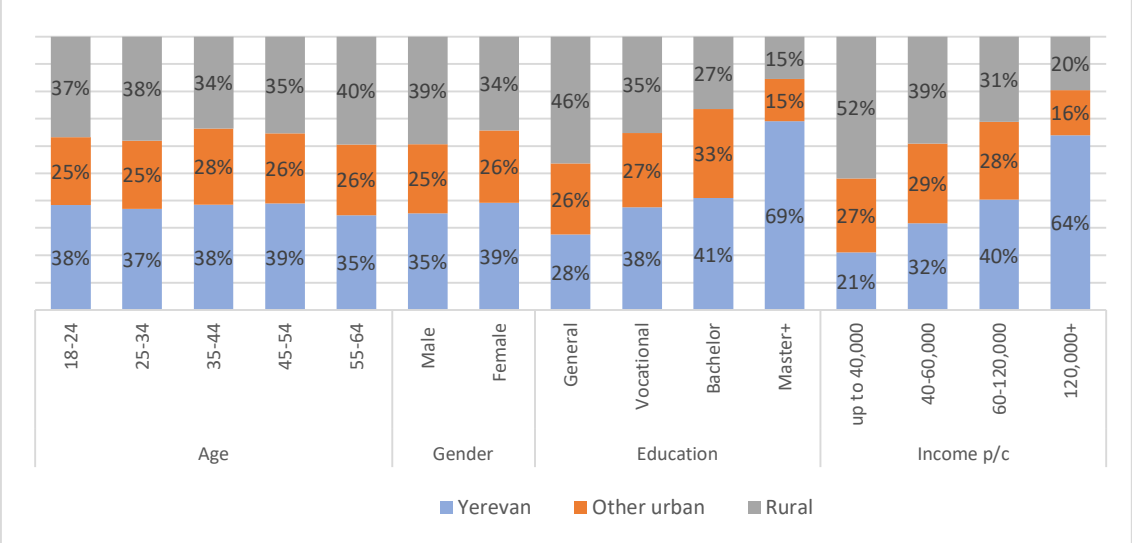
ANNEX 1. Structure of Population by main socio-demographic groups

1.1 The structure of 18-64 population by type of Settlement (Armenia GEM 2024)

1.1.1 Total distribution by type of settlement

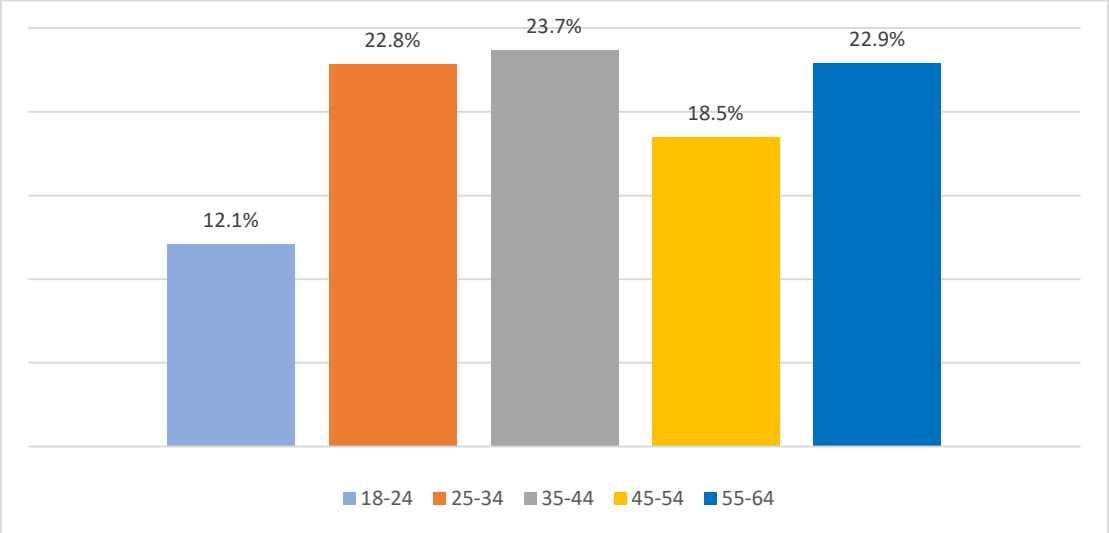


1.1.2 Type of Settlement distribution by main socio-demographic groups

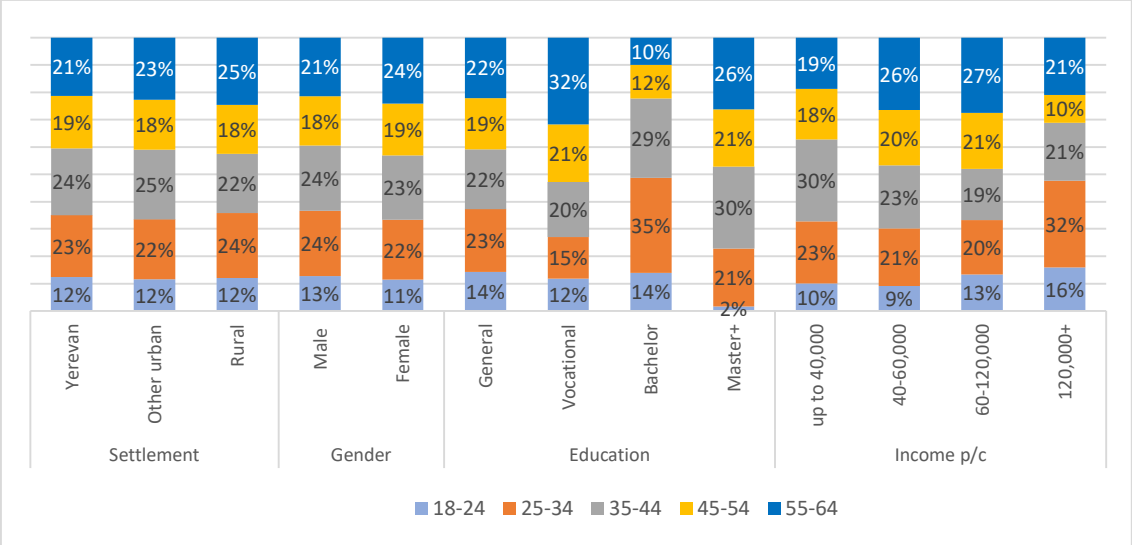


1.2 The structure of 18-64 population by age groups (Armenia GEM 2024)

1.2.1 Total distribution by age groups

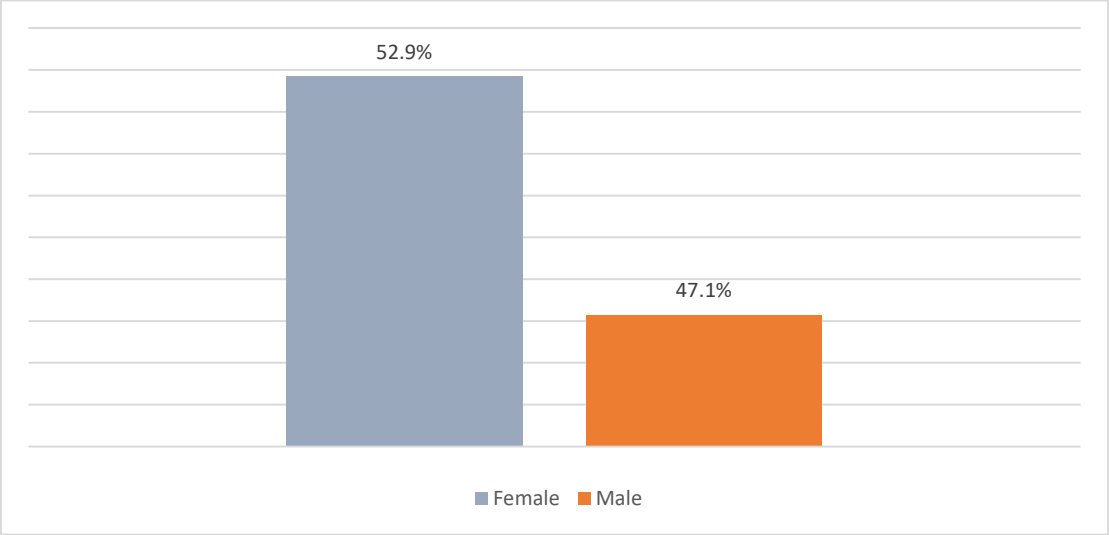


1.2.2 Age group distribution by main socio-demographic groups

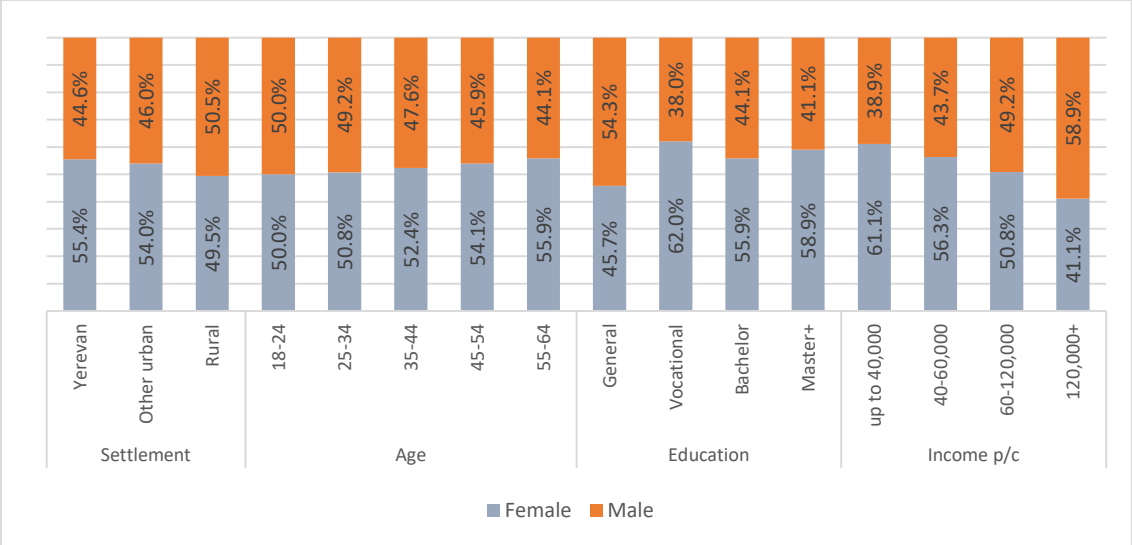


1.3 The structure of 18-64 population by gender (Armenia GEM 2024)

1.3.1 Total distribution by gender

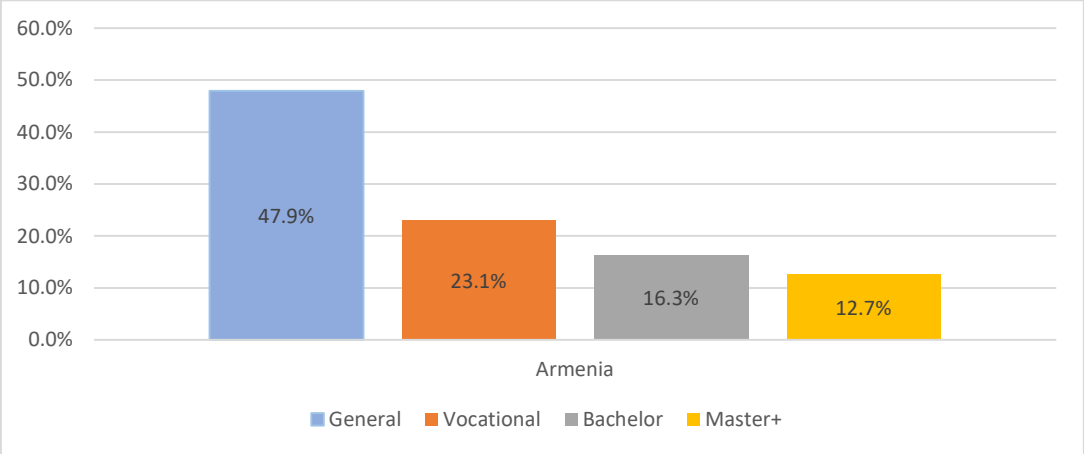


1.3.2 Gender distribution by main socio-demographic groups



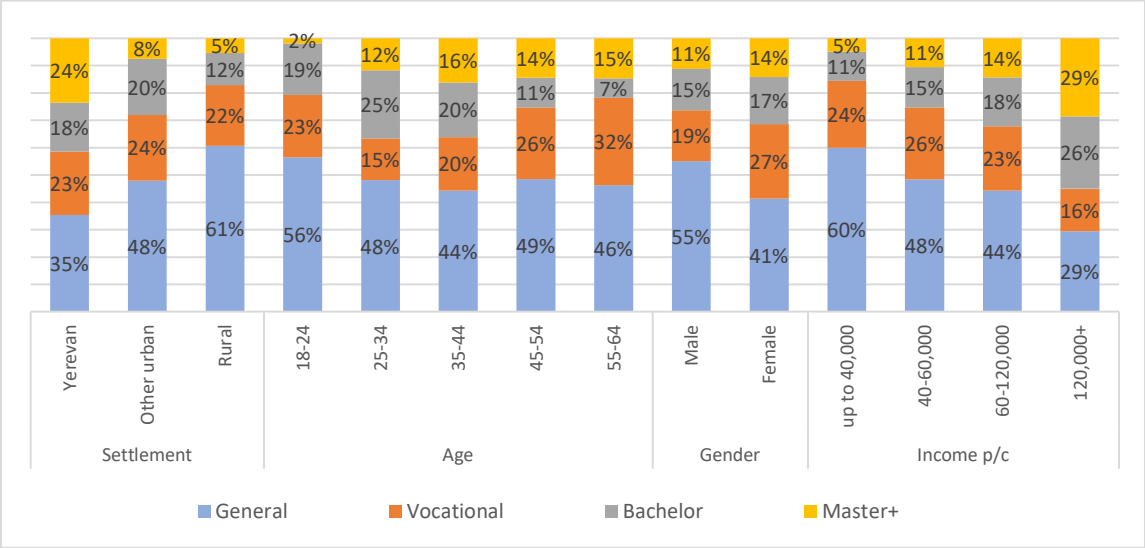
1.4 The structure of population reporting about their level of education (Armenia GEM 2024)

1.4.1 Total distribution by education groups

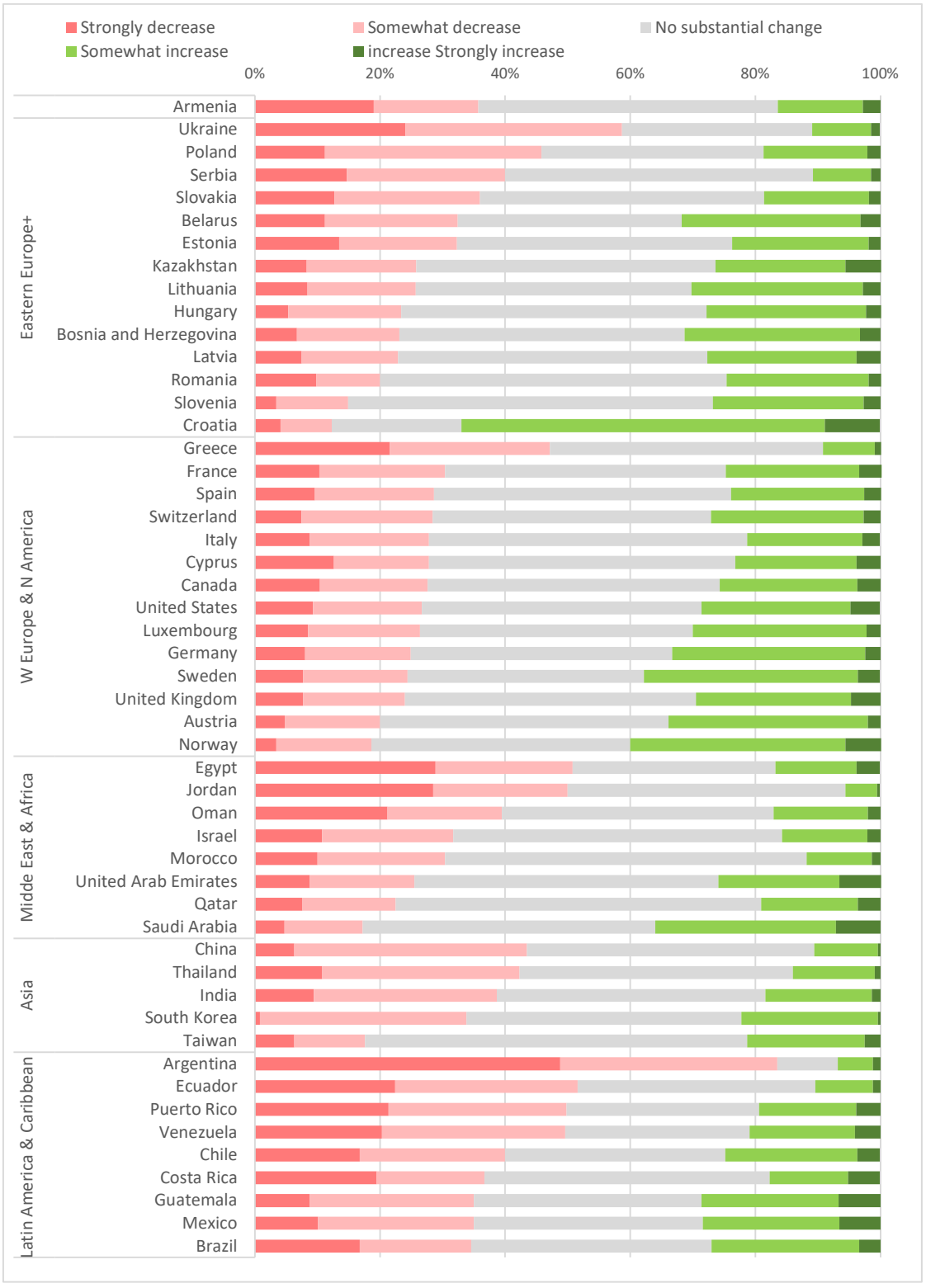


While comparing GEM data with the 2022 Census, the educational attainment levels show close alignment. Direct comparison is limited, as the Census reflects education individuals aged 20+, while GEM includes respondents aged 18-64, slightly affecting overall distributions. In the 2022 Census, 50.8% of respondents reported general education; 21.9% - vocational education, 15.2% - for tertiary levels, bachelor's degree and 12.1% - master's or higher.

1.4.2 Education level distribution by main socio-demographic groups

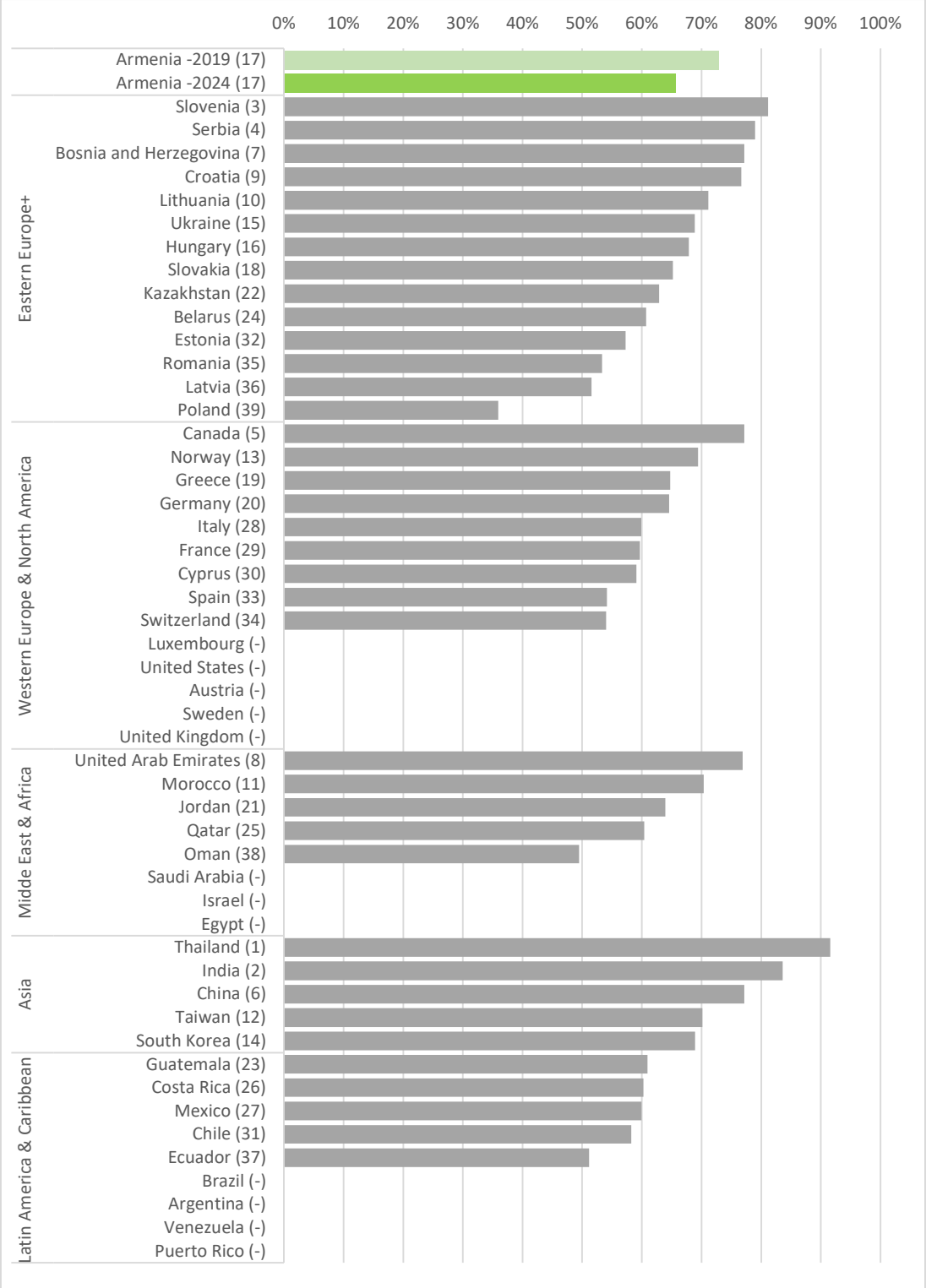


1.5 The structure of population reporting about their income changes in 2024 compared to the previous year

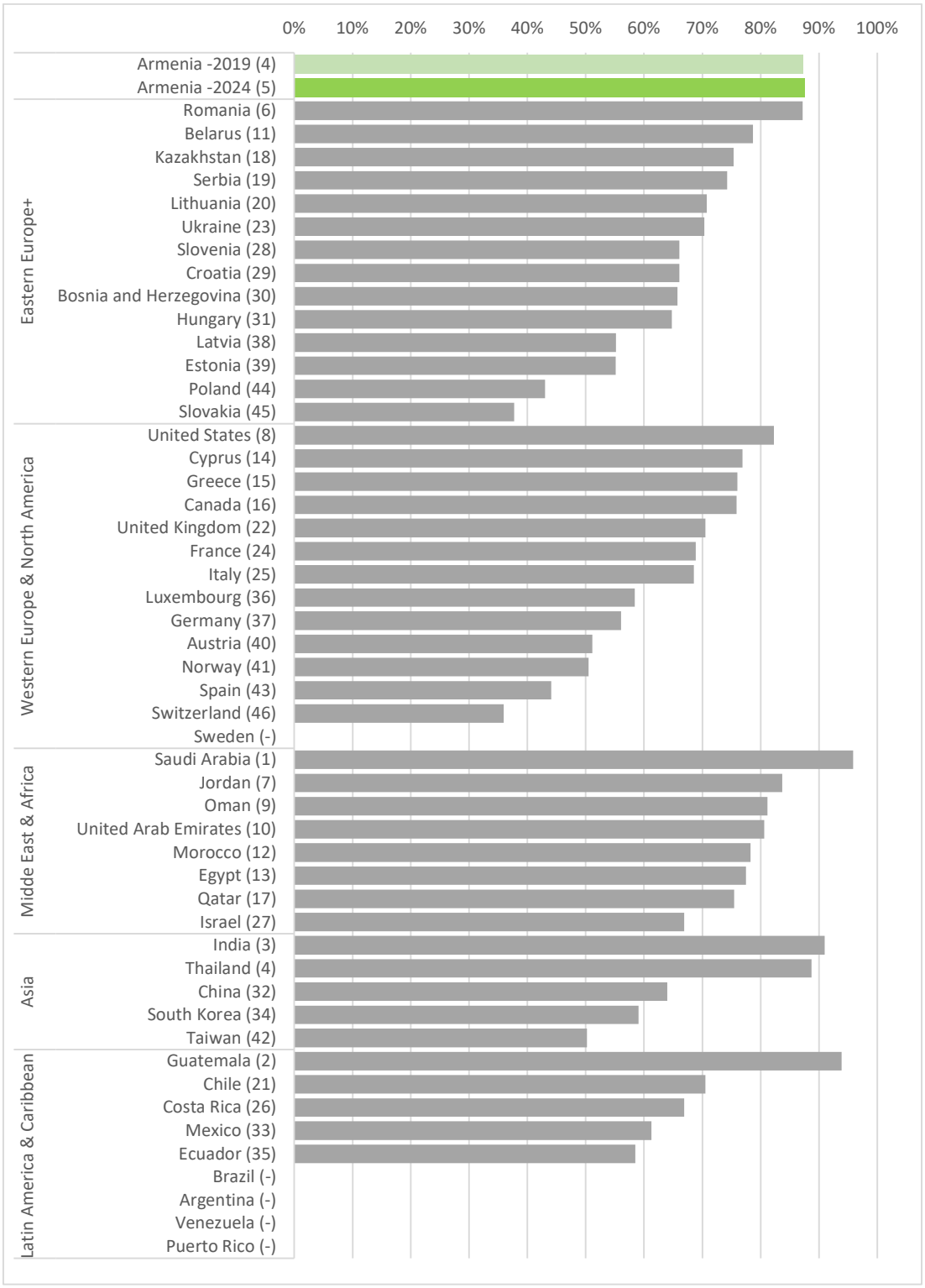


ANNEX 2. Social and Cultural Foundations

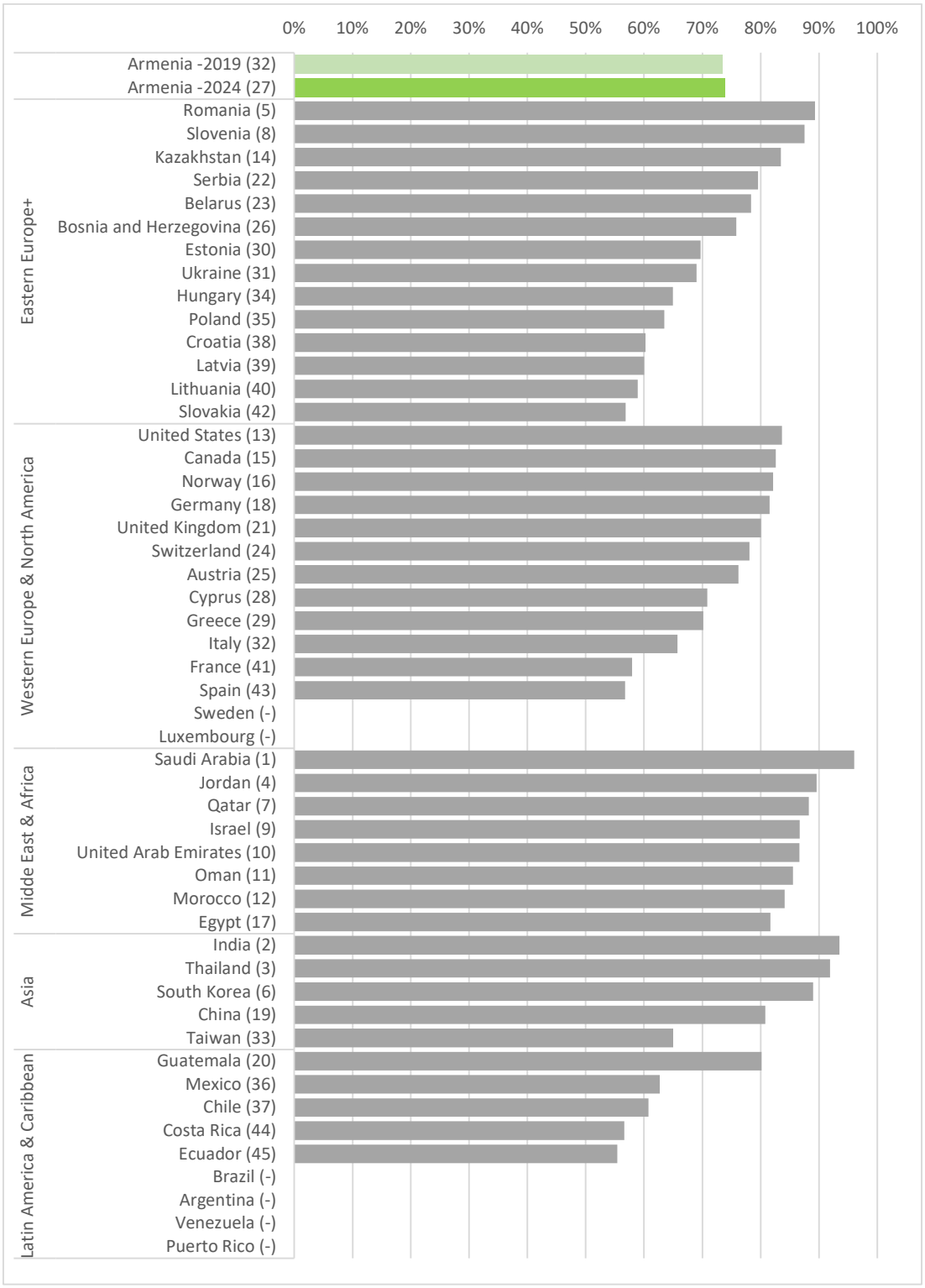
2.1 In your country, most people would prefer that everyone had a similar standard of living (% of adults, who agreed to the statement)



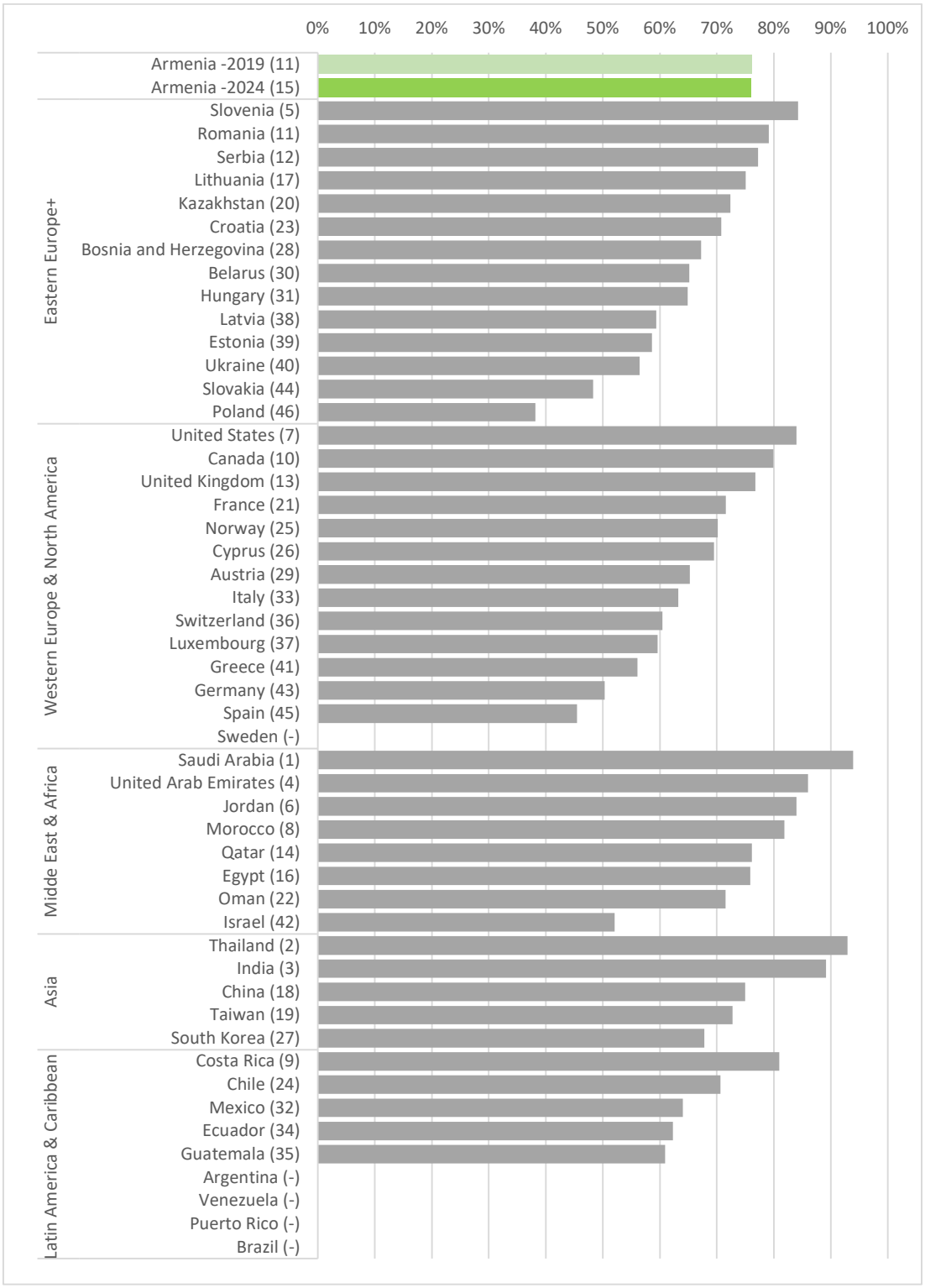
2.2 In your country, most people consider starting a new business a desirable career choice (% of adults, who agreed to the statement)



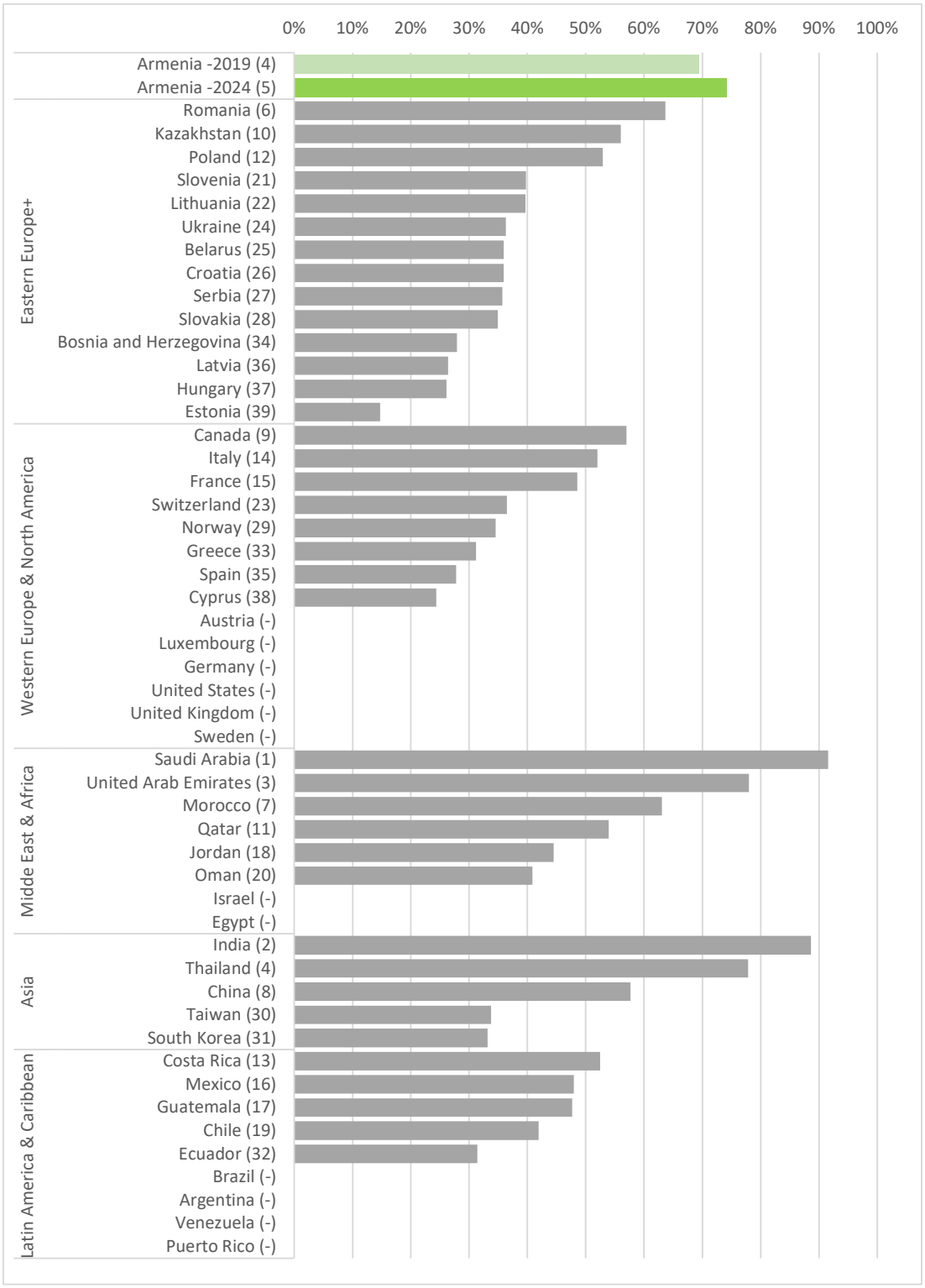
2.3 In your country, those successful at starting a new business have a high level of status and respect (% of adults, who agreed to the statement)



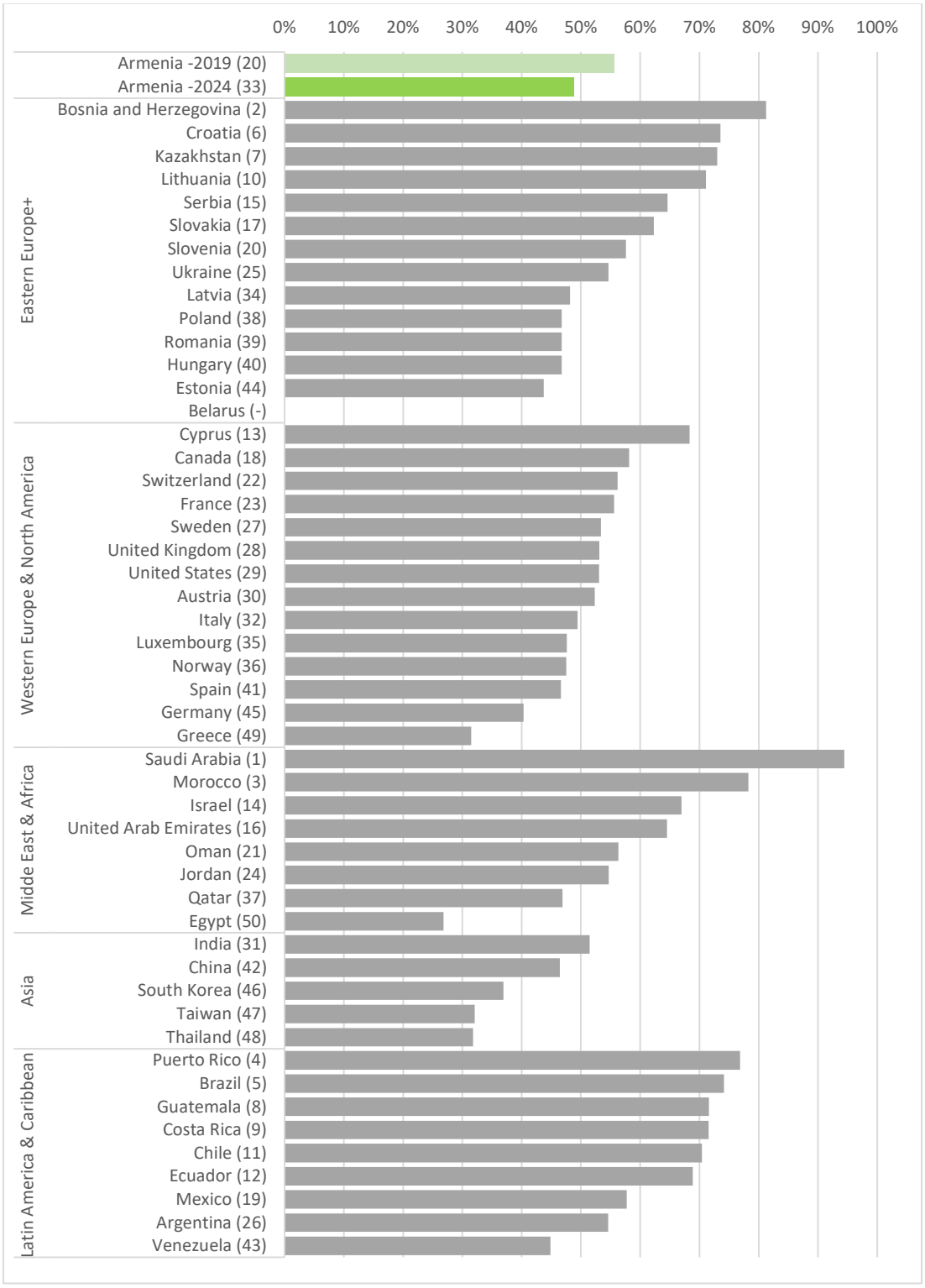
2.4 In your country, you will often see stories in the public media and/or internet about successful new businesses (% of adults, who agreed to the statement)



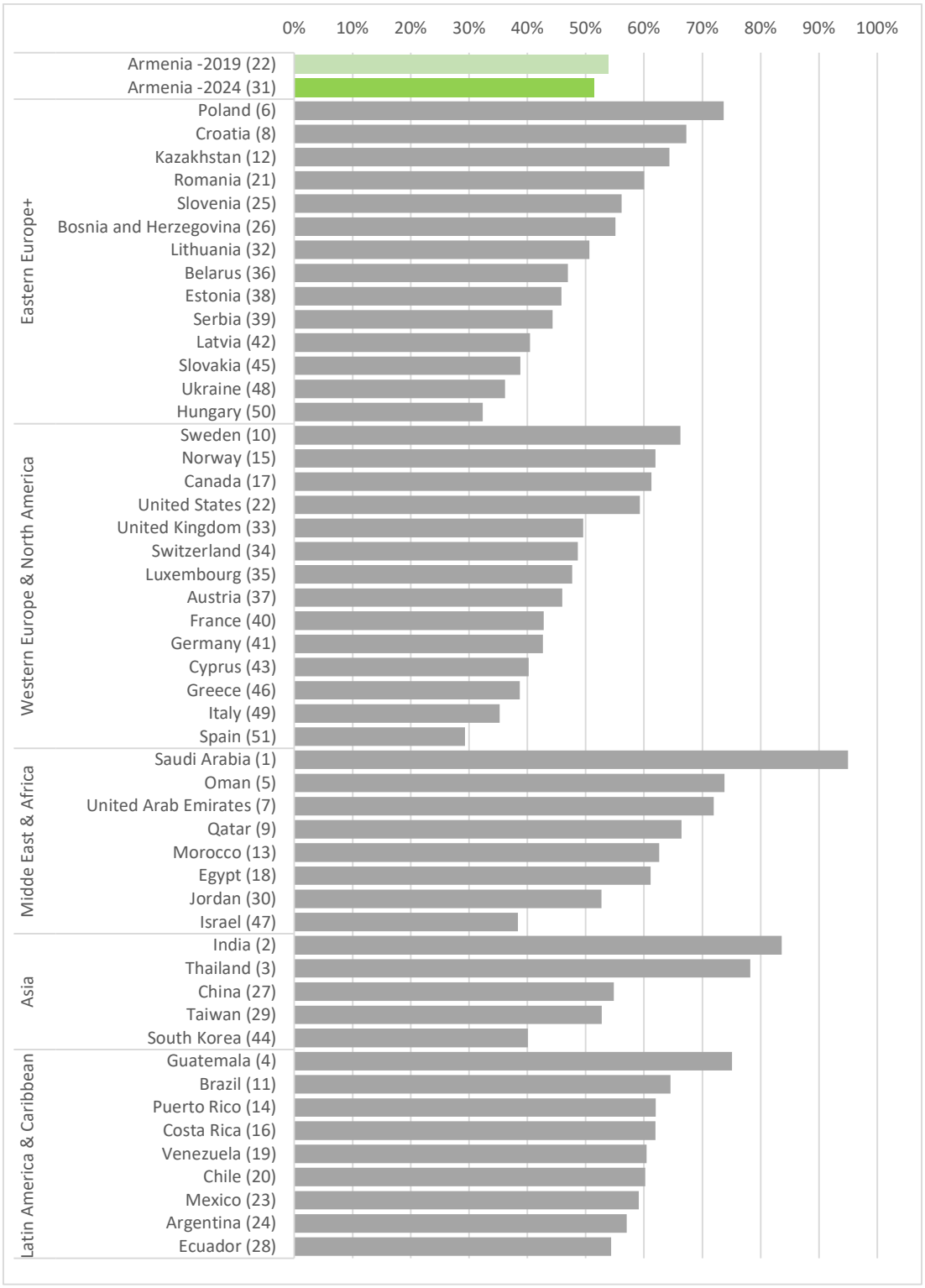
2.5 In your country, you will often see businesses that primarily aim to solve social problems (% of adults, who agreed to the statement)



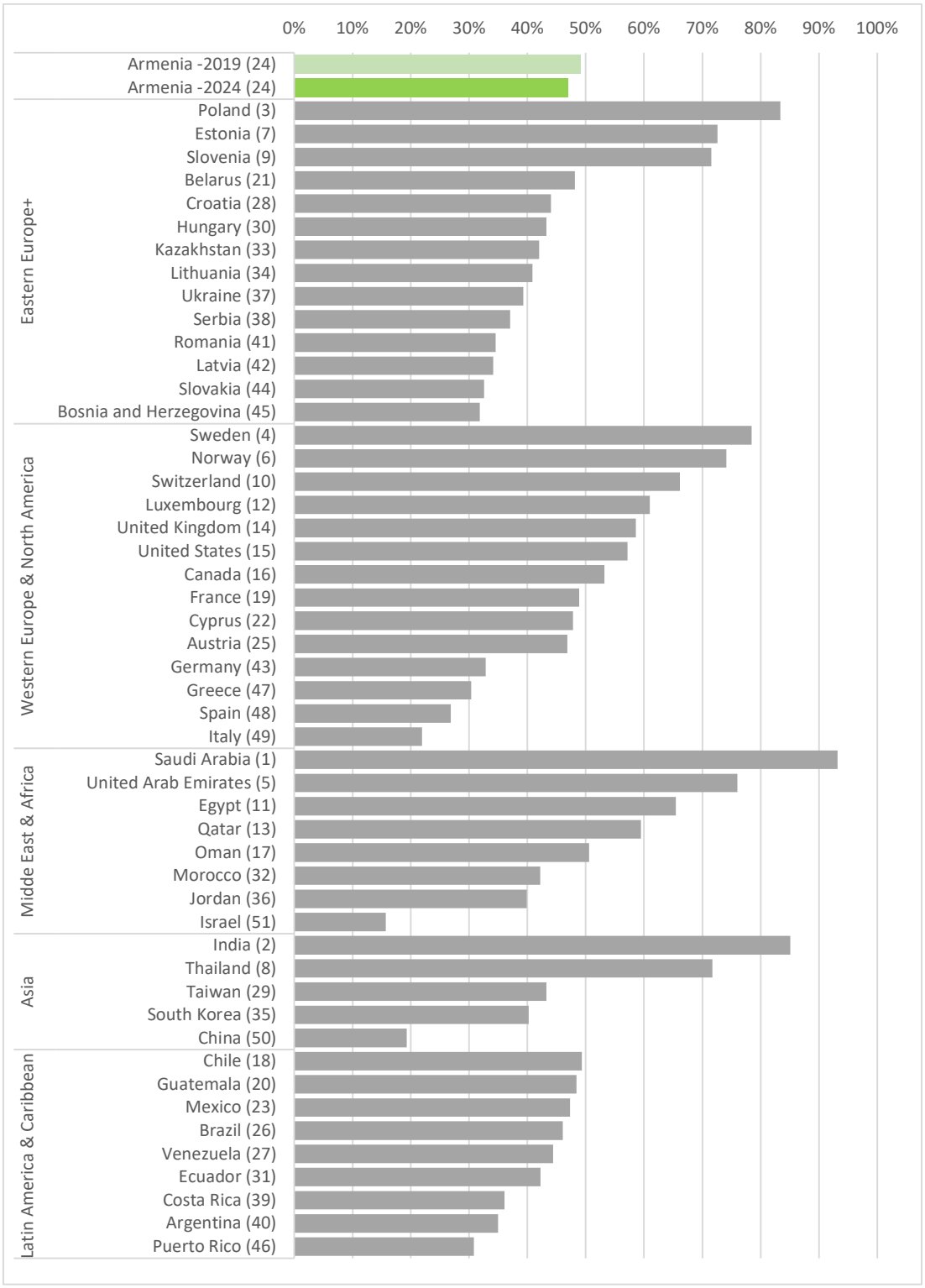
2.6 How many people do you know personally who have started a business or become self-employed in the past 2 years? (% of adults, who knows at least one)



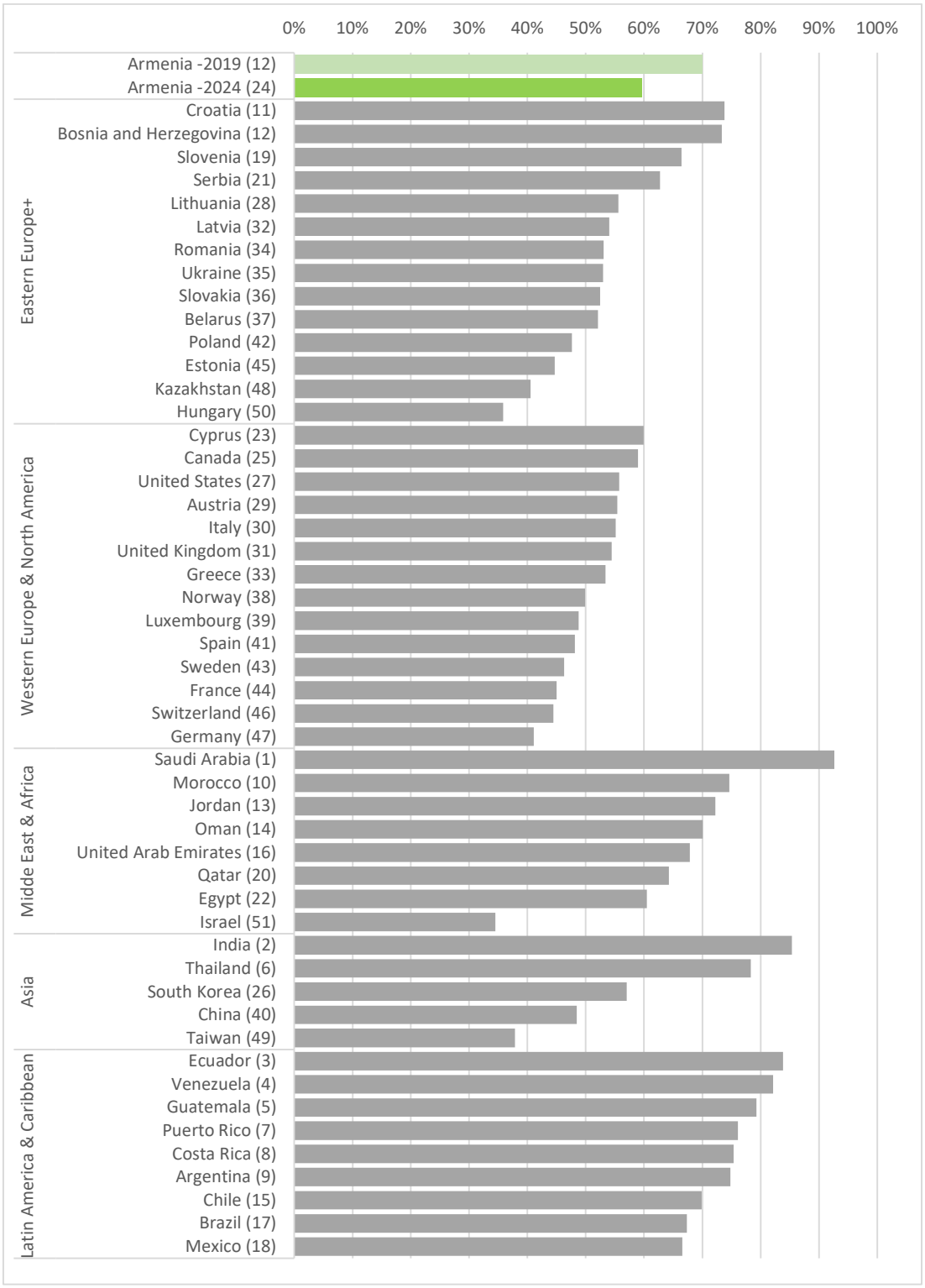
2.7 In the next six months, there will be good opportunities for starting a business in the area where you live (% of adults, who agreed to the statement)



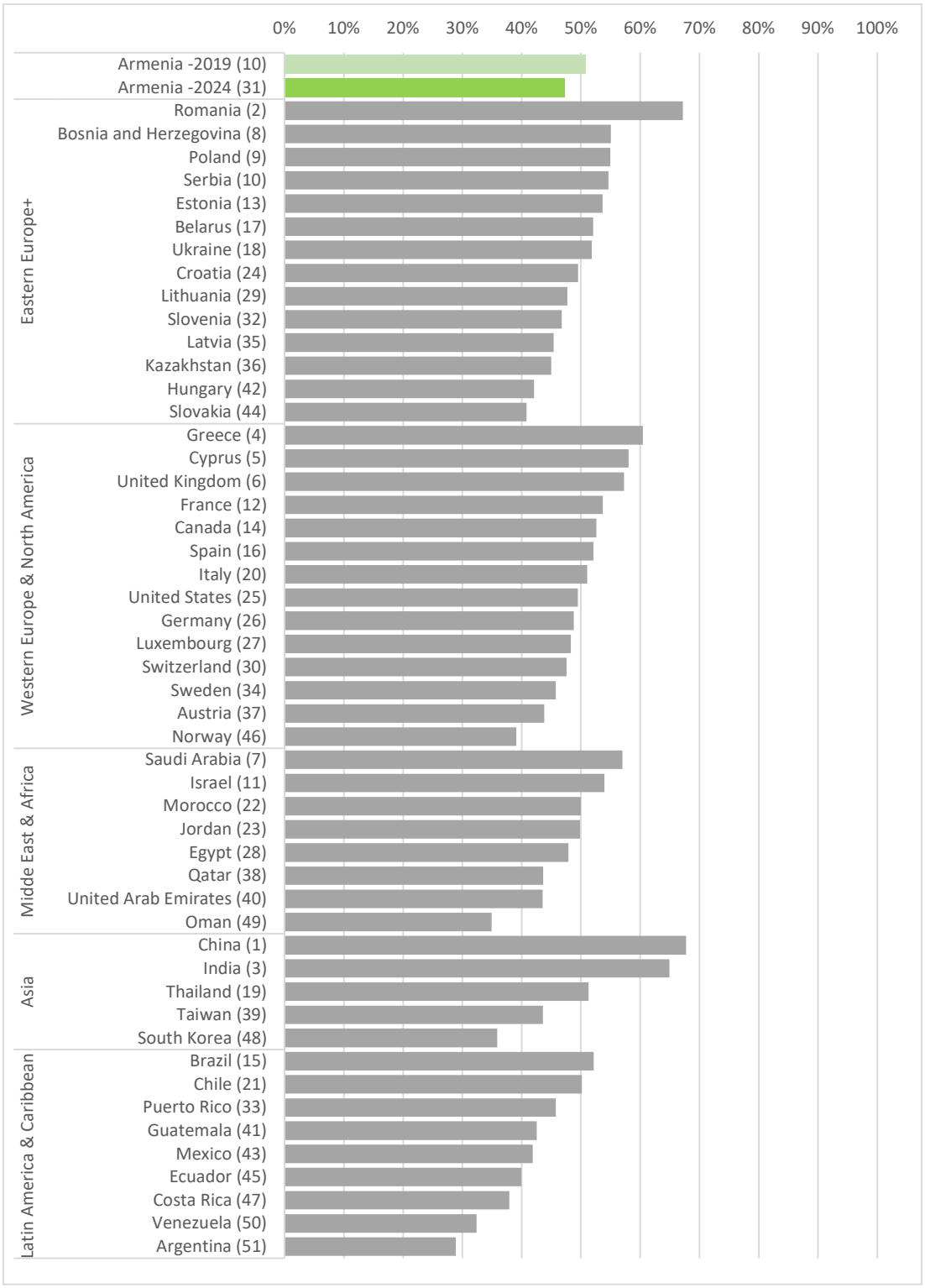
2.8 In your country, it is easy to start a business (% of adults, who agreed to the statement)



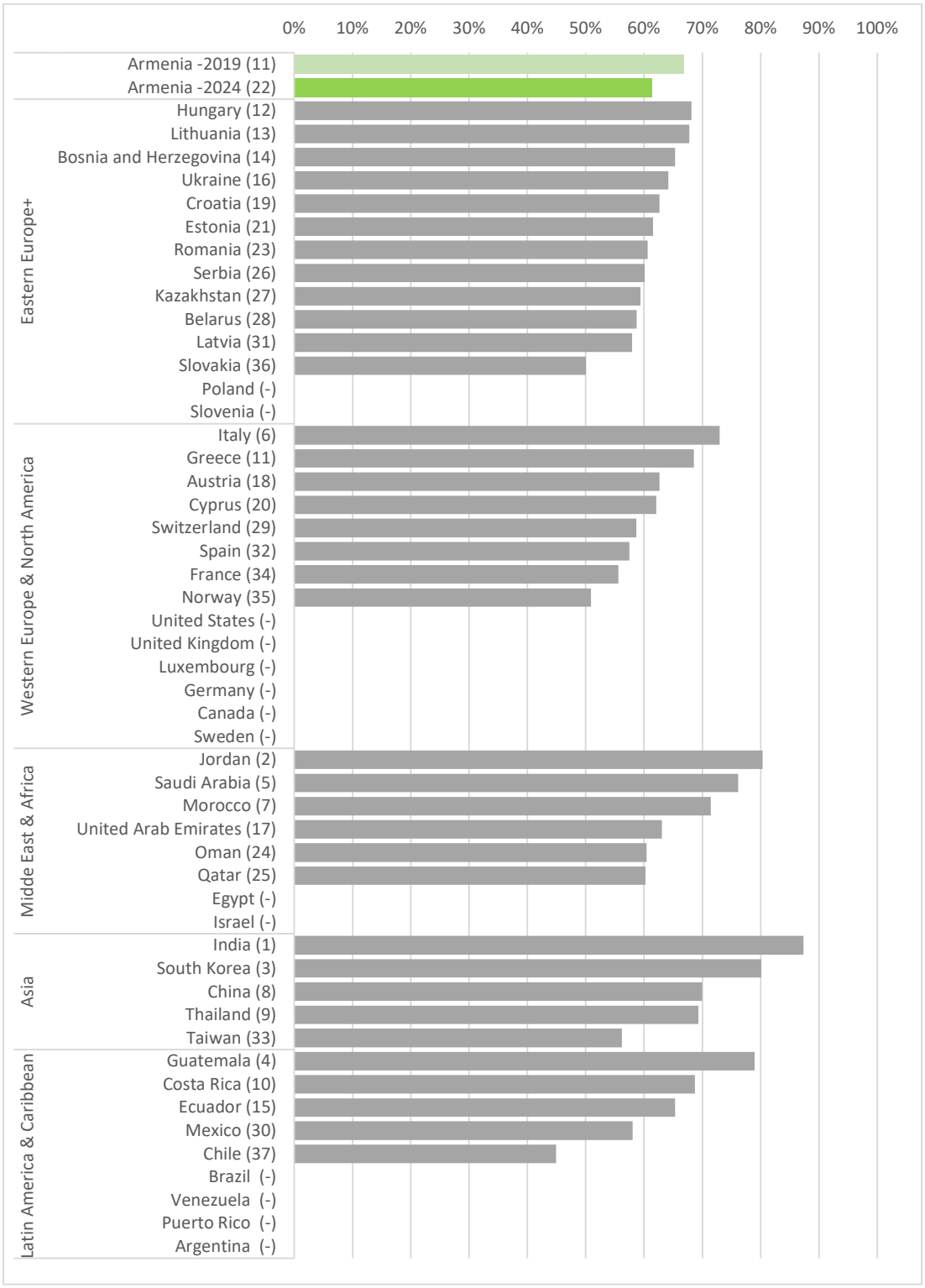
2.9 You personally have the knowledge, skill and experience required to start a new business (% of adults, who agreed to the statement)



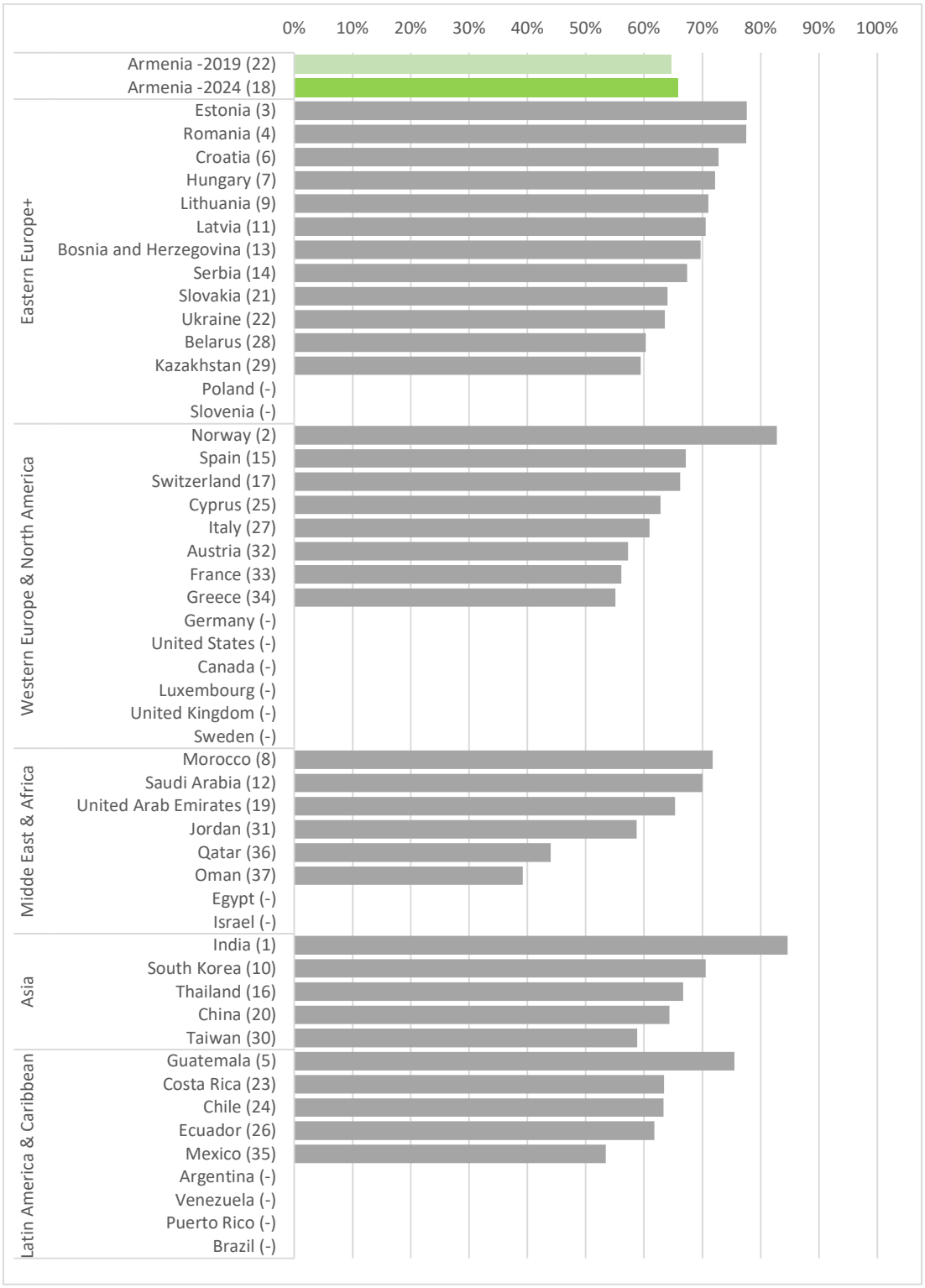
2.10 There are good opportunities, but would not start a business for fear of failure (% of adults, who agreed to the statement)



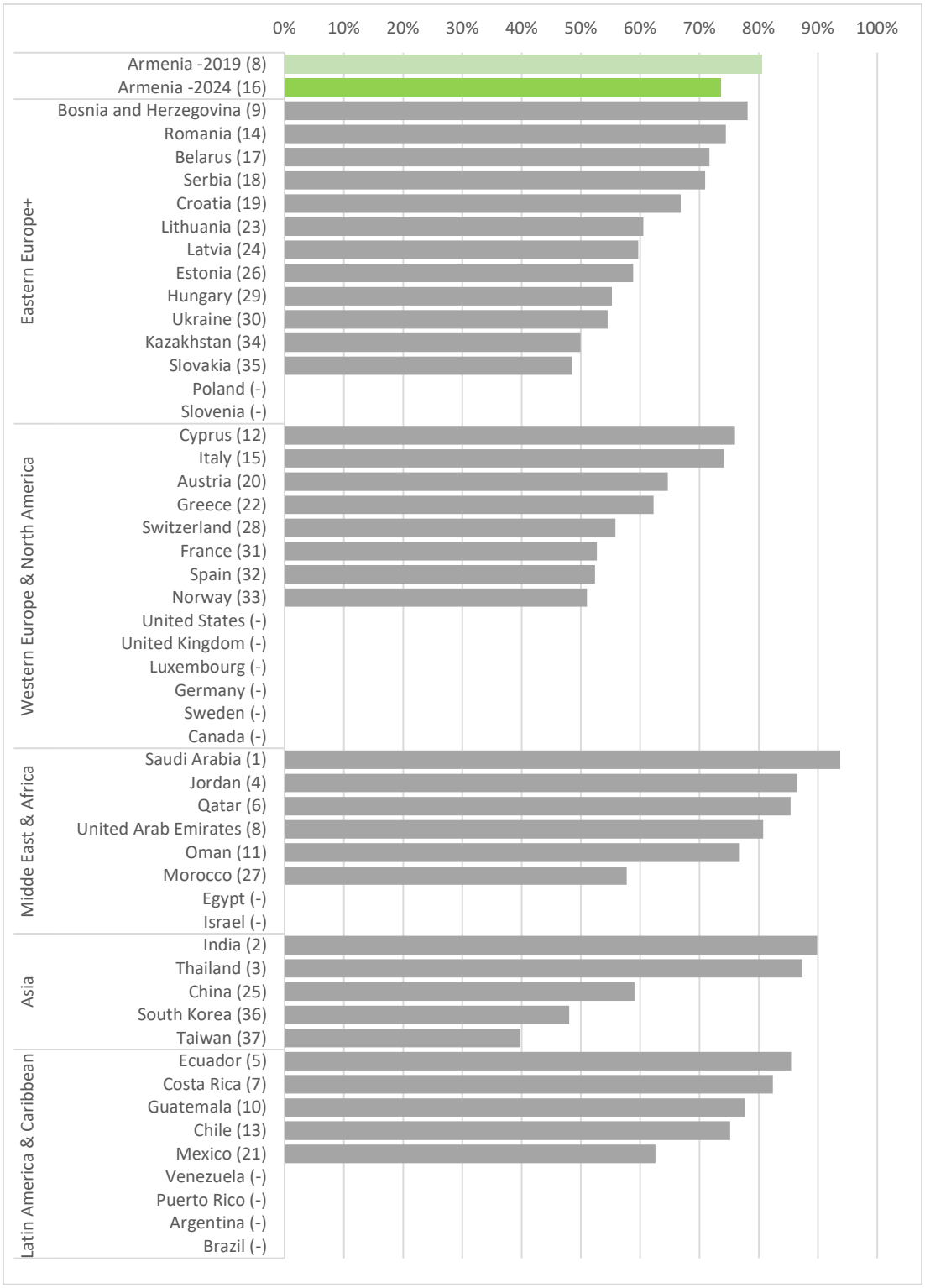
2.11 You rarely see business opportunities, even if you are very knowledgeable in the area. (% of adults, who agreed to the statement)



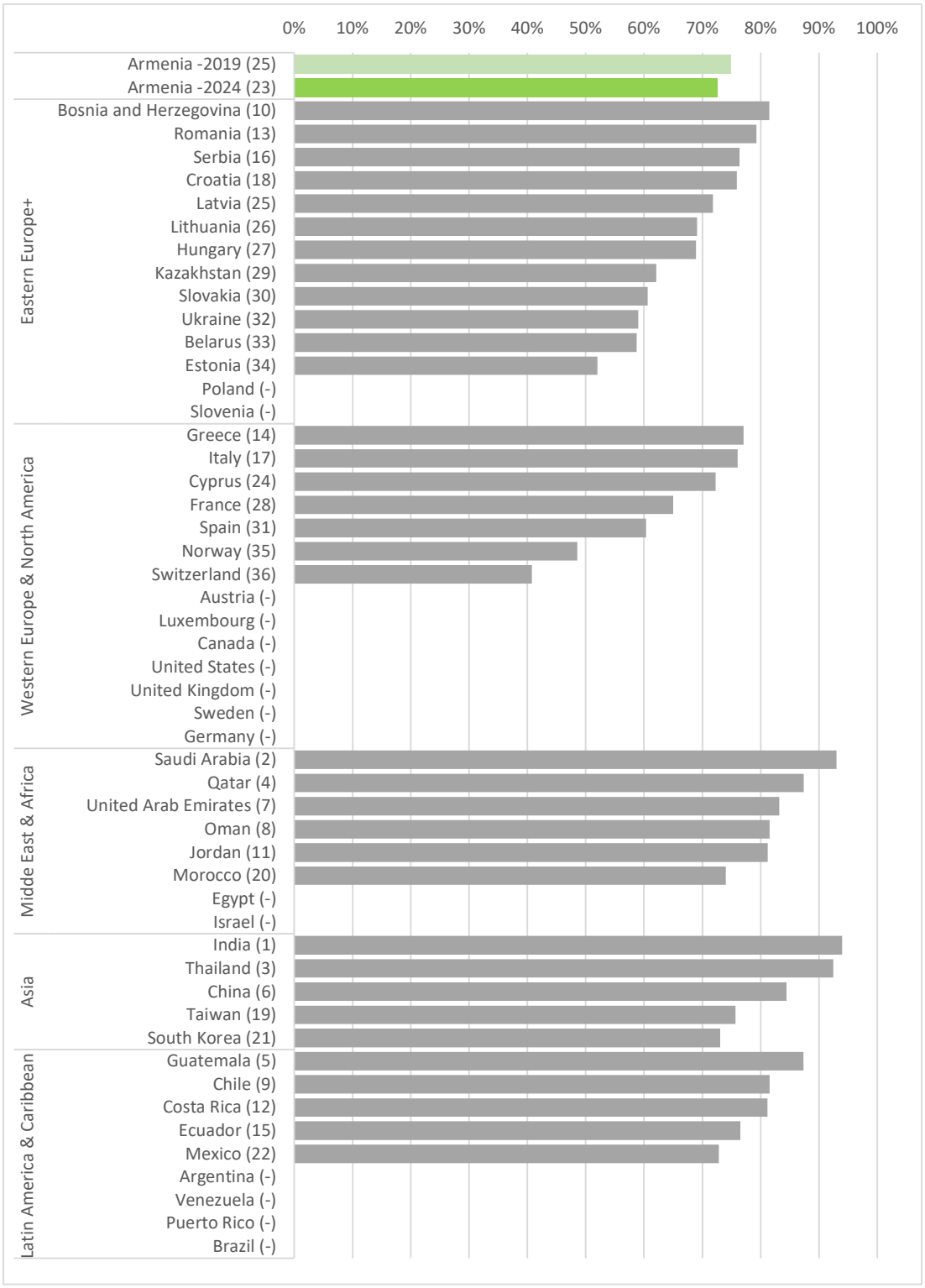
2.12 Even when you spot a profitable opportunity, you rarely act on it (% of adults, who agreed to the statement)



2.13 Other people think you are highly innovative: creativity (% of adults, who agreed to the statement)

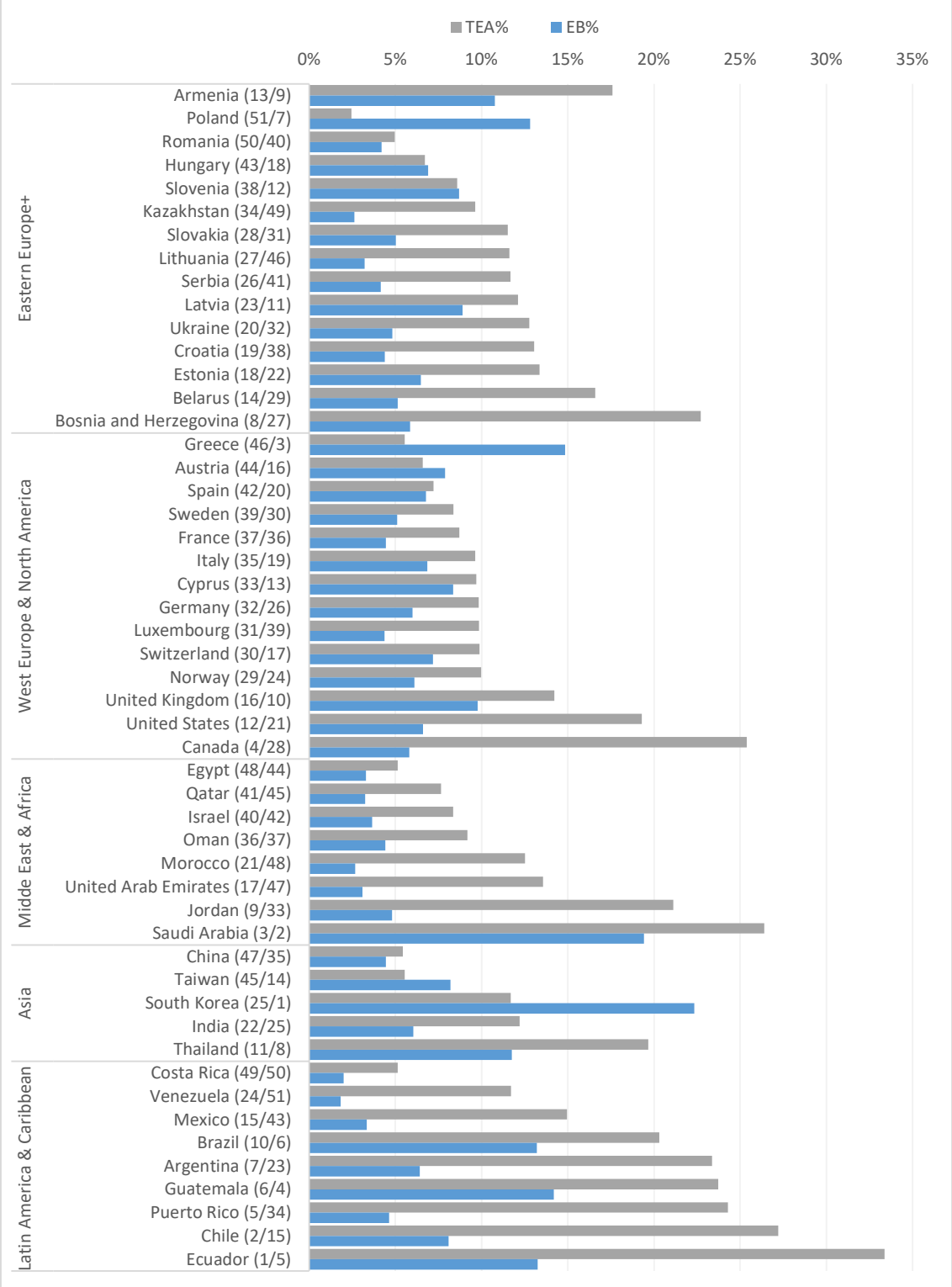


2.14 Every decision you make is part of your long-term career plan: vision (% of adults, who agreed to the statement)

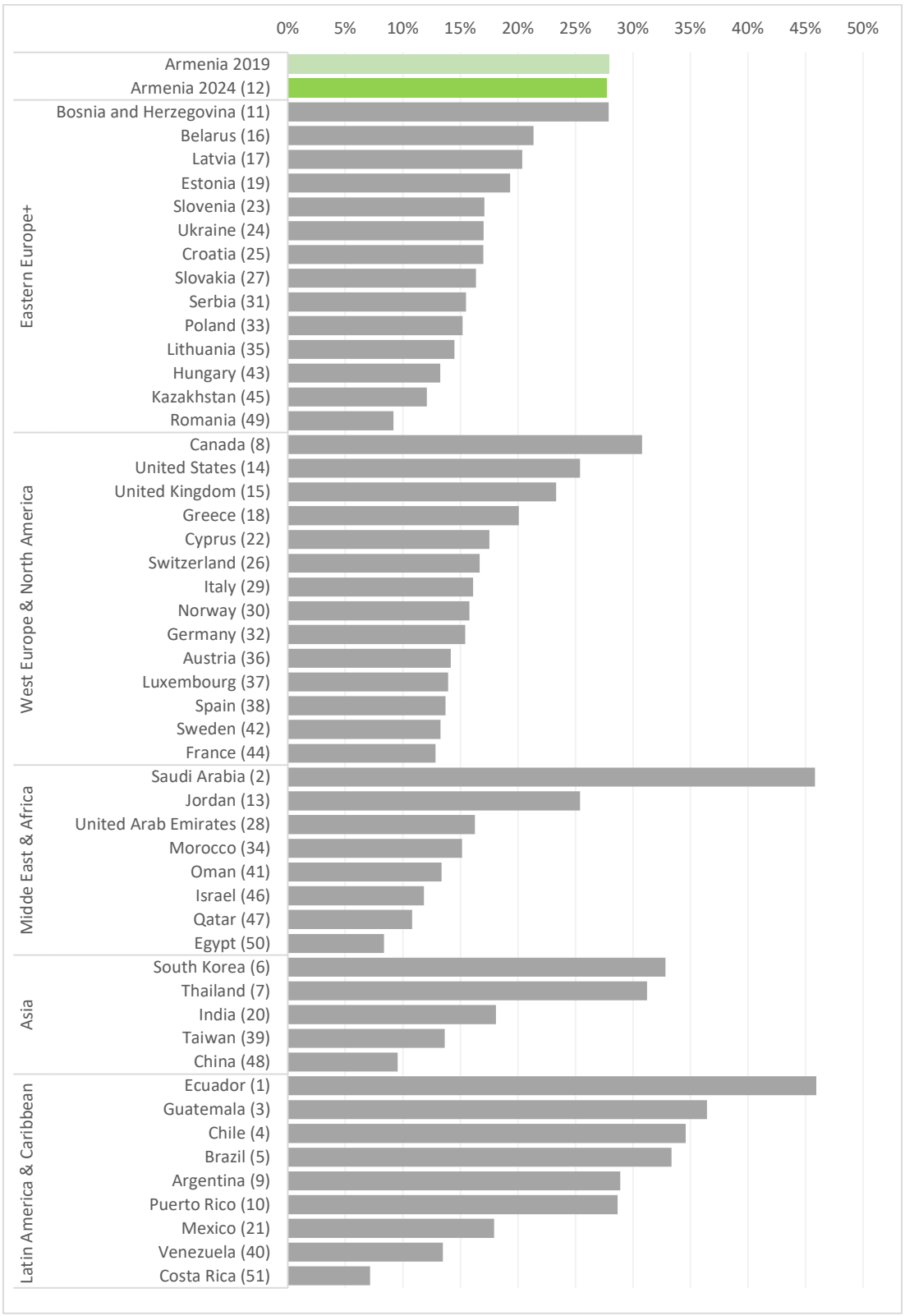


ANNEX 3. Entrepreneurial Activity

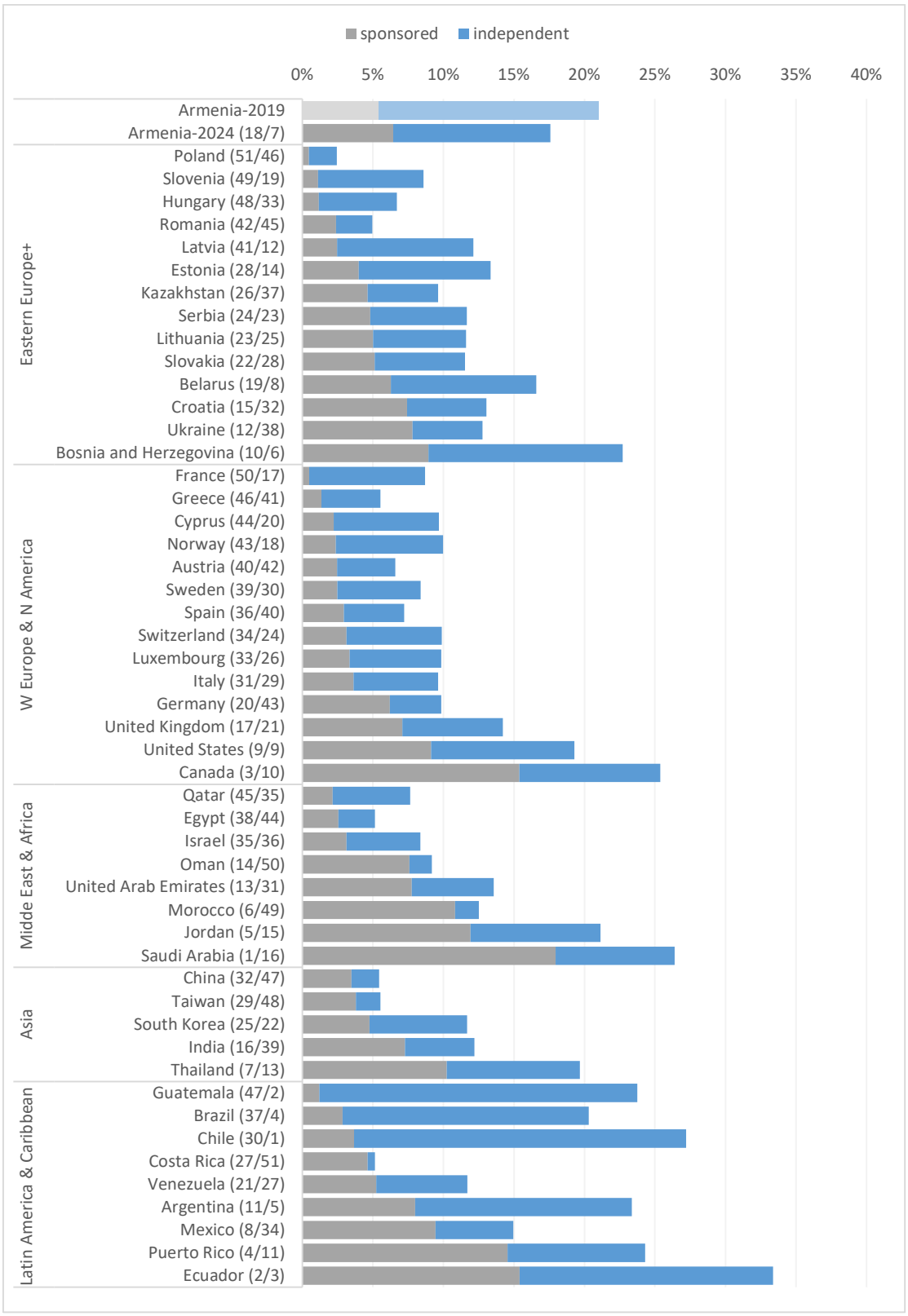
3.1 Level of TEA / EB (% of adults)



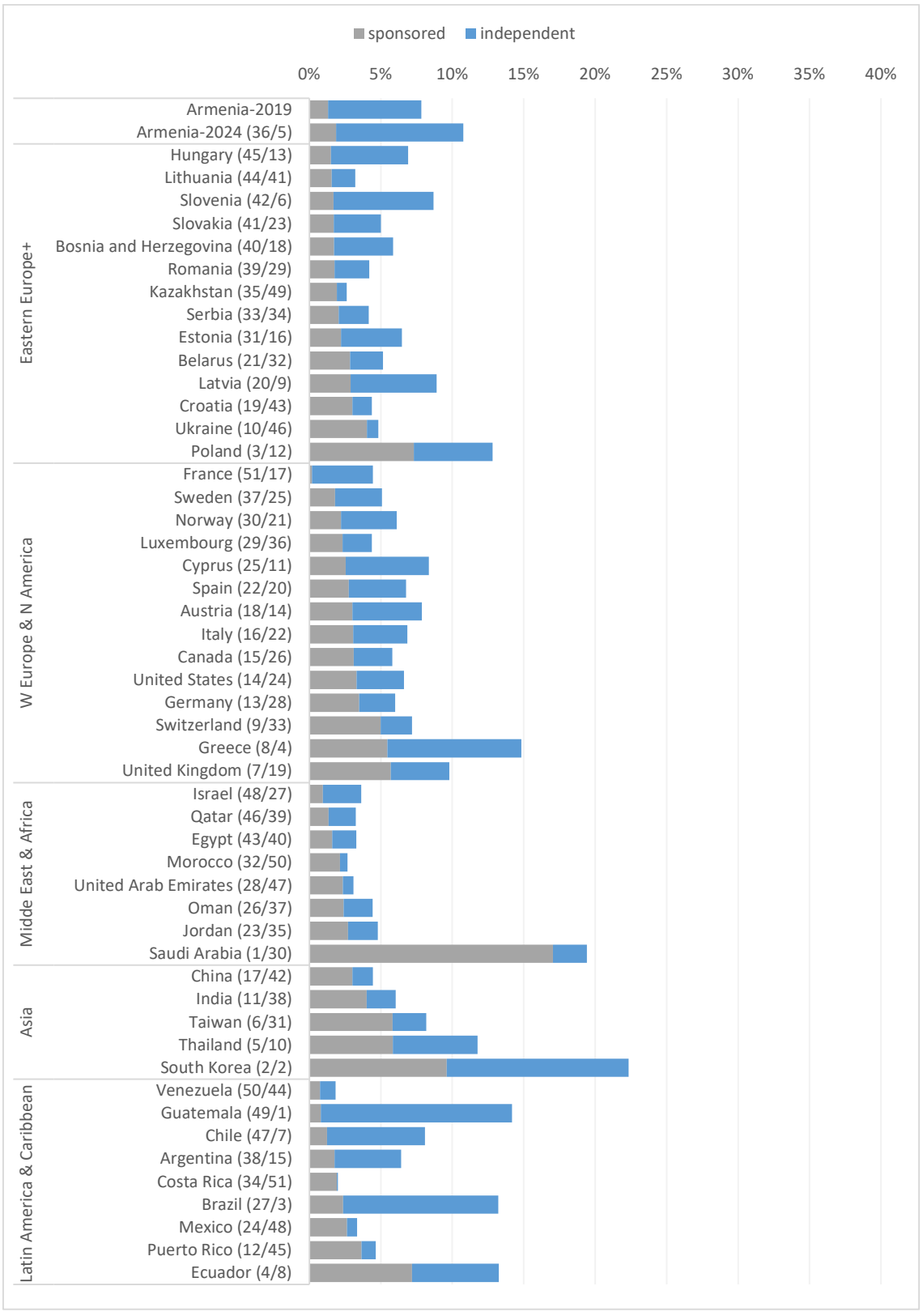
3.2 Overall level of entrepreneurship (% of adults)



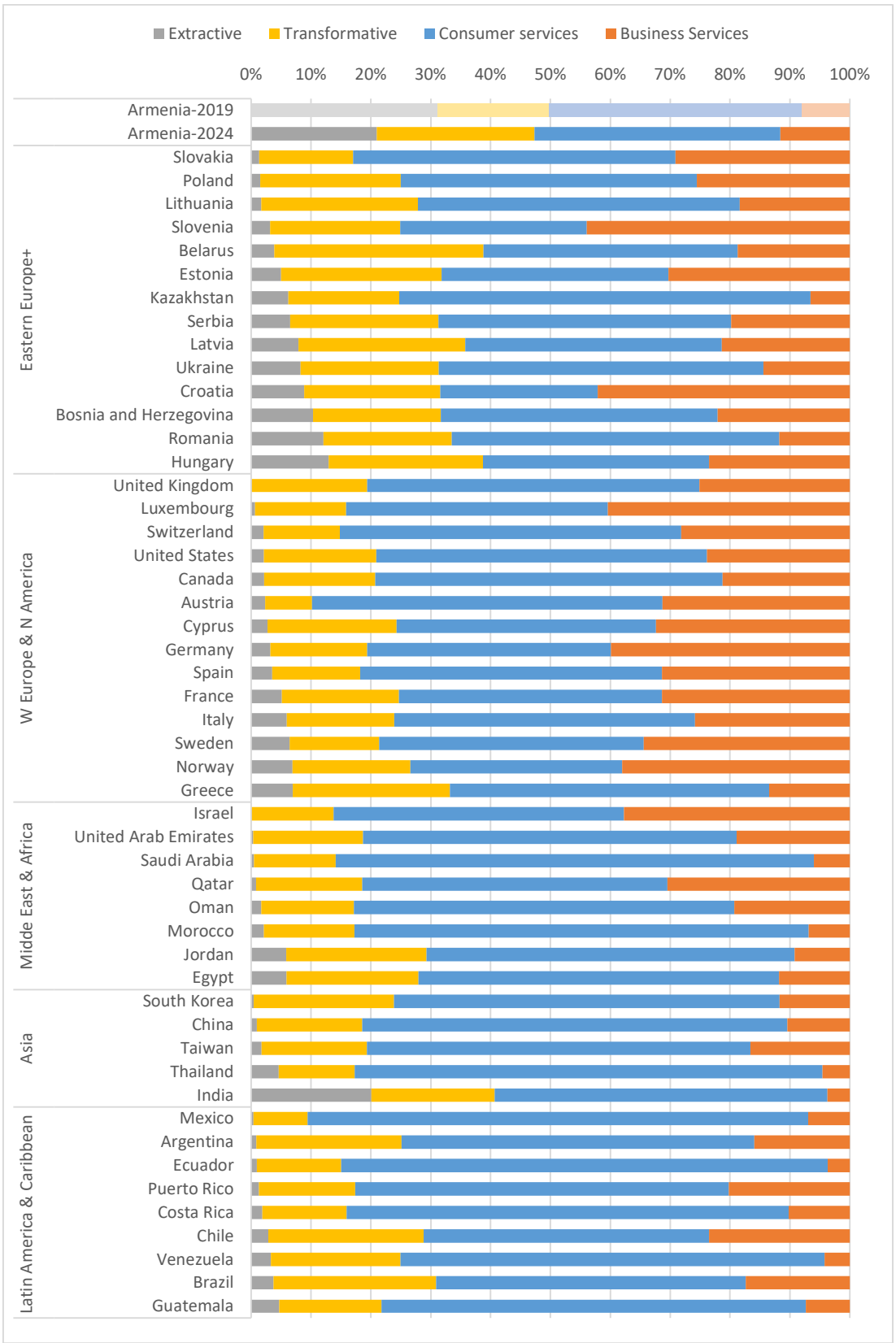
3.3 Sponsored and independent businesses in TEA (% in adults 18-64)



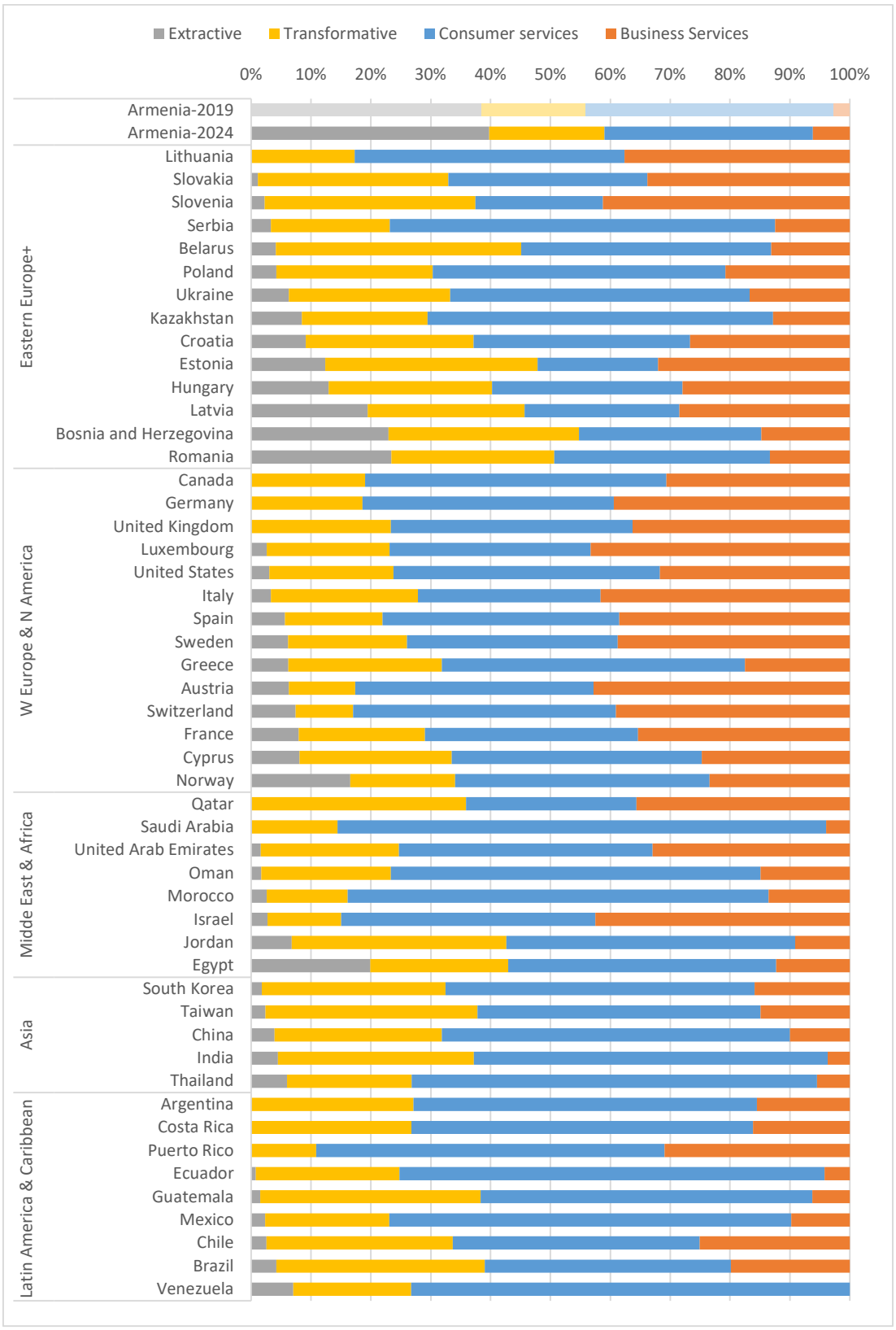
3.4 Sponsored and independent businesses in EBO (% in adults 18-64)



3.5 TEA Sectorial structure 2024 (% in all TEA)

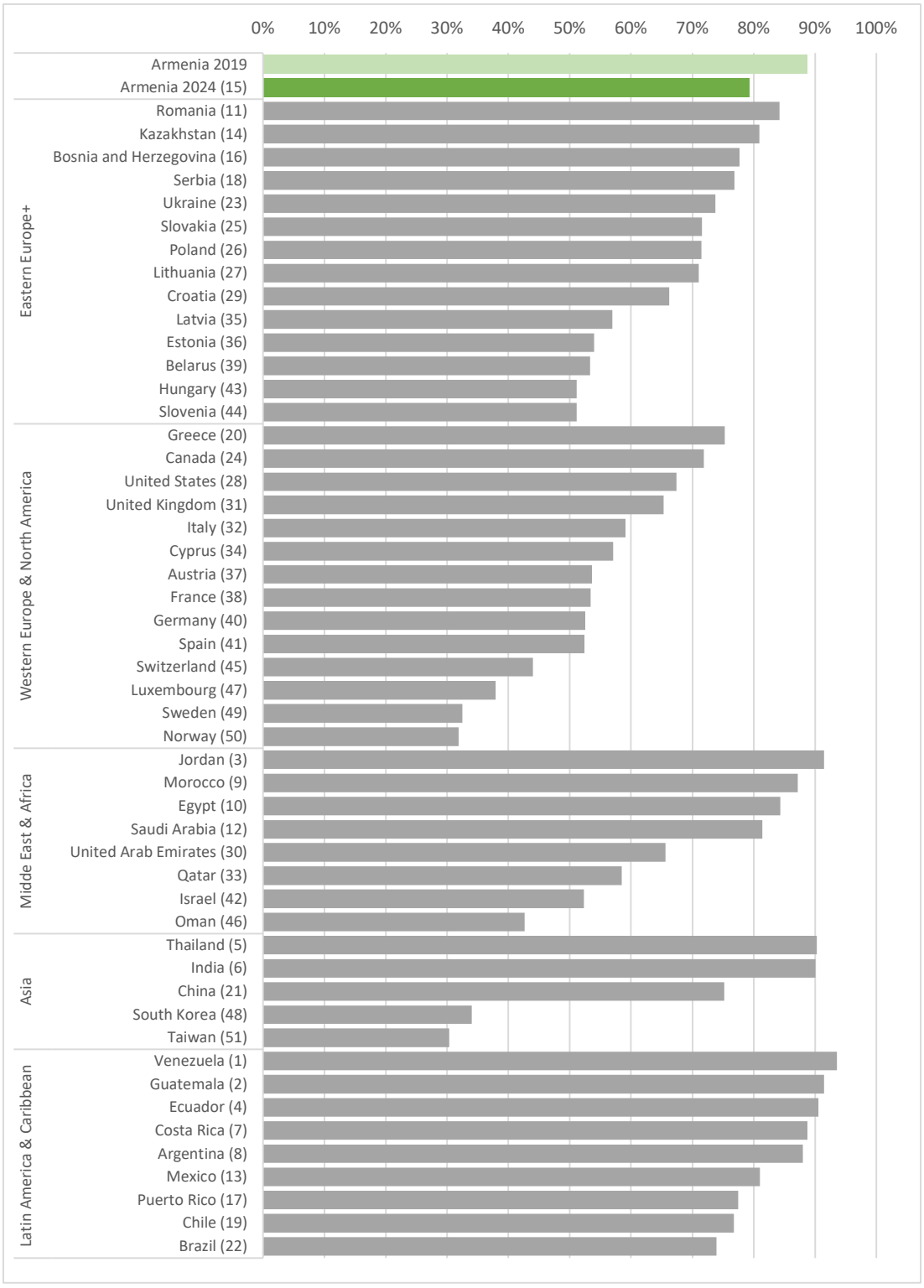


3.6 EBO Sectorial structure 2024 (% in all EBO)

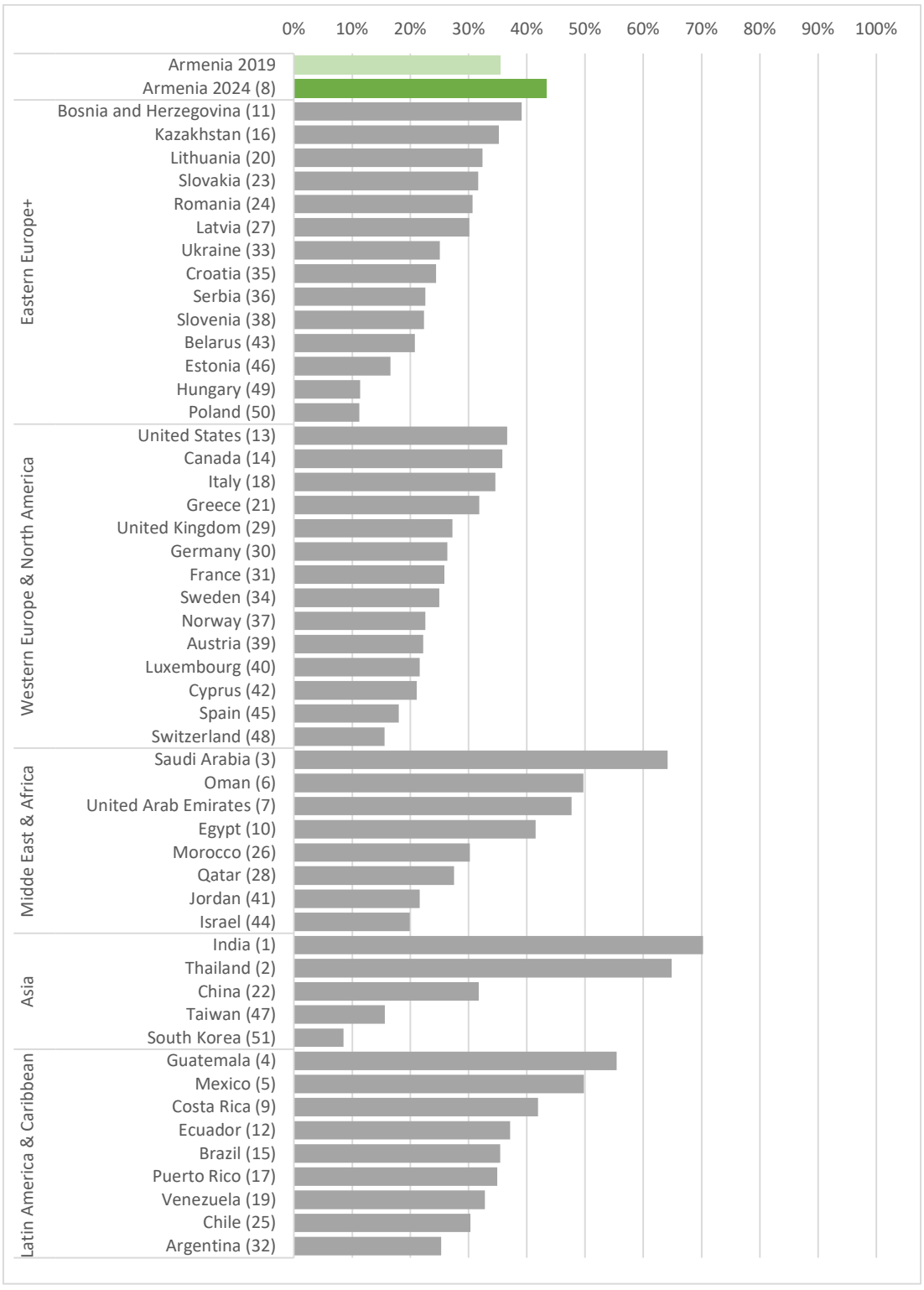


ANNEX 4. Motivations to start or run a business

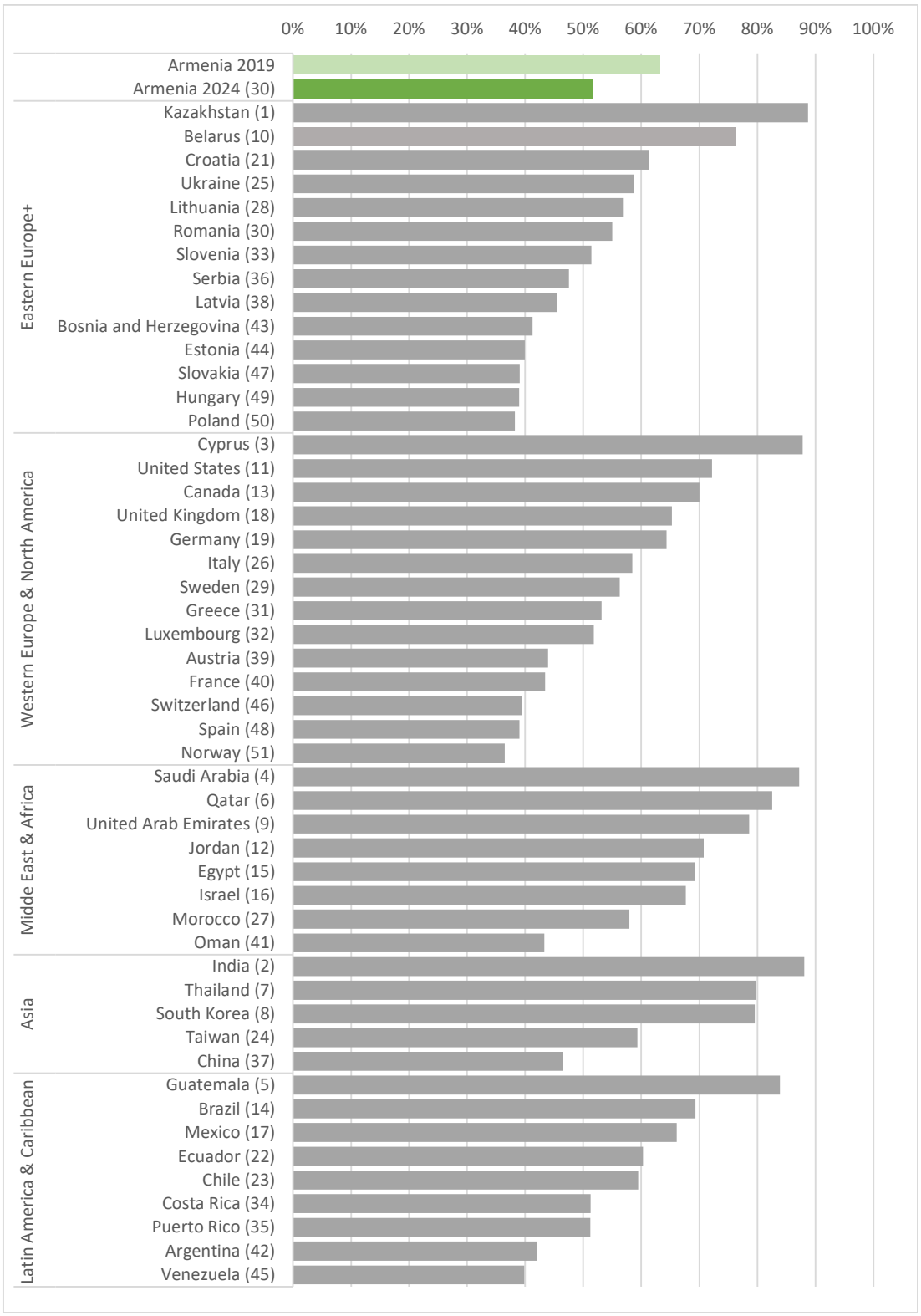
4.1 Motivation: To earn a living because jobs are scarce (% in TEA)



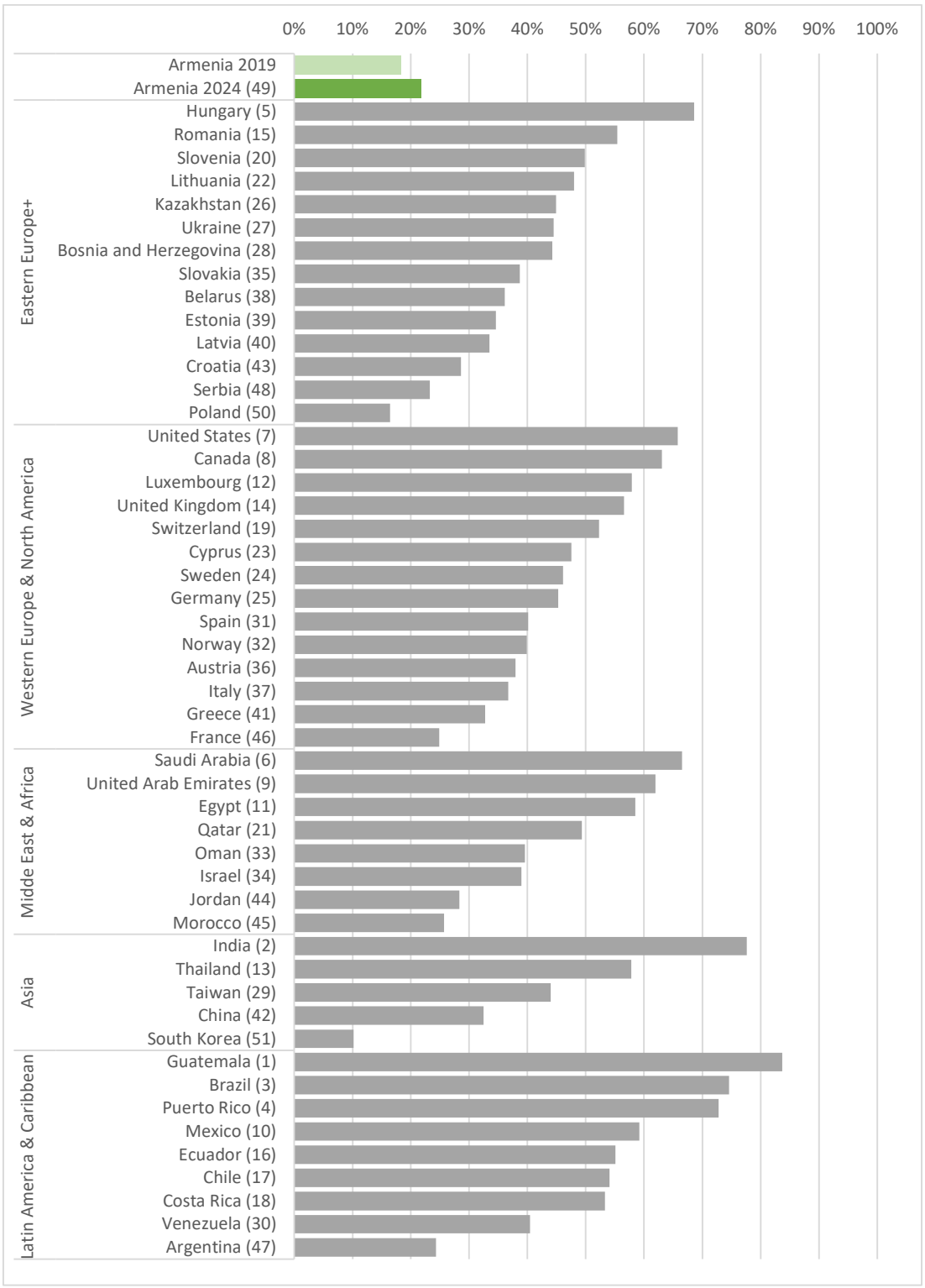
4.2 Motivation: To continue a family tradition (% in TEA)



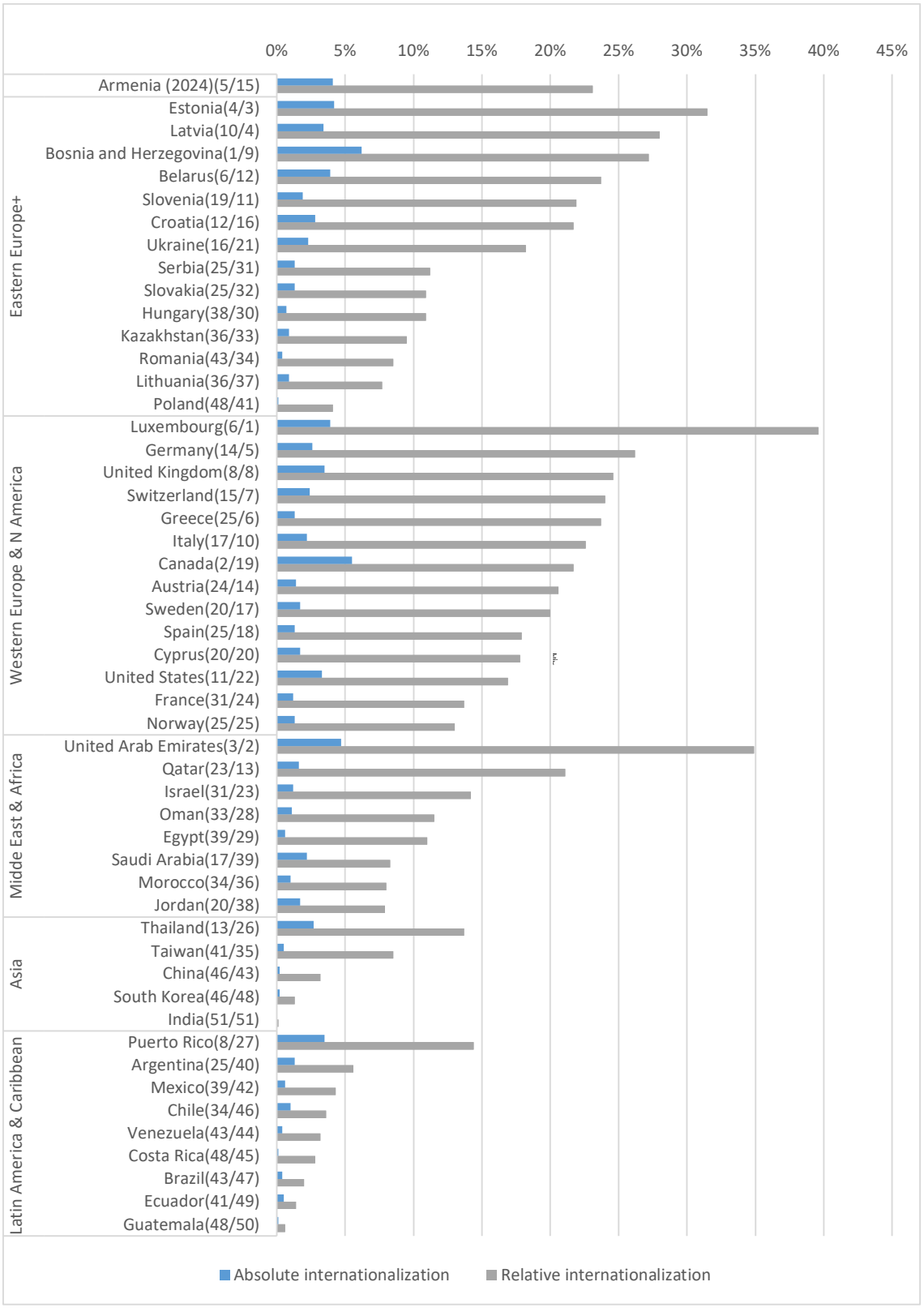
4.3 Motivation: To build great wealth or a very high income (% in TEA)



4.4 Motivation: To make a difference in the world (% in TEA)

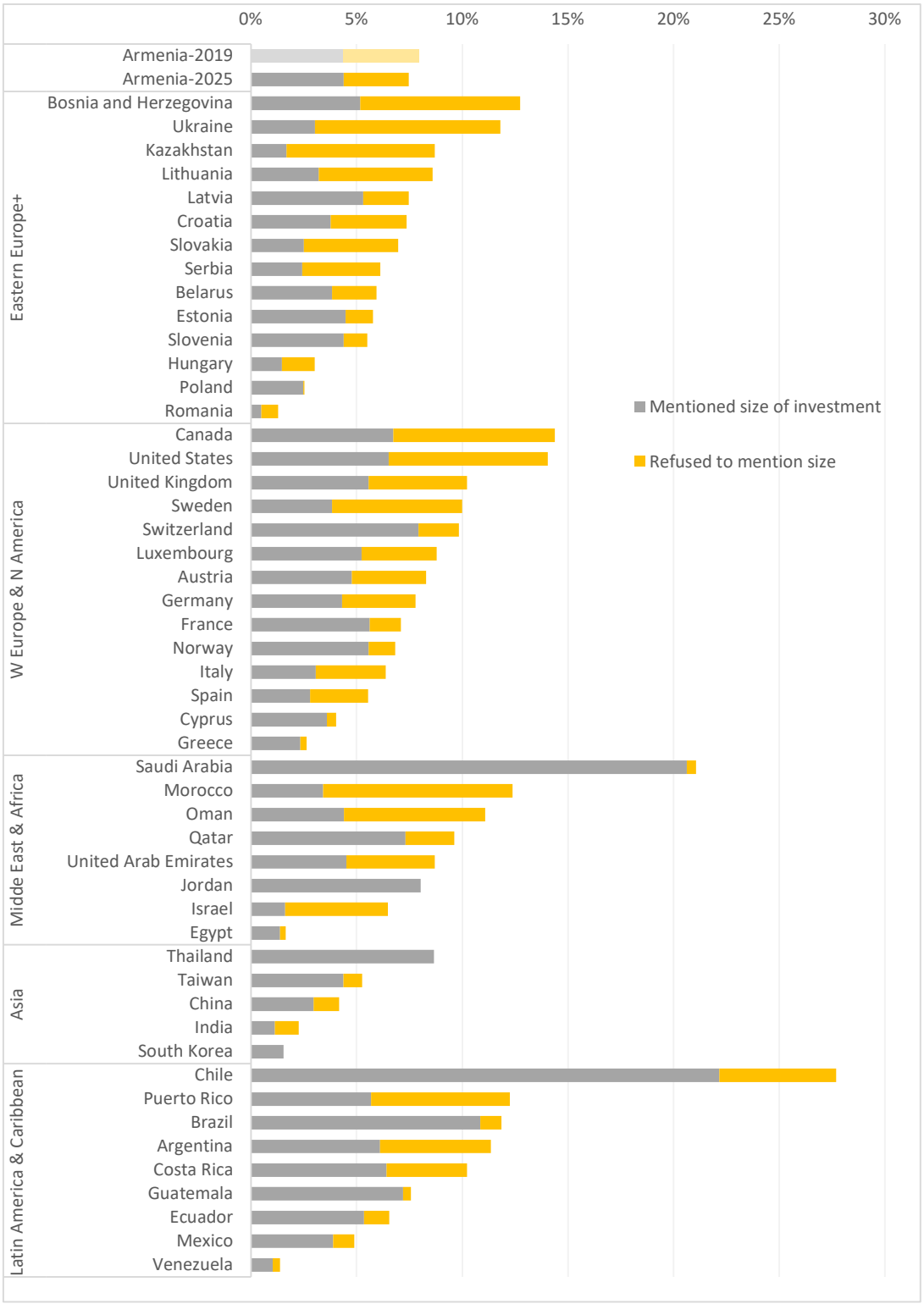


4.5 TEAs expecting to have more than 25% of their revenue outside of their country (% among TEAs and % among country's population)



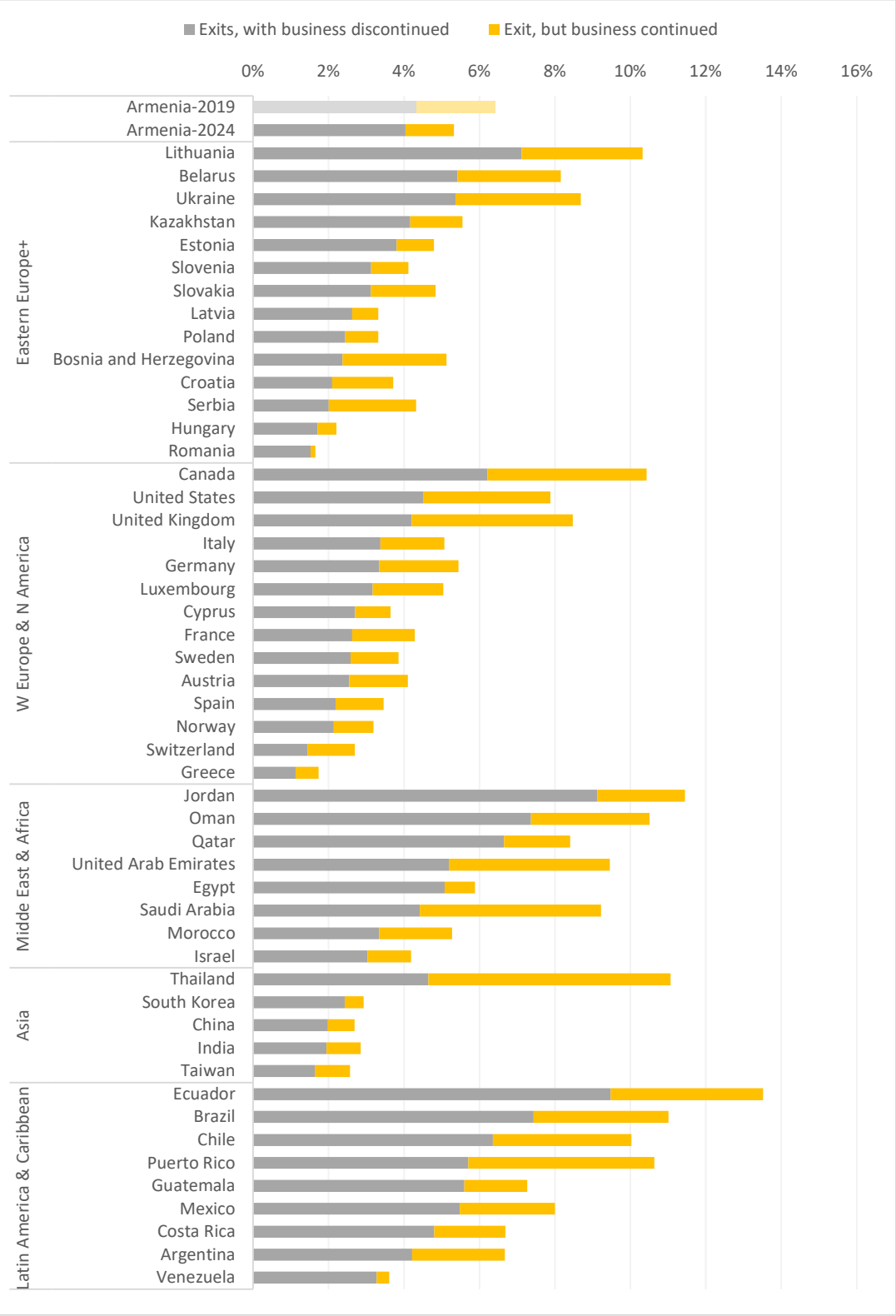
ANNEX 5. Informal Investment

5.1 Level of Informal Investment (% of adults)

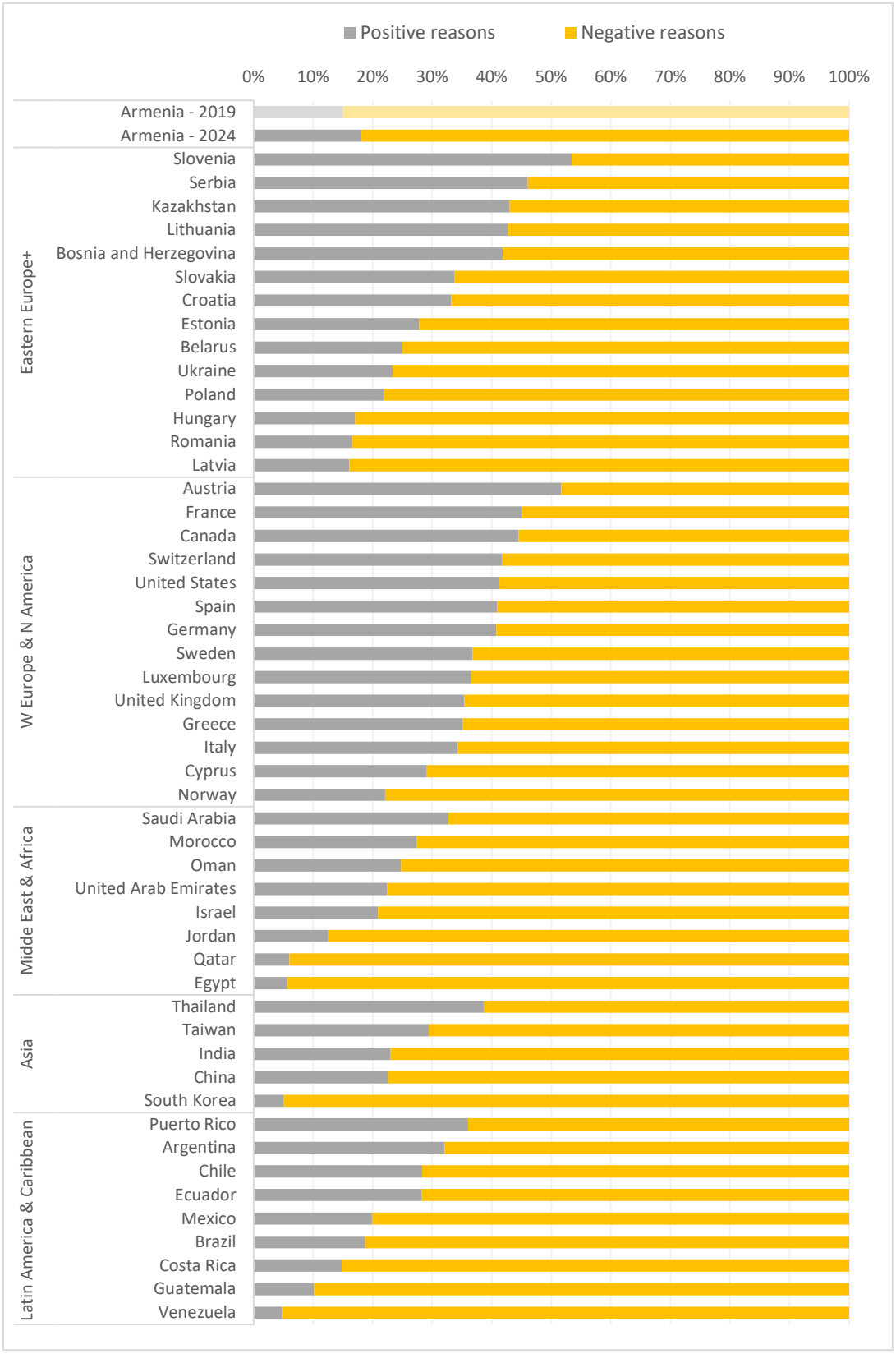


ANNEX 6. Business exits

6.1 Business exit rates 2024 (% of adults)

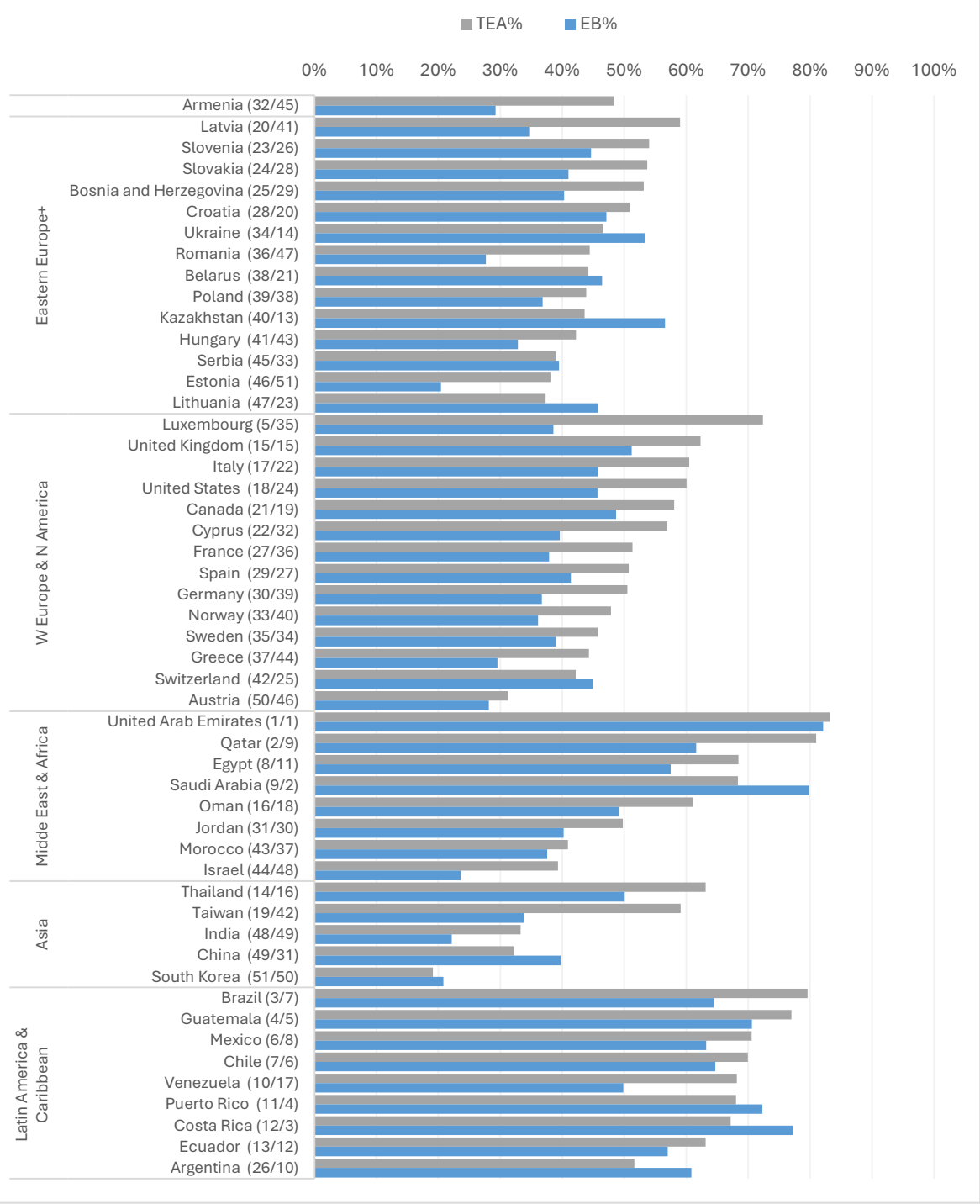


6.2 Business exit reason type (% in all business exits)

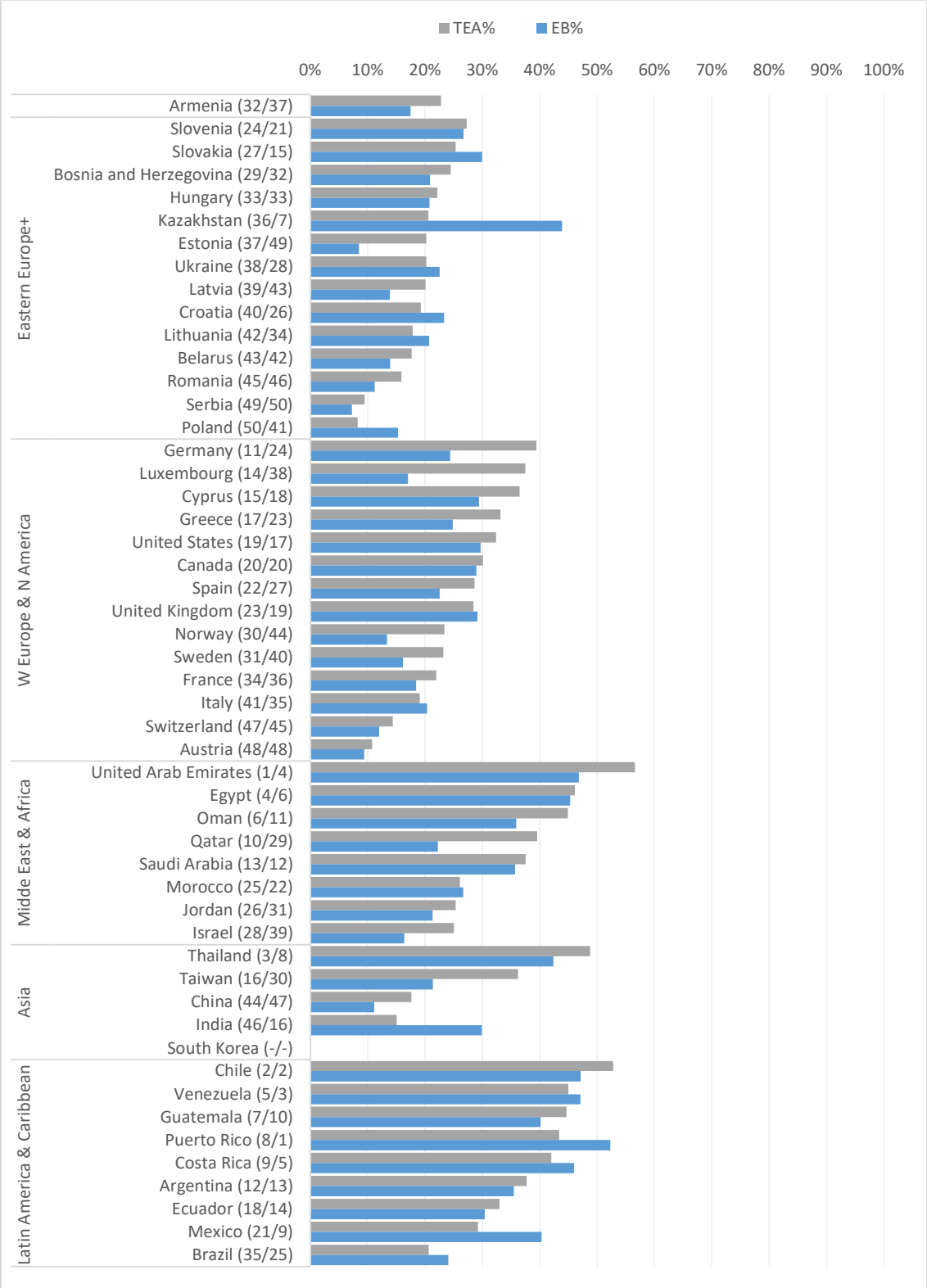


ANNEX 7. Entrepreneurship in a new age of digitization and artificial intelligence

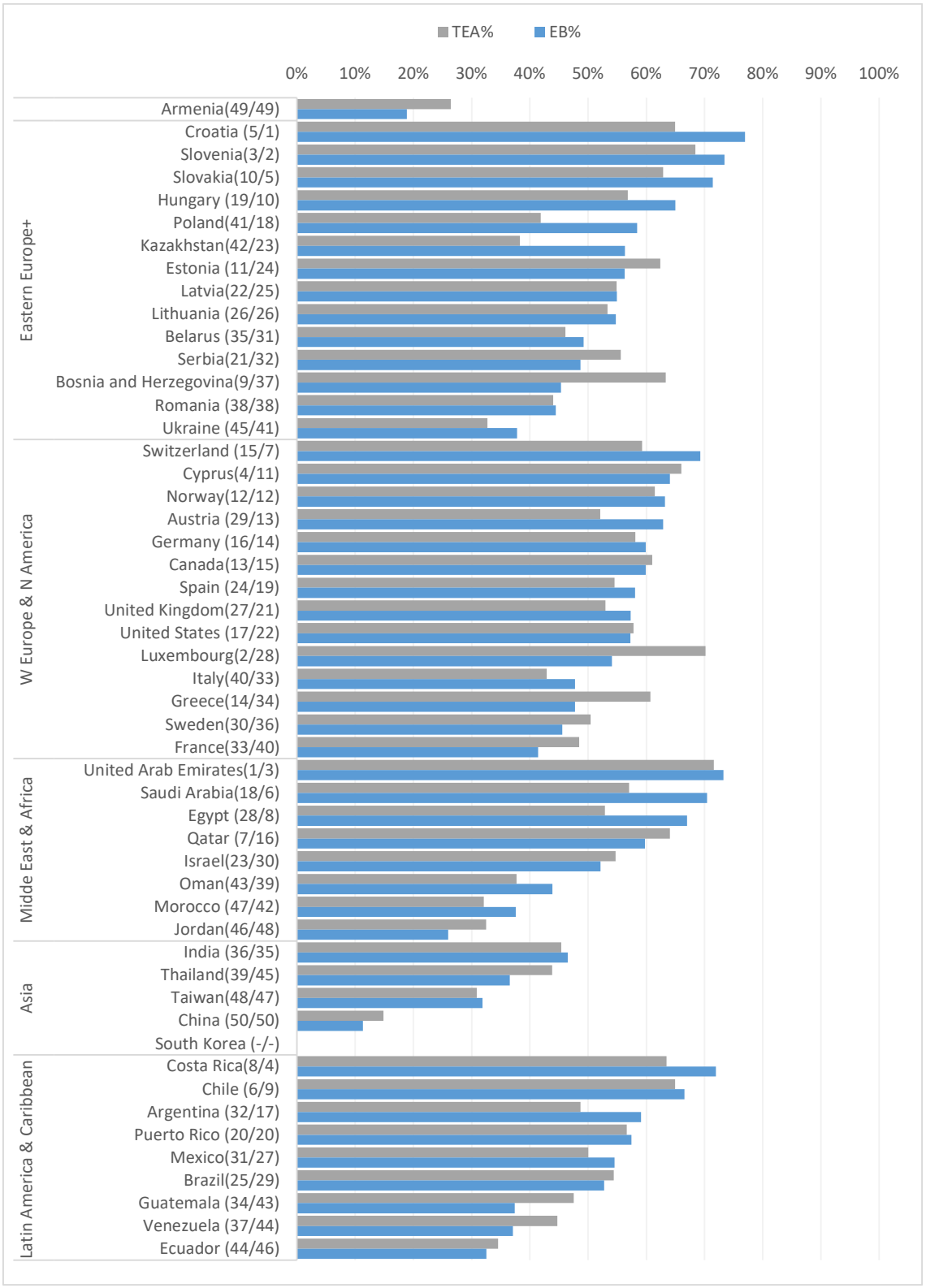
7.1 Expecting their business will use more digital technologies to sell product or service in the next six months (% of TEA/EBO)



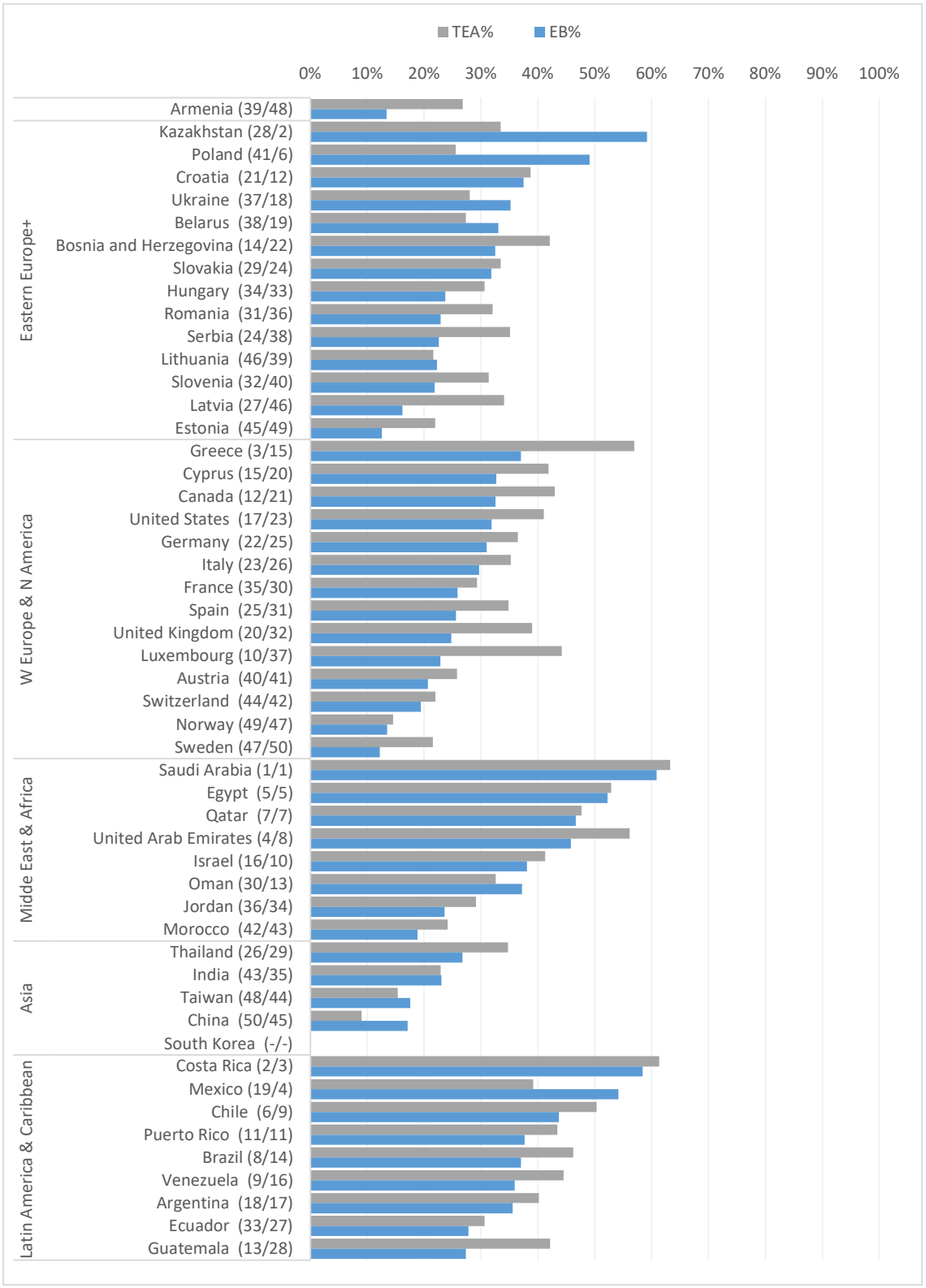
7.2 How important do you anticipate artificial intelligence tools will be for implementing your business model and strategy in the next three years? (% of TEA/EBO responding "very important")



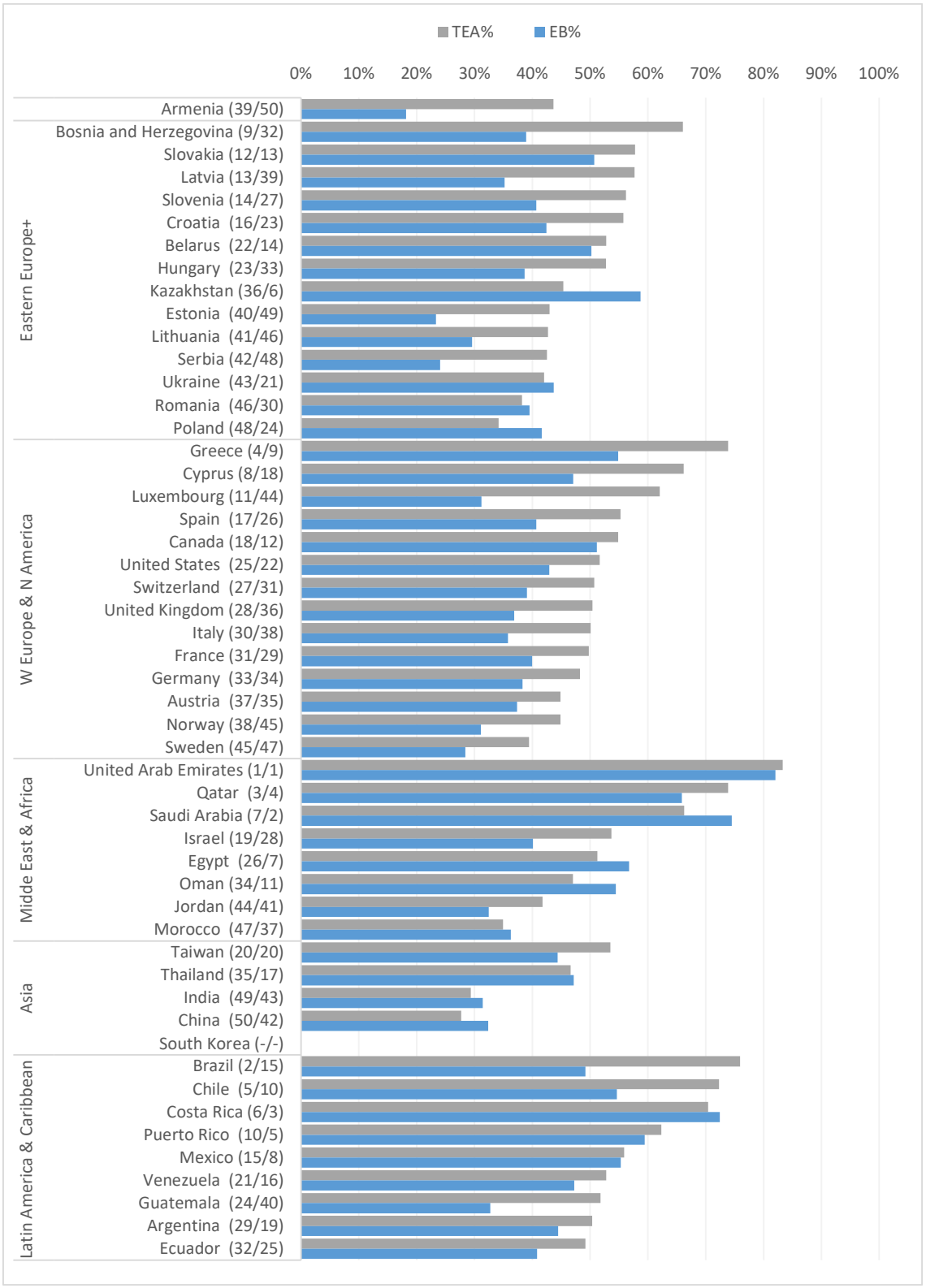
7.3 How Important "Email communication with customers and/or employees" is for day to day business operations (% of TEA/EBO responding "very important")



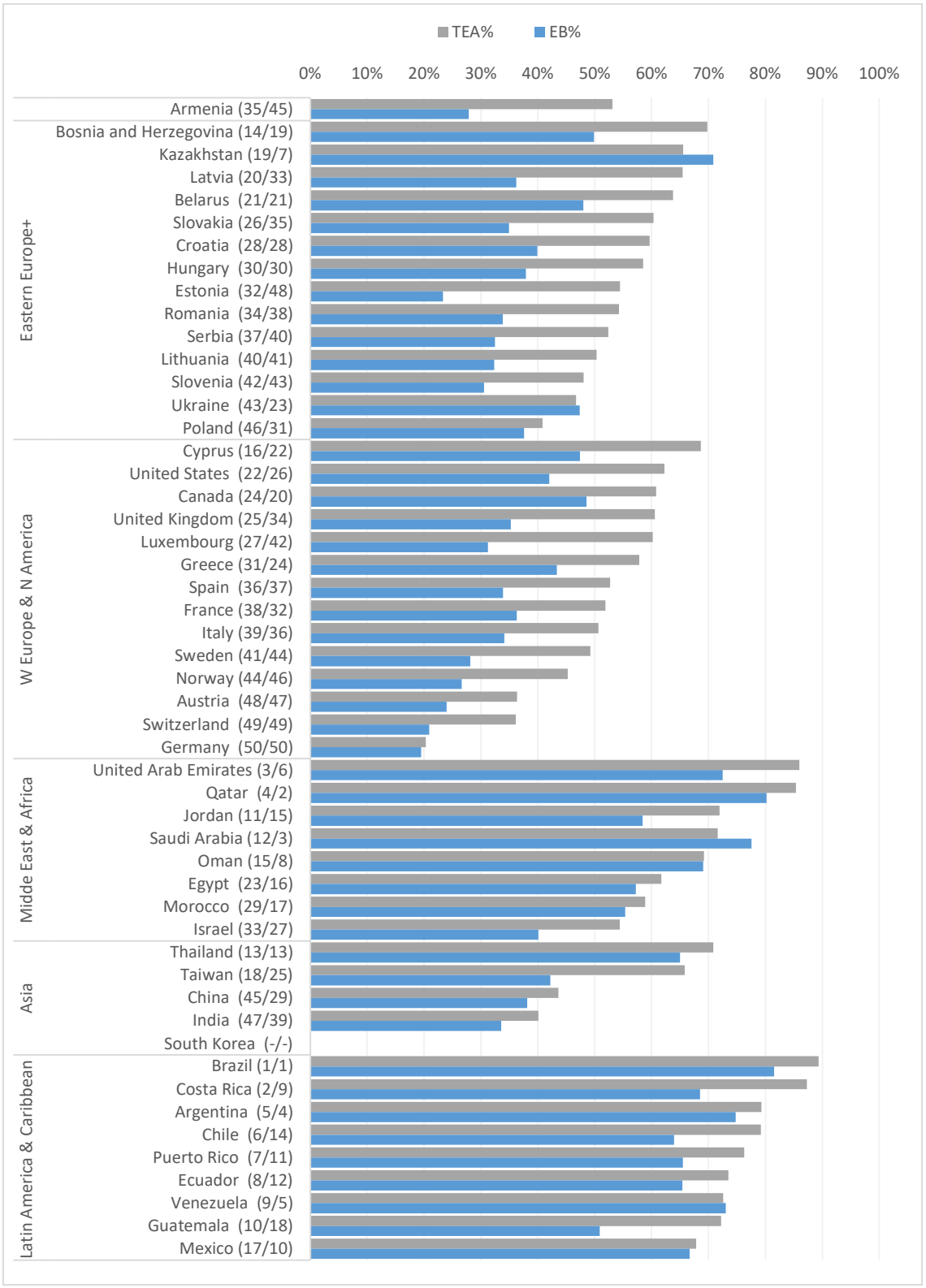
7.4 How Important "Email marketing to customers" is for day to day business operations (% of TEA/EBO responding "very important")



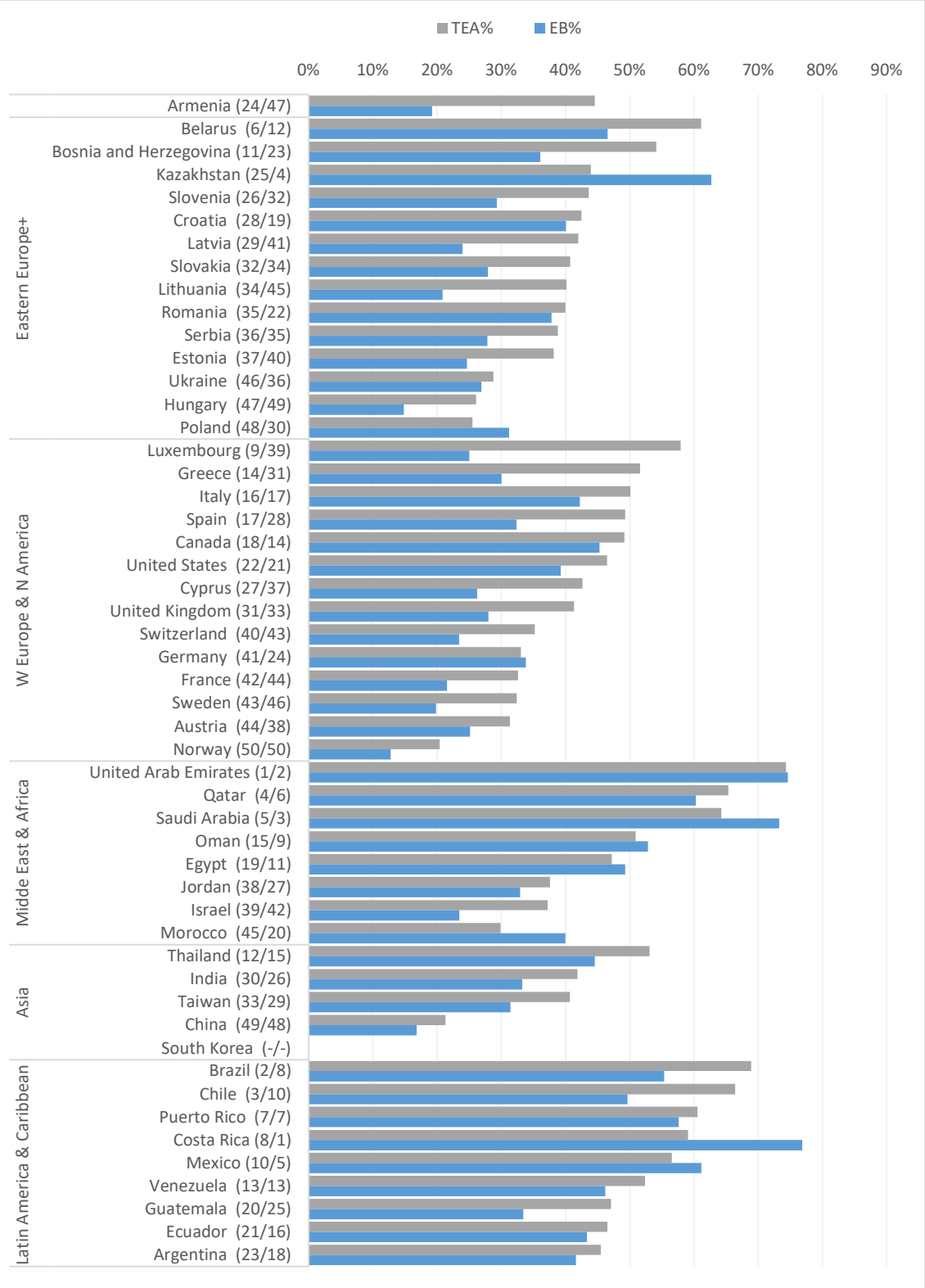
7.5 How Important "Company branded website for information/communications" is for day to day business operations (% of TEA/EBO responding "very important")



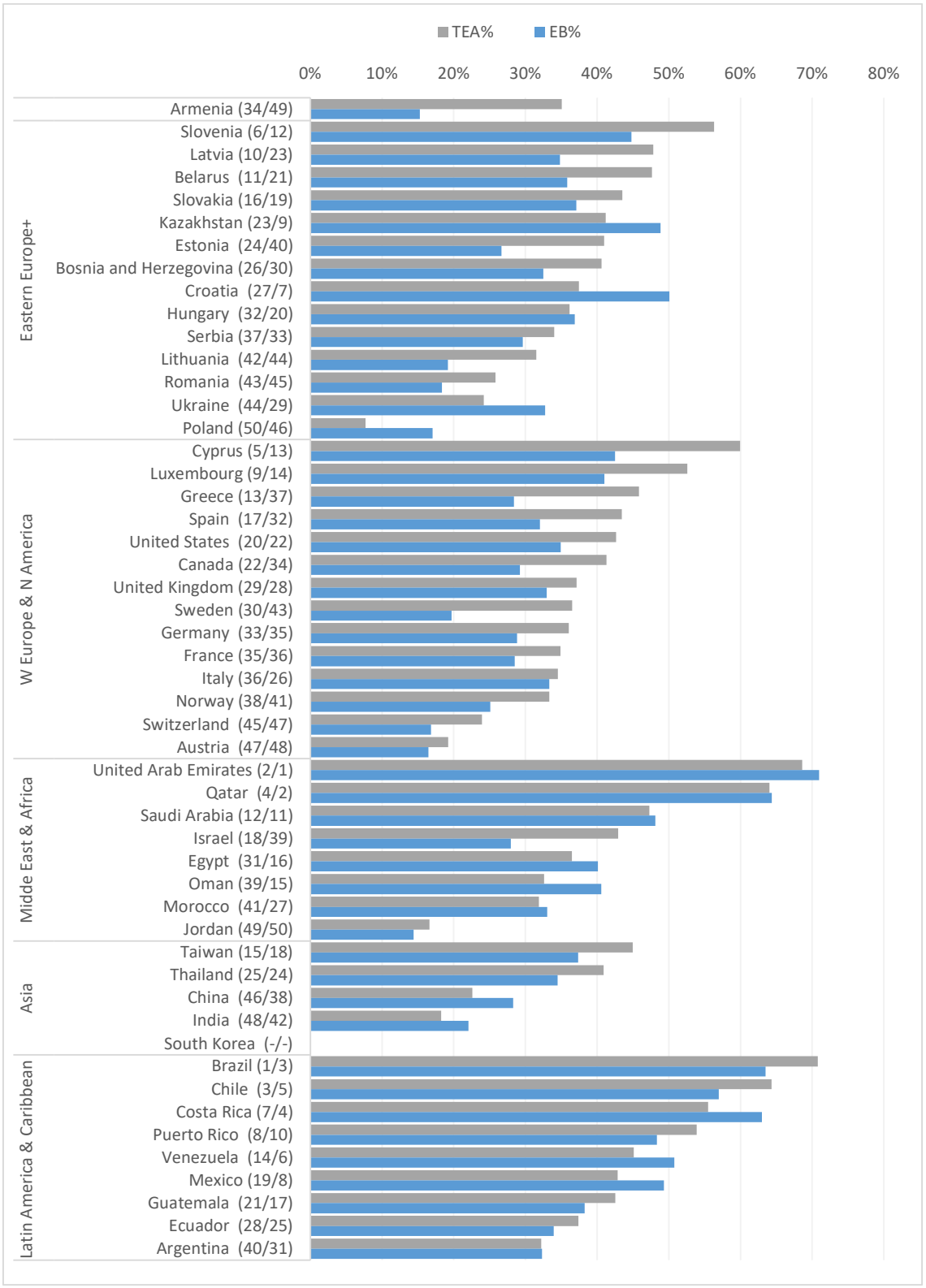
7.6 How Important "Social media" is for day to day business operations (% of TEA/EBO responding "very important")



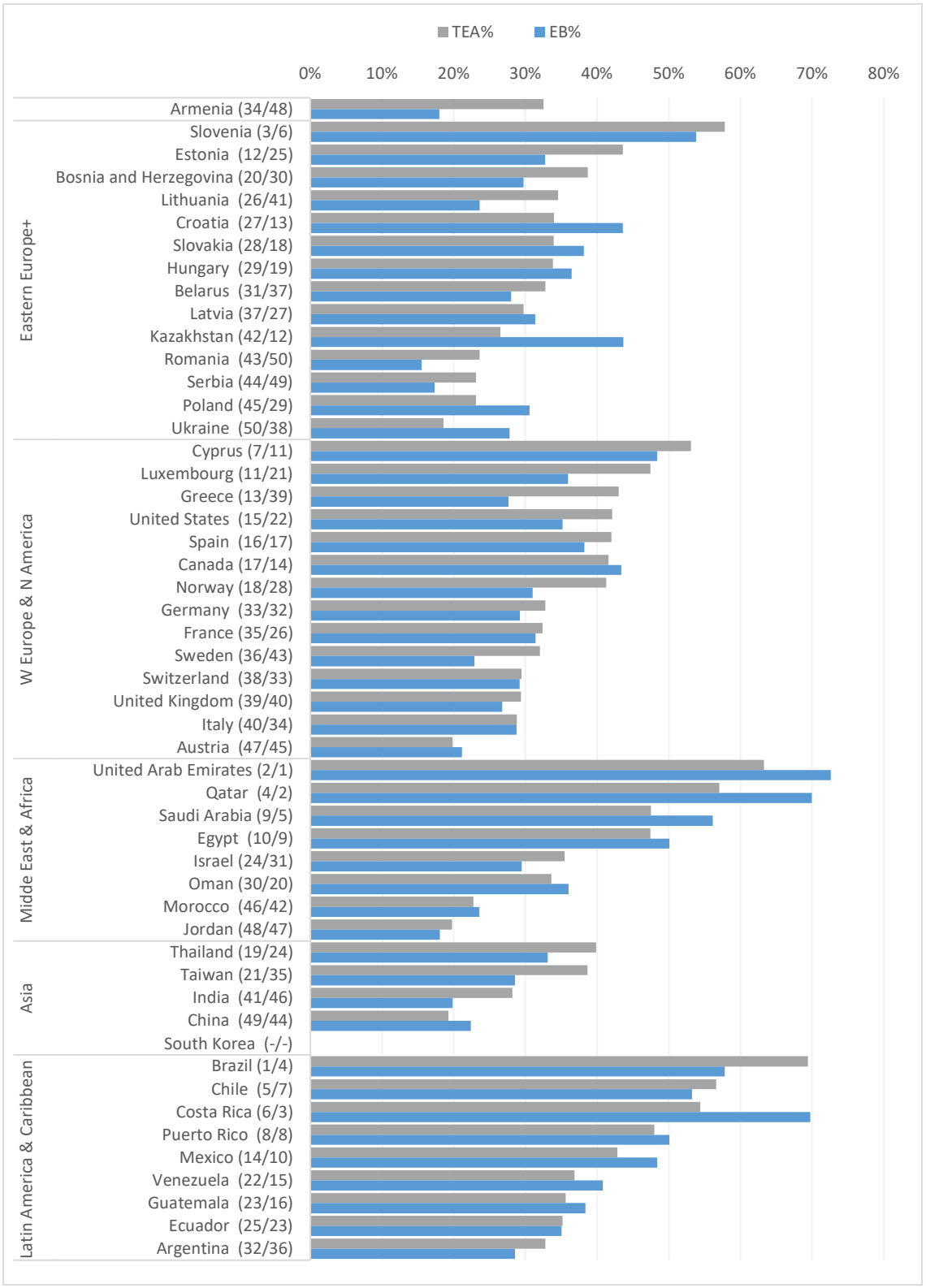
7.7 How Important "Company branded website for e-commerce" is to implementing your business model and strategy (% of TEA/EBO responding "very important")



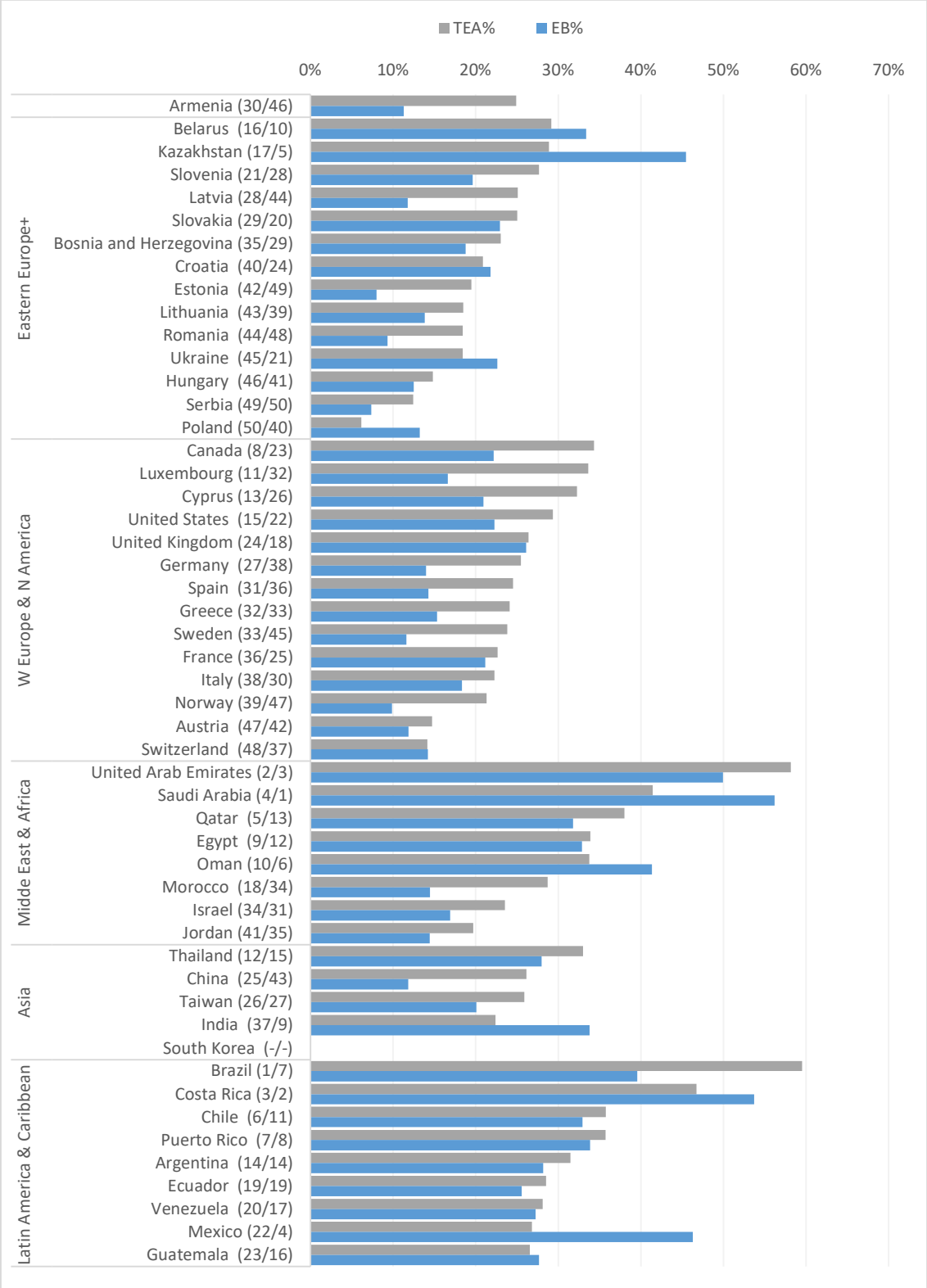
7.8 How Important "Data analytic tools" is to implementing your business model and strategy (% of TEA/EBO responding "very important")



7.9 How Important "Cloud computing services" is to implementing your business model and strategy (% of TEA/EBO responding "very important")



7.10 How Important "Artificial Intelligence tools" will be for implementing in business model and strategy in the next three years(% of TEA/EBO responding "very important")



ANNEX 8. 2024 GEM NES: Armenia experts' assessment (0-10 score level) vs GEM average

		Armenia's rank (among 56)	Armenia score	GEM score 2024 (average for 56)	Score difference 2024 (Armenia vs GEM)	Armenia score 2024 vs 2019	GEM score 2024 vs 2019	Score difference 2019 (Armenia vs GEM)
Topic A1: Finance (sufficiency) In Armenia there is								
A01	equity funding (understood as entrepreneurs' own financial resources) available for new and growing firms	**33**	**4.324**	**4.543**	-0.219	-0.226	-0.159	-0.152
A02	debt funding (understood as bank loans and similar) available for new and growing firms	**11**	**5.757**	**4.756**	1.001	0.807	-0.017	0.177
A03	government subsidies available for new and growing firms	**35**	**4.730**	**4.835**	-0.106	0.855	0.047	-0.913
A04	informal investor funding (family, friends and colleagues who are private individuals other than founders) for new and growing firms	**17**	**5.324**	**5.024**	0.301	0.599	-0.054	-0.353
A05	professional business angel funding (individuals who provide capital in exchange for convertible debt or ownership equity) for new and growing firms	**36**	**4.216**	**4.586**	-0.370	0.841	0.110	-1.101
A06	venture capital funding (pooled investment funds for private equity stakes) for new and growing firms.	**39**	**4.194**	**4.563**	-0.368	0.969	0.102	-1.236
A07	IPO (initial public offering) funding available for new and growing firms	**46**	**2.200**	**3.527**	-1.327	0.500	-0.006	-1.833
A08	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	**42**	**3.167**	**4.084**	-0.918	-0.558	-0.126	-0.486
Topic A2: Ease of getting financing In Armenia it is easy…								
A09	to get debt funding (bank loans and similar for new and growing firms)	**10**	**5.270**	**4.070**	1.200			
A10	to hire financial support services at reasonable cost for new and growing firms	**8**	**5.571**	**4.477**	1.095			
A11	for nascent entrepreneurs to get enough seed capital to cover start-up and early-stage expenses of a new business	**25**	**4.135**	**4.065**	0.071			
A12	to attract investors / funds to make a new business grow once the start-up phase has completed	**24**	**4.528**	**4.508**	0.020			
Topic B: Government policies In Armenia …								
B01	government policies (e.g., public procurement, legislation, regulation, licensing, and taxation) consistently favor new and growing firms	**15**	**4.595**	**3.892**	0.702	0.570	0.274	0.407
B02	the support for new and growing firms is a high priority for policy at the national government level	**19**	**5.054**	**4.400**	0.654	0.054	-0.325	0.275
B03	the support for new and growing firms is a high priority for policy at the local government level	**43**	**3.432**	**4.301**	-0.869	-0.518	-0.207	-0.558
B03_2	entrepreneurs can register new firms/businesses at reasonable cost	**1**	**9.059**	**6.608**	2.451			
B04	new firms can get most of the required permits and licenses in about a week	**7**	**6.351**	**4.241**	2.111	0.582	0.843	2.371
B05	the amount of taxes is not a burden for new and growing firms.	**6**	**6.333**	**4.203**	2.131	0.683	-0.063	1.384
B06	taxes and other government regulations are applied to new and growing firms in a predictable and consistent way	**13**	**5.861**	**4.501**	1.360	0.836	-0.055	0.469
B07	coping with government bureaucracy, regulations, and licensing requirements is not unduly difficult for new and growing firms.	**4**	**6.054**	**3.888**	2.165	0.854	0.066	1.878
Topic C: Governmental programs In Armenia …								
C01	a wide range of government assistance for new and growing firms can be obtained through contact with a single agency.	**32**	**3.667**	**4.073**	-0.406	0.192	0.221	-0.376
C02	science parks are available and provide effective support for new and growing firms	**49**	**2.972**	**4.683**	-1.711	-1.578	-0.545	-0.678
C02_2	business incubators are available and provide effective support for new and growing firms	**50**	**4.000**	**5.526**	-1.526			
C03	there is an adequate number of government programs for new and growing firms	**36**	**4.270**	**5.003**	-0.733	0.220	0.149	-0.804
C04	the people working for government agencies are competent and effective in supporting new and growing firms	**48**	**3.378**	**4.520**	-1.141	0.178	0.168	-1.152
C05	almost anyone who needs help from a government program for a new or growing business can find what they need	**25**	**4.135**	**4.142**	-0.006	0.985	0.068	-0.924
C06	government programs aimed at supporting new and growing firms are effective	**30**	**4.171**	**4.496**	-0.325	0.121	0.158	-0.289

		Armenia's rank (among 56)	Armenia score	GEM score 2024 (average for 56)	Score difference 2024 (Armenia vs GEM)	Armenia score 2024 vs 2019	GEM score 2024 vs 2019	Score difference 2019 (Armenia vs GEM)
Topic D: Education & Training In Armenia ...								
D01	teaching in primary and secondary education encourages creativity, self-sufficiency, and personal initiative	**24**	**3.568**	**3.667**	-0.100	0.718	0.203	-0.614
D02	teaching in primary and secondary education provides adequate instruction in market economic principles	**25**	**3.081**	**3.269**	-0.188	0.389	0.087	-0.490
D03	teaching in primary and secondary education provides adequate attention to entrepreneurship and new firm creation	**29**	**2.541**	**3.072**	-0.532	-0.110	0.079	-0.343
D04	colleges and universities provide adequate preparation for starting up and growing new firms	**51**	**3.514**	**4.607**	-1.094	0.014	0.229	-0.879
D05	the quality of practical business and management education provide adequate preparation for starting up and growing a new business	**48**	**4.054**	**5.057**	-1.003	0.129	0.004	-1.128
D06	the vocational, professional, and continuing education systems provide adequate preparation for starting up and growing new firms	**47**	**3.892**	**4.724**	-0.832	0.392	-0.012	-1.236
Topic E: R&D Transfer In Armenia ...								
E01	new technology, science, and other knowledge are efficiently transferred from universities and public research centers to new and growing firms	**55**	**2.405**	**4.041**	-1.635	-0.020	0.002	-1.613
E02	new and growing firms have just as much access to new research and technology as large, established firms	**44**	**2.919**	**3.808**	-0.889	-0.306	0.077	-0.507
E03	new and growing firms can afford the latest technology	**22**	**3.514**	**3.521**	-0.007	-0.287	-0.072	0.207
E04	there are adequate government subsidies for new and growing firms to acquire new technology	**29**	**3.806**	**3.849**	-0.043	1.318	0.177	-1.185
E05	the science and technology base efficiently supports the creation of world-class new technology-based ventures in at least one area	**41**	**3.778**	**4.526**	-0.748	0.028	-0.288	-1.064
E06	there is good support available for engineers and scientists to have their ideas commercialized through new and growing firms	**45**	**3.081**	**4.174**	-1.093	-0.069	-0.012	-1.037
Topic F: Commercial & services infrastructure In Armenia ...								
F01	there are enough subcontractors, suppliers, and consultants to support new and growing firms.	**35**	**5.432**	**5.746**	-0.314	-0.183	0.253	0.122
F02	new and growing firms can afford the cost of using subcontractors, suppliers, and consultants	**22**	**4.270**	**4.094**	0.176	0.095	0.179	0.260
F03	it is easy for new and growing firms to get good subcontractors, suppliers, and consultants	**29**	**4.730**	**4.692**	0.038	-0.020	0.123	0.181
F04	it is easy for new and growing firms to get good professional legal and accounting services	**5**	**7.000**	**5.516**	1.484	0.275	-0.074	1.134
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)	**5**	**7.297**	**5.639**	1.659	-0.403	0.090	2.151
F06	new and growing firms can get access to cloud computing services at affordable prices	**27**	**6.028**	**6.002**	0.026			
Topic G: Market openness In Armenia ...								
G01	the markets for consumer goods and services change dramatically from year to year	**31**	**5.324**	**5.543**	-0.219	0.224	0.248	-0.196
G02	the markets for business-to-business goods and services change dramatically from year to year	**35**	**5.027**	**5.325**	-0.298	0.078	0.224	-0.153
G03	new and growing firms can easily enter new markets	**13**	**5.162**	**4.613**	0.549	0.241	-0.070	0.238
G04	new and growing firms can afford the cost of market entry	**14**	**4.487**	**4.168**	0.319	0.307	0.046	0.057
G05	new and growing firms can enter markets without being unfairly blocked by established firms	**7**	**5.730**	**4.477**	1.252	0.755	0.193	0.690
G06	the anti-trust legislation is effective and well enforced	**19**	**5.083**	**4.552**	0.531	0.925	0.143	-0.251

		Armenia's rank (among 56)	Armenia score	GEM score 2024 (average for 56)	Score difference 2024 (Armenia vs GEM)	Armenia score 2024 vs 2019	GEM score 2024 vs 2019	Score difference 2019 (Armenia vs GEM)
Topic H: Physical Infrastructure In Armenia ...								
H01	the physical infrastructure (roads, utilities, communications, water disposal) provides good support for new and growing firms	**39**	**4.838**	**5.970**	-1.133	0.513	0.166	-1.479
H02	it is not too expensive for a new or growing firm to get good access to communications (phone, internet, etc.)	**23**	**7.487**	**7.096**	0.391	-0.464	0.275	1.129
H03	a new or growing firm can get good access to communications (telephone, internet, etc.) in about a week	**14**	**8.306**	**7.378**	0.927	-0.569	0.178	1.675
H04	new and growing firms can afford the cost of basic utilities (gas, water, electricity, sewer)	**9**	**7.703**	**6.571**	1.132	0.253	-0.112	0.767
H05	new or growing firms can get good access to utilities (gas, water, electricity, sewer) in about a month	**38**	**6.351**	**6.769**	-0.418	-0.290	-0.074	-0.202
H06	there are plenty of affordable office spaces to rent for new and growing firms	**43**	**5.243**	**6.003**	-0.760			
H07	There are plenty of affordable production spaces to rent for new and growing firms	**44**	**4.583**	**5.264**	-0.681			
Topic I: Cultural and social norms In Armenia ...								
I01	the national culture is highly supportive of individual success achieved through own personal efforts	**12**	**6.583**	**5.489**	1.095	0.333	-0.026	0.736
I02	the national culture emphasizes self-sufficiency, autonomy, and personal initiative	**13**	**6.417**	**5.247**	1.170	0.142	0.039	1.067
I03	the national culture encourages entrepreneurial risk-taking	**9**	**6.167**	**4.604**	1.562	0.117	0.111	1.556
I04	the national culture encourages creativity and innovativeness	**11**	**6.333**	**5.237**	1.096	-0.367	0.128	1.591
I05	the national culture emphasizes the responsibility that the individual (rather than the collective) has in managing his or her own life	**7**	**6.667**	**5.237**	1.430	0.769	0.150	0.810

		Armenia's rank (among 56)	Armenia score	GEM score 2024 (average for 56)	Score difference 2024 (Armenia vs GEM)
Topic SDGs: Pursuing the UN's Sustainable Development Goals In Armenia ...					
SDGS_1	New and growing firms increasingly prioritize their social contribution rather than solely focusing on profit and wealth creation	**46**	**4.278**	**5.165**	-0.888
SDGS_2	New and growing firms integrate social responsibility principles into their business operations	**50**	**4.257**	**5.376**	-1.119
SDGS_3	Investors are particularly interested in funding new firms that focus on social responsibility	**48**	**4.139**	**4.993**	-0.854
SDGE_1	Firms see paying taxes as part of their social responsibility	**26**	**4.611**	**4.644**	-0.033
SDGE_2	Investors and stakeholders are satisfied with the economic performance of companies they have invested in	**23**	**5.294**	**5.229**	0.065
SDGE_3	New and growing firms founded by members of minority groups have the same economic opportunities as other new firms	**2**	**7.257**	**5.197**	2.060
SDGN_1	Most new and growing firms implement environmentally-conscious practices when producing products or supplying services	**51**	**3.800**	**5.137**	-1.337
SDGN_2	Most new and growing firms prioritize energy efficiency practices in their operations	**35**	**5.222**	**5.414**	-0.192
SDGN_3	Most new and growing firms see environmental problems as a potential opportunity	**53**	**4.028**	**5.452**	-1.424
SDGC_1	Sustainability practices are seen as very important within the national culture	**47**	**4.056**	**5.308**	-1.252
SDGC_2	There are prominent examples of entrepreneurial activities related to Sustainable Development Goals (SDGs) within the business sector	**52**	**4.543**	**5.806**	-1.263
SDGG_1	The national government has specific regulations that support sustainability-focused startups	**47**	**3.771**	**4.847**	-1.075
SDGG_2	The national government supports sustainability-focused firms through grants, special rights and/or tax cuts	**45**	**3.750**	**4.665**	-0.915

		Armenia's rank (among 56)	Armenia score	GEM score 2024 (average for 56)	Score difference 2024 (Armenia vs GEM)
Topic P: Women's entrepreneurship In Armenia ...					
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	**14**	**5.243**	**4.222**	1.022
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 to run their businesses even after they have started a family	**20**	**4.351**	**3.955**	0.397
P02	regulations for entrepreneurs are so favorable that women prefer becoming an entrepreneur instead of becoming a public or private employee	**19**	**3.784**	**3.341**	0.442
P03	the national culture encourages women as equally as men to become self-employed or start a new business	**20**	**4.730**	**4.556**	0.174
P04	markets are usually more accessible for male than for female entrepreneurs	**45**	**4.973**	**5.643**	-0.670
P04b	public procurement is usually more accessible for male than for female entrepreneurs	**55**	**2.838**	**4.587**	-1.749
P05	Access to financing (of any type of financing source) is usually easier for male than for female entrepreneurs	**52**	**3.460**	**4.907**	-1.447
P05b	Getting seed funds (from any type of financing source) is usually easier for male than female nascent entrepreneurs	**54**	**3.306**	**4.882**	-1.576

		Armenia's rank (among 56)	Armenia score	GEM score 2024 (average for 56)	Score difference 2024 (Armenia vs GEM)
Topic AI: Artificial Intelligence and entrepreneurship In Armenia ...					
AI01	Awareness about the need to develop and implement AI solutions is common among entrepreneurs	**46**	**4.297**	**5.673**	-1.376
AI02	Awareness about the need to develop and implement AI solutions is actively promoted in the business environment today	**50**	**4.432**	**5.778**	-1.346
AI03	New and developing companies are purposefully including AI solutions in their business models	**53**	**4.162**	**5.722**	-1.560
AI04	The viability and long term growth of emerging companies depends on the active implementation of AI solutions	**41**	**5.500**	**5.958**	-0.458
AI05	Employees are aware of the need to develop AI competences	**42**	**4.595**	**5.325**	-0.731
AI06	Employees developing AI competences is a common phenomenon in my country	**35**	**3.973**	**4.472**	-0.499
AI07	Employees have AI competences at the level currently appropriate for their positions	**30**	**3.649**	**3.965**	-0.317
AI08	AI-related knowledge and competences are included in post-school education models	**43**	**3.027**	**3.785**	-0.758
AI09	AI training is widely available to entrepreneurs and their employees	**37**	**3.622**	**4.175**	-0.553
AI10	Public institutions support the implementation of AI solutions, e.g. through subsidies, training offered to entrepreneurs and other actions	**47**	**2.686**	**3.690**	-1.004
AI11	Public institutions actively promote AI solutions	**39**	**2.917**	**3.649**	-0.733
AI12	Data security and privacy concerns receive a prominent place when discussing the implementation of AI solutions in companies	**54**	**4.194**	**5.591**	-1.397
AI13	Customers are, in general, receptive to AI tools and put trust in the underlying algorithms	**42**	**4.324**	**4.907**	-0.583
AI14	The media (including social media) highlight the ethical dilemmas in AI decision-making	**54**	**3.457**	**5.241**	-1.784

ANNEX 9. Statistical Analysis Models

9.1. TEA Models Using Logistic Regression and Random Forest (2019 & 2024)

In order to investigate the determinants of early-stage entrepreneurial activity in Armenia, a logistic regression model was applied using individual-level data from the GEM APS for the years 2019 and 2024. TEA indicator, which represents whether an individual is actively engaged in either nascent entrepreneurship or the ownership of a new business (i.e., less than 42 months old), served as the binary dependent variable. Given the binary nature of the outcome variable (TEA: 1 = entrepreneur, 0 = not entrepreneur), logistic regression was selected as the appropriate modeling approach. This method estimates the probability that an individual engages in entrepreneurship, expressed through the log-odds of TEA participation as a function of multiple explanatory variables.

The fundamental research objective is to assess whether psychological, socio-economic, and motivational characteristics significantly influence the likelihood of engaging in early-stage entrepreneurship. Accordingly, the following hypotheses were formulated:

- **Null Hypothesis (H_0):** There is no statistically significant association between the predictor variables and the probability of being engaged in TEA (i.e., all regression coefficients are equal to zero).
- **Alternative Hypothesis (H_1):** At least one predictor has a statistically significant effect on the likelihood of TEA engagement (i.e., at least one regression coefficient differs from zero).

To test these hypotheses, two separate models were estimated for the 2019 and 2024 datasets. The models incorporated a consistent core set of explanatory variables to enable meaningful cross-year comparison. The selected variables were chosen based on theoretical relevance, and empirical availability across both datasets. The selected variables are OPPORT, SUSKIL, FRFAIL, FUTSUP, EASYST, NBGOOD, GEMEDUC, GEMHHINC, gender and age.

In line with best econometric practices, prior to estimating the logistic regression models, core statistical assumptions were evaluated to ensure the robustness and interpretability of the results.

Logistic regression, as a Generalized Linear Model, relies on several key assumptions which must be verified before drawing reliable inferences:

1. **Binary Outcome Assumption:** The dependent variable—TEA—is binary (1 = engaged in early-stage entrepreneurship, 0 = not engaged), thereby satisfying the fundamental requirement of the logistic model.
2. **Independence of Observations:** The GEM APS data consist of individual-level survey responses, where each record corresponds to a distinct respondent, satisfying the assumption of independence among observations.
3. **Absence of Multicollinearity:** To ensure the stability of coefficient estimates, a Variance Inflation Factor analysis was conducted. All predictors included in the final models exhibited VIF values below the conventional threshold of 5, indicating that multicollinearity was not a concern.

VIF Results for TEA Logistic Regression Models, Armenia 2019 and 2024

Variable	VIF (2019)	VIF (2024)	Interpretation
OPPORT	2.25	2.29	Acceptable
SUSKIL	3.82	3.00	Moderate, but acceptable
FRFAIL	1.69	1.54	No concern
FUTSUP	1.99	2.02	No concern
EASYST	2.11	2.12	Acceptable
GEMEDUC	3.87	3.51	Moderate, but acceptable
GEMHHINC	2.44	2.96	Acceptable
Gender	1.94	1.83	No concern
age	1.07	1.09	No concern

4. **Linearity of the Logit for Continuous Variables:** The linearity of the logit assumption was assessed for the continuous predictors using the Box–Tidwell transformation. Each variable was interacted with its natural logarithm, and the resulting terms were tested for statistical significance within a logistic regression framework. The results indicated that none of the interaction terms were significant ($p > 0.05$), suggesting that the assumption of linearity in the logit is adequately met for these predictors.

Collectively, these diagnostic checks confirm that the assumptions underlying logistic regression are sufficiently met, ensuring the validity of the resulting coefficient estimates and inferences.

The initial model estimated the log-odds of TEA engagement as a function of ten predictor variables, including perceptual, motivational, demographic, and socioeconomic indicators. The formal specification of the model is:

$$log\left(\frac{P(TEA=1)}{1-P(TEA=1)}\right) = \beta 0 + \beta 1 \cdot OPPORT + \beta 2 \cdot SUSKIL + \beta 3 \cdot FRFAIL + \beta 4 \cdot FUTSUP + \beta 5 \cdot EASYST + \beta 6 \cdot NBGOOD + \beta 7 \cdot GEMEDUC + \beta 8 \cdot GEMHHINC + \beta 9 \cdot gender + \beta 10 \cdot age$$

where P(TEA=1) denotes the probability of an individual being involved in early-stage entrepreneurship.

Logistic Regression Model for TEA (2019), Armenia: Full Specification with 10 Predictors

Model:	Logit	Method:	MLE
Dependent Variable:	TEA	Pseudo R-squared:	0.137
Date:	2025-05-13 02:52	AIC:	1136.1039
No. Observations:	1208	BIC:	1192.1679
Df Model:	10	Log-Likelihood:	-557.05
Df Residuals:	1197	LL-Null:	-645.54
Converged:	1.0000	LLR p-value:	9.9135e-33
No. Iterations:	7.0000	Scale:	1.0000

	Coef.	Std.Err.	z	P>|z|	[0.025	0.975]
Intercept	-3.1466	0.3603	-8.7344	0.0000	-3.8527	-2.4405
OPPORT[T.1]	0.7334	0.1610	4.5556	0.0000	0.4179	1.0489
SUSKIL[T.1]	1.0567	0.2277	4.6408	0.0000	0.6104	1.5030
FRFAIL[T.1]	-0.3416	0.1521	-2.2456	0.0247	-0.6397	-0.0434
FUTSUP[T.1]	1.0434	0.1567	6.6592	0.0000	0.7363	1.3505
EASYST[T.1]	0.0022	0.1558	0.0144	0.9885	-0.3032	0.3076
NBGOOD	0.0788	0.2302	0.3425	0.7319	-0.3723	0.5299
GEMEDUC	-0.0952	0.0812	-1.1724	0.2410	-0.2544	0.0640
GEMHHINC	0.1800	0.0945	1.9050	0.0568	-0.0052	0.3653
gender	0.2980	0.1531	1.9461	0.0516	-0.0021	0.5982
age	-0.1609	0.0782	-2.0576	0.0396	-0.3141	-0.0076

The estimation results from the full model revealed that several predictors (EASYST, NBGOOD, GEMEDUC) did not demonstrate any statistically meaningful association with TEA. Given their lack of explanatory power, these variables were excluded in the next stage of model refinement. The resulting model retained only seven predictors and preserved the key explanatory components of the original specification.

The refined equation is as follows:

$$log\left(\frac{P(TEA=1)}{1-P(TEA=1)}\right) = \beta 0 + \beta 1 \cdot OPPORT + \beta 2 \cdot SUSKIL + \beta 3 \cdot FRFAIL + \beta 4 \cdot FUTSUP + \beta 5 \cdot GEMHHINC + \beta 6 \cdot gender + \beta 7 \cdot age$$

Logistic Regression Model for TEA (2019), Armenia: Final Specification with 7 Predictors

Model:	Logit	Method:	MLE
Dependent Variable:	TEA	Pseudo R-squared:	0.136
Date:	2025-05-13 02:52	AIC:	1131.6098
No. Observations:	1208	BIC:	1172.3836
Df Model:	7	Log-Likelihood:	-557.80
Df Residuals:	1200	LL-Null:	-645.54
Converged:	1.0000	LLR p-value:	1.7571e-34
No. Iterations:	7.0000	Scale:	1.0000

	Coef.	Std.Err.	z	P>|z|	[0.025	0.975]
Intercept	-3.2301	0.2681	-12.0473	0.0000	-3.7557	-2.7046
OPPORT[T.1]	0.7375	0.1569	4.7019	0.0000	0.4301	1.0450
SUSKIL[T.1]	1.0322	0.2263	4.5606	0.0000	0.5886	1.4758
FRFAIL[T.1]	-0.3319	0.1511	-2.1960	0.0281	-0.6281	-0.0357
FUTSUP[T.1]	1.0300	0.1555	6.6220	0.0000	0.7252	1.3349
GEMHHINC	0.1621	0.0934	1.7362	0.0825	-0.0209	0.3451
gender	0.3203	0.1513	2.1172	0.0342	0.0238	0.6168
age	-0.1551	0.0776	-1.9992	0.0456	-0.3072	-0.0030

This model not only simplified the analytical interpretation but also retained nearly identical explanatory power compared to the full specification. The pseudo R-squared of the final model was **0.136**, a marginal decrease from the initial model's **0.137**, suggesting that the removal of non-significant predictors—**EASYST**, **NBGOOD**, and **GEMEDUC**—did not substantially diminish the model's ability to explain variation in entrepreneurial engagement.

While pseudo R-squared values in logistic regression are often lower than those in linear models, this does not indicate a poor fit per se. In behavioral and social sciences—particularly in entrepreneurship studies involving highly heterogeneous human decisions— pseudo R^2 values between **0.10 and 0.20** are considered acceptable and even strong in certain contexts. This is because entrepreneurial behavior is influenced by a wide array of unmeasured cultural, institutional,

psychological, and temporal factors that cannot be fully captured in survey-based predictors.

Despite these limitations in overall fit metrics, individual predictors within the model reveal statistically robust and substantively meaningful effects, offering valuable insight into the micro-level drivers of entrepreneurial activity in Armenia.

Perceived Opportunity (OPPORT) – Coefficient: $\beta \approx 0.74$, $p < 0.001$. Odds ratio: OR ≈ 2.09. Respondents who reported seeing good opportunities to start a business in their area had approximately **2.1 times higher odds** of being engaged in early-stage entrepreneurial activity compared to those who did not. This significant and substantial effect confirms that opportunity perception is a foundational driver of entrepreneurial behavior.

Self-perceived Skills (SUSKIL) – Coefficient: $\beta \approx 1.06$, $p < 0.0001$. Odds ratio: OR ≈ 2.88. Those who believe they have the skills and knowledge to start a business have roughly **2.9 times higher odds** of being an entrepreneur. This is one of the strongest effects observed; high self-confidence in entrepreneurial skills massively increases participation, suggesting that self-efficacy is a critical psychological prerequisite for action. In an environment like Armenia's, where formal entrepreneurial education and incubator support are limited, personal confidence may function as a substitute for institutional backing.

Fear of Failure (FRFAIL) – Coefficient: $\beta \approx -0.33$, $p \approx 0.028$. Odds ratio: OR ≈ 0.72. Individuals who reported fear of failure were about **28% less likely** to engage in early-stage entrepreneurship. This statistically significant negative association confirms that fear acts as a psychological deterrent. In Armenia, where failure is often stigmatized and financial safety nets are weak, this fear can prevent potential entrepreneurs—especially risk-averse or under-resourced individuals—from acting on viable ideas.

Future Entrepreneurial Intention (FUTSUP) – Coefficient: $\beta \approx 1.03$, $p < 0.0001$. Odds ratio: OR ≈ 2.80. Respondents who indicated an intention to start a business had nearly **2.8 times greater odds** of being engaged in TEA. This strong and significant effect validates the predictive power of entrepreneurial intention and supports the view that intention is not just an abstract attitude, but a **concrete precursor** to action. It also suggests that policies and programs designed to cultivate entrepreneurial motivation—particularly among youth—can yield measurable increases in startup activity.

Household Income (GEMHHINC) – Coefficient: $\beta \approx 0.16$, $p \approx 0.083$. Odds ratio: OR ≈ 1.18. Although only marginally significant at the 10% level, income remains positively

associated with TEA participation. A one-unit increase in income tertile corresponds to an **18% increase** in the odds of early-stage entrepreneurship. This suggests that individuals from higher-income households are somewhat better positioned to take the risk of entrepreneurship, likely due to access to resources, better networks, and economic buffers.

Gender (Male) – Coefficient: $\beta \approx 0.32$, $p \approx 0.034$. Odds ratio: OR ≈ 1.38. Men were found to have **38% higher odds** of participating in early-stage entrepreneurial activity than women. This gender gap is statistically significant and reflects persistent structural inequalities in the Armenian entrepreneurial ecosystem. Cultural expectations, unequal access to finance, and lower self-confidence among women may all contribute to this disparity. The result suggests the need for gender-specific support mechanisms and empowerment programs to foster female entrepreneurship.

Age (Standardized) – Coefficient: $\beta \approx -0.16$, $p \approx 0.046$. Odds ratio: OR ≈ 0.86. The odds of being engaged in TEA decrease by about **14%** for each standard deviation increase in age. This finding indicates that younger individuals are significantly more likely to start a business than older ones. The result is consistent with entrepreneurial lifecycle theory, where early-career individuals have greater time flexibility, fewer financial commitments, and higher tolerance for risk. In Armenia, this also reflects a generation gap in entrepreneurial thinking and digital fluency.

To complement the findings from the 2019 model and assess the persistence or evolution of entrepreneurial drivers over time, a second logistic regression model was estimated using the GEM APS dataset from 2024. The same core explanatory variables were retained to enable direct comparison. As with the 2019 model, the initial 2024 specification included ten predictors, which were subsequently refined based on their statistical significance and theoretical contribution.

Logistic Regression Models for TEA (2024), Armenia: Full vs. Final Specification Before and After Removing Non-Significant Predictors

Model:	Logit	Method:	MLE
Dependent Variable:	TEA	Pseudo R-squared:	0.120
Date:	2025-05-13 02:52	AIC:	1021.0832
No. Observations:	1166	BIC:	1076.7579
Df Model:	10	Log-Likelihood:	-499.54
Df Residuals:	1155	LL-Null:	-567.60
Converged:	1.0000	LLR p-value:	2.6233e-24
No. Iterations:	7.0000	Scale:	1.0000

	Coef.	Std.Err.	z	P>|z|	[0.025	0.975]
Intercept	-3.3040	0.3971	-8.3212	0.0000	-4.0822	-2.5258
OPPORT[T.1]	0.3075	0.1744	1.7632	0.0779	-0.0343	0.6493
SUSKIL[T.1]	0.9590	0.2079	4.6119	0.0000	0.5515	1.3666
FRFAIL[T.1]	-0.1016	0.1812	-0.5608	0.5749	-0.4567	0.2535
FUTSUP[T.1]	0.7192	0.1702	4.2247	0.0000	0.3855	1.0528
EASYST[T.1]	0.1658	0.1718	0.9651	0.3345	-0.1709	0.5025
NBGOOD	0.1151	0.2628	0.4381	0.6613	-0.3999	0.6301
GEMEDUC	-0.0062	0.0892	-0.0694	0.9447	-0.1811	0.1687
GEMHHINC	0.2569	0.1064	2.4152	0.0157	0.0484	0.4654
gender	0.2866	0.1650	1.7368	0.0824	-0.0368	0.6101
age	-0.3224	0.0844	-3.8197	0.0001	-0.4878	-0.1570

Model:	Logit	Method:	MLE
Dependent Variable:	TEA	Pseudo R-squared:	0.118
Date:	2025-05-13 02:52	AIC:	1014.7274
No. Observations:	1166	BIC:	1050.1567
Df Model:	6	Log-Likelihood:	-500.36
Df Residuals:	1159	LL-Null:	-567.60
Converged:	1.0000	LLR p-value:	1.4646e-26
No. Iterations:	7.0000	Scale:	1.0000

	Coef.	Std.Err.	z	P>|z|	[0.025	0.975]
Intercept	-3.2729	0.2383	-13.7368	0.0000	-3.7398	-2.8059
OPPORT[T.1]	0.3775	0.1645	2.2949	0.0217	0.0551	0.6998
SUSKIL[T.1]	0.9982	0.2010	4.9649	0.0000	0.6041	1.3922
FUTSUP[T.1]	0.7390	0.1674	4.4137	0.0000	0.4108	1.0671
GEMHHINC	0.2673	0.1036	2.5792	0.0099	0.0642	0.4705
gender	0.3112	0.1603	1.9414	0.0522	-0.0030	0.6254
age	-0.3185	0.0836	-3.8080	0.0001	-0.4824	-0.1546

The final 2024 model retained six predictors: **OPPORT**, **SUSKIL**, **FUTSUP**, **GEMHHINC**, **gender**, and **age**. Variables such as **FRFAIL**, **EASYST**, **NBGOOD**, and **GEMEDUC** were excluded due to lack of significance, mirroring the pattern observed in the 2019 data. The revised model yielded a **pseudo R-squared of 0.118**, which, while slightly lower than in 2019 (0.136), still falls within the acceptable explanatory range for behavioral logistic models.

Despite modest model-level explanatory power, the individual coefficients reveal distinct and statistically meaningful effects that help explain the micro-level mechanisms behind entrepreneurial participation in Armenia's evolving economic landscape.

Perceived Opportunity (OPPORT) – Coefficient: $\beta \approx 0.38$, $p \approx 0.022$. Odds ratio: OR ≈ 1.46. In 2024, individuals who perceived good opportunities to start a business had approximately 1.46 times higher odds of engaging in early-stage entrepreneurship. While the strength of this effect decreased compared to 2019 (OR = 2.09), it remains statistically significant, reaffirming that opportunity perception is a core cognitive enabler of entrepreneurship. The reduced magnitude may reflect wider

macroeconomic volatility or saturation in traditional market niches, reducing the marginal impact of perceived opportunity.

Self-perceived Skills (SUSKIL) – Coefficient: β ≈ 1.00, $p < 0.0001$. Odds ratio: OR ≈ 2.71. Those confident in their entrepreneurial skills in 2024 continued to exhibit **2.7 times higher odds** of TEA engagement. This variable remains one of the strongest and most consistent predictors across both years, reinforcing the critical role of entrepreneurial self-efficacy. In a rapidly digitalizing economy, self-confidence in one's capabilities may be even more vital as business models become more complex and technology-driven.

Future Entrepreneurial Intention (FUTSUP) – Coefficient: β ≈ 0.74, $p < 0.0001$. Odds ratio: OR ≈ 2.10. Entrepreneurial intention in 2024 was associated with **2.1 times higher odds** of early-stage business engagement, confirming intention as a reliable behavioral predictor. The effect, while slightly smaller than in 2019 (OR = 2.80), remains robust and statistically significant. This suggests that programs aimed at activating intent—especially among young adults and students—may still yield high returns in early-stage business formation.

Household Income (GEMHHINC) – Coefficient: β ≈ 0.27, $p \approx 0.010$. Odds ratio: OR ≈ 1.31. Unlike in 2019 where income was only marginally significant, the 2024 model finds **a stronger and statistically significant positive effect**. Individuals from higher-income households had **31% higher odds** of TEA engagement. This shift may reflect rising startup costs or increased polarization between necessity and opportunity entrepreneurship, with higher-income individuals better positioned to exploit innovation or digitization trends.

Gender – Coefficient: β ≈ 0.31, $p \approx 0.052$. Odds ratio: OR ≈ 1.36. Men continued to exhibit **approximately 36% higher odds** of participating in early-stage entrepreneurship, consistent with the 2019 estimate (OR = 1.38). The persistence of this gender gap over time underscores deep-rooted structural and cultural constraints limiting female entrepreneurship in Armenia. This highlights the ongoing need for inclusive entrepreneurship policy that directly addresses the unique challenges faced by women in business.

Age (Standardized) – Coefficient: β ≈ –0.32, $p < 0.001$. Odds ratio: OR ≈ 0.73. Age exerted an even stronger negative effect in 2024 compared to 2019. Each standard deviation increase in age was associated with a **27% reduction in the odds** of TEA participation. This growing age divide may be explained by generational differences in digital fluency, access to new platforms, or openness to risk, as well as the emergence of youth-targeted entrepreneurship ecosystems.

The 2024 regression model confirms the enduring relevance of opportunity recognition, skill confidence, and future intention as core predictors of early-stage entrepreneurship. However, several important shifts are observed. The marginal significance of fear of failure in 2019 disappears in 2024, potentially indicating either normalization of entrepreneurial risk or saturation of necessity-driven entrepreneurship. In contrast, household income plays a stronger role, pointing to a possible shift in Armenia's entrepreneurial landscape toward more resource-dependent or innovation-oriented activity.

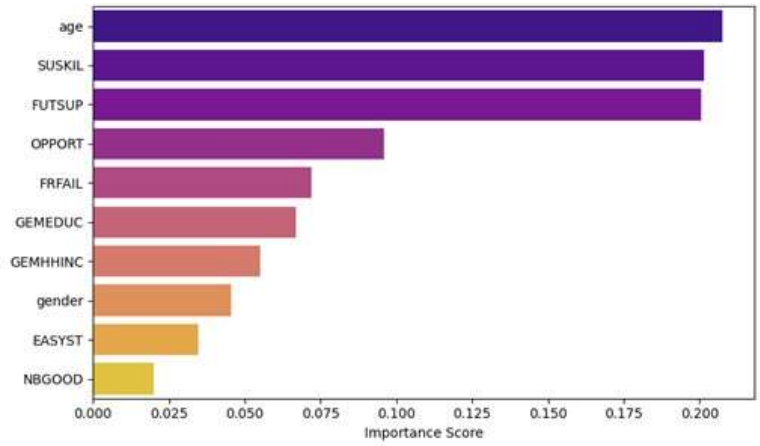
These findings suggest that while entrepreneurial mindsets remain the key to TEA engagement, resource access and demographic gaps (age, gender) are becoming more prominent in shaping who participates—and who is left out—of Armenia's evolving entrepreneurial economy.

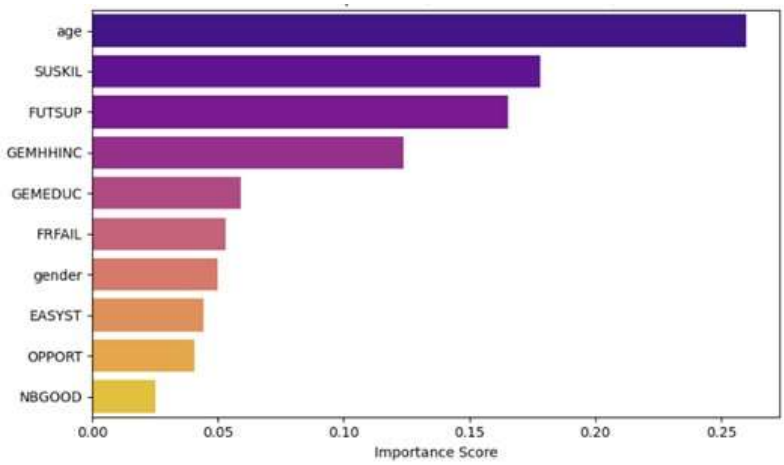
To complement the logistic regression results and explore possible non-linear effects and interaction structures, a **Random Forest classifier** was applied to the 2019 and 2024 datasets. As a non-parametric ensemble learning algorithm, Random Forest is particularly suited for analyzing complex datasets where relationships between variables may not be strictly linear or additive. While logistic regression provides clear inferential outputs, Random Forest offers an intuitive measure of **feature importance**, indicating how much each variable contributes to predictive performance across the ensemble.

The Random Forest results are broadly aligned with the logistic regression findings, offering supportive evidence for the role of individual-level perceptions and motivations in predicting early-stage entrepreneurial activity. In both 2019 and 2024, **self-perceived skills (SUSKIL)** and **future entrepreneurial intention (FUTSUP)** emerged as among the most important predictors within the set of variables considered. These findings highlight the enduring relevance of entrepreneurial mindset and confidence in shaping participation in TEA.

In the 2024 model, age was ranked as the most influential variable, indicating a possible shift in demographic dynamics and suggesting that entrepreneurial engagement may have become more age-sensitive over time. The observed variation in feature rankings across the two years reflects the evolving nature of Armenia's entrepreneurial ecosystem. Some variables, including **perceived ease of starting a business (EASYST)** and **belief that entrepreneurship is a good career (NBGOOD)**, were consistently ranked low in both Random Forest and regression models, reinforcing their relatively limited predictive value in this context.

Relative Importance of Predictors in Random Forest Models for TEA, Armenia (2019 and 2024)





9.2. EBO Models Using Logistic Regression and Random Forest (2019 & 2024)

Building on the methodological approach used to examine TEA in Annex 9.1, a parallel set of models was developed to investigate the determinants of EBO in Armenia. This stage of the analysis focused on identifying the factors that influence the likelihood of individuals being engaged in long-term entrepreneurial activity.

To ensure consistency and comparability, the same modeling techniques were applied as in the TEA section, including logistic regression and Random Forest classification, with appropriate adjustments to reflect the structural characteristics and motivations of the EBO subsample.

The core objective was to estimate the probability of being an established business owner as a function of demographic, motivational, perceptual, and digital engagement variables:

- **Null Hypothesis (H_0):** None of the explanatory variables significantly affect the likelihood of EBO participation (i.e., all regression coefficients are equal to zero).
- **Alternative Hypothesis (H_1):** At least one predictor has a statistically significant effect on the probability of EBO participation (i.e., at least one coefficient is non-zero).

To improve the analytical precision two composite indices were constructed:

- **Perception Score** – a standardized index combining respondents' confidence in their entrepreneurial skills, their perception of available opportunities, and their fear of failure.
- **Digital Adoption Index** – an index summarizing the reported importance of digital tools such as AI, communication platforms, and online technologies in business decision-making.

Given the possibility that the effect of income on business continuity may not be strictly linear, we extended the model to a **polynomial logistic regression** by including both **GEMHHINC** and its squared term (**GEMHHINC^2**) as predictors.

To estimate the likelihood of established business ownership in Armenia using 2019 data, two logistic regression models were developed. The **first model** included the full set of theoretically and empirically relevant predictors: gender, household income, the squared term of household income, expected job creation in five years, three distinct motivational drivers (family tradition, necessity, and societal impact), self-perceived entrepreneurial skills, a composite perception score, and standardized age.

Following model estimation, several variables were found to be **statistically non-significant**, namely:

- **GEMHHINC**,
- **SUSKIL**, and
- **Age**.

To improve model interpretability without sacrificing explanatory power, a refined model was estimated. This second model retained only those variables that were statistically significant. The final regression equation was expressed as:

$$log\left(\frac{P(EBO=1)}{1-P(EBO=1)}\right) = \beta 0 + \beta 1 \cdot \text{GEMHHINC}^2 + \beta 2 \cdot \text{gender} + \beta 2 \cdot \text{perception\_score} + \beta 3 \cdot MOT1 + \beta 4 \cdot MOT2 + \beta 5 \cdot MOT3$$

Logistic Regression Models for EBO (2019), Armenia: Full vs. Final Specification Before and After Removing Non-Significant Predictors

Model:	Logit	Method:	MLE
Dependent Variable:	EBO	Pseudo R-squared:	0.145
Date:	2025-05-28 14:07	AIC:	1626.9957
No. Observations:	1936	BIC:	1688.2479
Df Model:	10	Log-Likelihood:	-802.50
Df Residuals:	1925	LL-Null:	-938.65
Converged:	1.0000	LLR p-value:	1.0888e-52
No. Iterations:	7.0000	Scale:	1.0000

	Coef.	Std.Err.	z	P>|z|	[0.025	0.975]
Intercept	-3.5008	1.1345	-3.0857	0.0020	-5.7244	-1.2772
gender	0.4973	0.1311	3.7928	0.0001	0.2403	0.7542
age	-0.1078	0.0652	-1.6530	0.0983	-0.2356	0.0200
GEMHHINC	0.1063	0.0734	1.4480	0.1476	-0.0376	0.2503
GEMEDUC	0.0394	0.0685	0.5752	0.5651	-0.0949	0.1737
EB_JOB5Y	0.3105	0.6190	0.5016	0.6159	-0.9027	1.5237
EB_19MOT1yes	2.8026	1.4138	1.9822	0.0475	0.0315	5.5736
EB_19MOT2yes	2.7328	0.6382	4.2823	0.0000	1.4821	3.9836
EB_19MOT3yes	4.2679	0.7595	5.6195	0.0000	2.7793	5.7564
EB_19MOT4yes	0.6093	1.0621	0.5737	0.5662	-1.4723	2.6909
perception_score	0.1375	0.0181	7.5756	0.0000	0.1019	0.1730

Model:	Logit	Method:	MLE
Dependent Variable:	EBO	Pseudo R-squared:	0.145
Date:	2025-05-28 14:07	AIC:	1621.2931
No. Observations:	1936	BIC:	1665.8402
Df Model:	7	Log-Likelihood:	-802.65
Df Residuals:	1928	LL-Null:	-938.65
Converged:	1.0000	LLR p-value:	5.6633e-55
No. Iterations:	7.0000	Scale:	1.0000

	Coef.	Std.Err.	z	P>|z|	[0.025	0.975]
Intercept	-2.8506	0.1599	-17.8291	0.0000	-3.1639	-2.5372
GEMHHINC	-0.4988	0.3427	-1.4555	0.1455	-1.1706	0.1729
GEMHHINC_sq	0.3182	0.1695	1.8773	0.0605	-0.0140	0.6504
gender	0.4987	0.1302	3.8314	0.0001	0.2436	0.7537
perception_score	0.1372	0.0180	7.6215	0.0000	0.1019	0.1725
EB_19MOT1yes	2.7791	1.1557	2.4047	0.0162	0.5139	5.0443
EB_19MOT2yes	2.6157	0.5485	4.7688	0.0000	1.5407	3.6908
EB_19MOT3yes	4.2735	0.7577	5.6403	0.0000	2.7885	5.7585

Gender – β ≈ 0.4987, p < 0.001, OR ≈ 1.65: Being male was associated with 65% higher odds of being an established business owner compared to being female. This finding is consistent with broader gender disparities in long-term entrepreneurship, possibly reflecting differential access to resources, mentorship, and networks. The result highlights the structural gap that persists even beyond the early stages of business activity.

Perception Score – β ≈ 0.1372, p < 0.001, OR ≈ 1.15: An increase in perception score—which combines perceived opportunity, self-confidence in entrepreneurial skills, and lack of fear of failure—was associated with a 15% increase in the odds of EBO. This confirms that individual-level perceptions remain highly influential not only for

initiating entrepreneurial activity but also for sustaining long-term business operations.

Motivational Drivers:

MOT1 - β ≈ 2.7791, p = 0.016, OR ≈ 16.1: Individuals who cited family tradition as a motivation were over 16 times more likely to be established business owners. This underlines the continuing role of intergenerational business continuity in Armenia's entrepreneurial landscape.

MOT2 – β ≈ 2.6157, p < 0.001, OR ≈ 13.7: Entrepreneurs driven by necessity had higher odds of owning an established business. This reinforces the idea that many long-term entrepreneurs may not have started by choice but have remained in business due to structural constraints in the labor market.

MOT3 – β ≈ 4.2735, p < 0.001, OR ≈ 71.77: Those motivated by the desire to make a societal or economic impact were more likely to be in the EBO category. This suggests that mission-driven entrepreneurs not only initiate businesses but are also more likely to sustain them over time.

GEMHHINC² – β ≈ 0.3182, p = 0.06: The squared term of household income was marginally significant at the 5% level, suggesting a non-linear relationship. This means that individuals at both the low and high ends of the income spectrum may be more likely to sustain long-term entrepreneurial activity than those in the middle tier. This could reflect two distinct entrepreneurial pathways: necessity-based entrepreneurship among lower-income groups and opportunity-based entrepreneurship among higher-income individuals.

GEMHHINC (Linear Term) – β ≈ -0.4988, p = 0.145: The linear effect of income was not statistically significant. However, since the squared term was retained and significant, this suggests that income does influence EBO, but in a non-linear fashion rather than linearly across the distribution.

To assess whether the patterns observed in 2019 persisted in a more digitally integrated and post-pandemic context, the same modeling approach was used for 2024. As in the 2019 analysis, two logistic regression models were developed: an initial full model including all relevant predictors, followed by a refined specification that retained only the statistically significant or theoretically important variables.

In addition to demographic, motivational, and perceptual indicators, the 2024 models introduced one new variable not included in the earlier specification: Digital Adoption Index. This composite measure captures respondents' self-reported valuation of technologies such as artificial intelligence, communication tools, and

online platforms in their business operations. Including this index allowed the analysis to account for the increasing importance of technological readiness in sustaining long-term entrepreneurship.

After excluding non-significant predictors from the full specification, the final 2024 logistic regression model retained the following variables: gender, household income, expected job creation in five years, motivational drivers (family tradition, necessity, societal impact), perception score, and the newly introduced digital adoption index.

The final model was specified as:

$$log\left(\frac{P(\text{EBO}=1)}{1-P(\text{EBO}=1)}\right) = \beta 0 + \beta 1 \cdot \text{gender} + \beta 2 \cdot \text{GEMHHINC} + \beta 3 \cdot \text{EB\_JOB5Y} + \beta 4 \cdot \text{MOT1} + \beta 5 \cdot \text{MOT2} + \beta 6 \cdot \text{MOT3} + \beta 7 \cdot \text{perception\_score} + \beta 8\, \text{digital\_adoption\_index}$$

Logistic Regression Models for EBO (2024), Armenia: Full vs. Final Specification Before and After Removing Non-Significant Predictors

Model:	Logit	Method:	MLE
Dependent Variable:	EBO	Pseudo R-squared:	0.284
Date:	2025-05-28 14:05	AIC:	1334.4033
No. Observations:	1914	BIC:	1401.0867
Df Model:	11	Log-Likelihood:	-655.20
Df Residuals:	1902	LL-Null:	-914.98
Converged:	0.0000	LLR p-value:	2.1598e-104
No. Iterations:	35.0000	Scale:	1.0000

	Coef.	Std.Err.	z	P>|z|	[0.025	0.975]
Intercept	14.8449	1763.3751	0.0084	0.9933	-3441.3069	3470.9967
gender	0.4505	0.1480	3.0427	0.0023	0.1603	0.7406
age	-0.1053	0.0729	-1.4435	0.1489	-0.2483	0.0377
GEMHHINC	0.3768	0.0945	3.9868	0.0001	0.1915	0.5620
GEMEDUC	-0.0932	0.0793	-1.1748	0.2401	-0.2486	0.0623
EB_JOB5Y	-1.1687	0.3544	-3.2977	0.0010	-1.8634	-0.4741
EB_24MOT1yes	3.3870	1.3542	2.5012	0.0124	0.7329	6.0411
EB_24MOT2yes	5.7126	2.1335	2.6776	0.0074	1.5311	9.8942
EB_24MOT3yes	4.4032	1.0791	4.0805	0.0000	2.2882	6.5182
EB_24MOT4yes	-18.4593	1763.3751	-0.0105	0.9916	-3474.6111	3437.6924
perception_score	0.1583	0.0184	8.6215	0.0000	0.1223	0.1943
digital_adoption_index	0.2927	0.1080	2.7110	0.0067	0.0811	0.5043

Model:	Logit	Method:	MLE
Dependent Variable:	EBO	Pseudo R-squared:	0.270
Date:	2025-05-28 14:06	AIC:	1354.7521
No. Observations:	1914	BIC:	1404.7646
Df Model:	8	Log-Likelihood:	-668.38
Df Residuals:	1905	LL-Null:	-914.98
Converged:	1.0000	LLR p-value:	2.0170e-101
No. Iterations:	10.0000	Scale:	1.0000

	Coef.	Std.Err.	z	P>|z|	[0.025	0.975]
Intercept	-3.7747	0.2050	-18.4136	0.0000	-4.1765	-3.3730
gender	0.5038	0.1438	3.5038	0.0005	0.2220	0.7857
GEMHHINC	0.3745	0.0895	4.1856	0.0000	0.1991	0.5499
EB_JOB5Y	-1.3495	0.3526	-3.8267	0.0001	-2.0406	-0.6583
EB_24MOT1yes	3.9050	1.3198	2.9588	0.0031	1.3183	6.4918
EB_24MOT2yes	5.4338	2.0099	2.7036	0.0069	1.4946	9.3731
EB_24MOT3yes	4.2935	1.0915	3.9334	0.0001	2.1541	6.4329
perception_score	0.1543	0.0181	8.5485	0.0000	0.1190	0.1897
digital_adoption_index	0.4444	0.1323	3.3587	0.0008	0.1851	0.7038

Below, we summarize the key findings from the 2024 logistic regression model:

Gender (Male) – β = 0.5038, p < 0.001, OR ≈ 1.65: Men were 65% more likely to be established business owners than women. This result is consistent with 2019, reaffirming persistent gender disparities in long-term entrepreneurship.

Household Income (GEMHHINC) – β = 0.3745, p < 0.001, OR ≈ 1.45: Income showed a positive and significant association with EBO likelihood. Each increase in income level was linked to a 45% higher probability of sustaining a business, highlighting the role of economic capacity in long-term entrepreneurial survival.

Expected Job Creation (EB_JOB5Y) – β = –1.3495, p < 0.001, OR ≈ 0.26: A negative and significant coefficient suggests that individuals projecting high employment growth were less likely to be already operating mature businesses. This may reflect that high-growth firms are still in early stages, while most established businesses operate on smaller, stable scales.

MOT1 – Family Tradition – β = 3.9050, p = 0.0031, OR ≈ 49.6: Those citing family tradition as a primary motivation were more likely to be in the EBO group, underscoring the ongoing importance of inherited entrepreneurial paths.

MOT2 – Necessity (Job Scarcity) – β = 5.4338, p = 0.0060, OR ≈ 229.3: Respondents who pursued entrepreneurship due to job scarcity were more likely to be established business owners. This effect reaffirms the central role of structural economic constraint in entrepreneurial persistence.

MOT3 – Societal Impact – β = 4.2935, p < 0.001, OR ≈ 73.0: Entrepreneurs driven by impact motives were more likely to be established owners, highlighting the strength of mission-driven business longevity in Armenia.

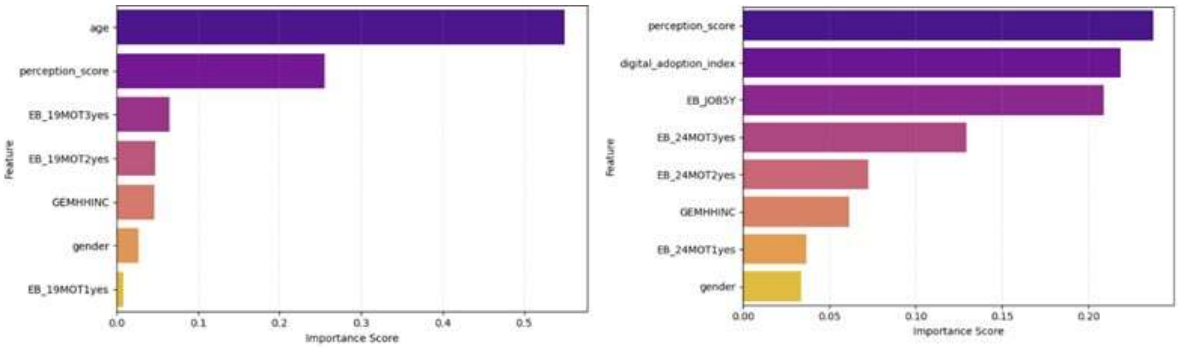
Perception Score – β = 0.1543, p < 0.001, OR ≈ 1.17: A unit increase in the composite perception score led to a **17% increase** in the odds of being an EBO. This aligns with 2019 results, reinforcing that self-efficacy, opportunity recognition, and confidence play a long-term role in entrepreneurial success.

Digital Adoption Index – β = 0.4444, p < 0.001, OR ≈ 1.56: Entrepreneurs who reported higher importance of digital technologies were 56% more likely to be established business owners. This result, newly introduced in 2024, emphasizes the relevance of digital readiness for business continuity in an increasingly technology-driven economy.

To complement the logistic regression findings and explore potential non-linear relationships, **Random Forest models** were applied to the 2019 and 2024 datasets. In 2019, age and perception score emerged as the most influential predictors of EBO, while motivational and structural variables showed relatively lower importance. In contrast, the 2024 model highlighted perception score, digital adoption, and growth orientation (EB_JOB5Y) as the top predictors, followed by impact-driven motivation. These results confirm the centrality of entrepreneurial

mindset and technology readiness in sustaining long-term business activity, particularly in the post-pandemic period.

Figure X. Relative Importance of Predictors in Random Forest Models for EBO, Armenia (2019 and 2024)



9.3. Clustering Methodology and Results (TEA and EBO, 2024)

To gain deeper insights into cross-country patterns of entrepreneurial activity, an unsupervised clustering approach was applied to national-level indicators from the GEM 2024 dataset. Separate clustering procedures were performed for TEA and EBO, each designed to uncover latent country groupings that share similar entrepreneurial characteristics. The clustering process began with the selection of relevant indicators.

For TEA-based clustering, we used a total of 69 variables that captured a broad range of perceptual, motivational, demographic, innovation-related, and digital openness dimensions. Key variables included perceived entrepreneurial opportunity, self-confidence in entrepreneurial skills, fear of failure, future entrepreneurial expectations, and several indicators related to technology use, such as the importance of AI, online platform usage, and digital communication tools. The dataset also incorporated contextual and compositional indicators like gender distribution, sectoral concentration, education and income levels, and government support perceptions.

For EBO-based clustering, the analysis incorporated a total of 41 variables, specifically tailored to reflect the structural and behavioral dynamics of established business ownership. These included the EBO rate, gender-specific and sectoral distributions, as well as motivational drivers (such as family tradition, necessity, and impact orientation). In addition, the clustering accounted for digital adoption practices in established businesses and the presence of product or service

innovation. Country-level income, education, and poverty indicators were also included to control for broader economic context.

All variables were standardized using the Z-score transformation (mean-centered and scaled to unit variance) to ensure comparability across countries. Missing values were imputed using mean substitution. To reduce dimensionality and facilitate visualization, Principal Component Analysis (PCA) was applied prior to clustering. Although PCA was not involved in the clustering computation itself, it was used to project the data into a two-dimensional space to support visual interpretation of the clusters.

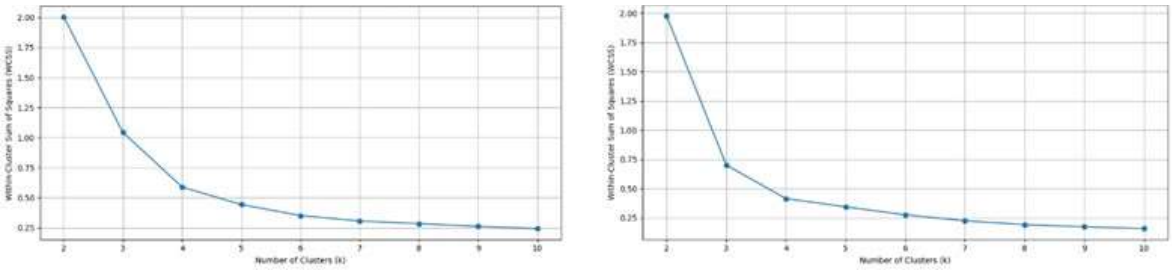
K-means clustering was employed as the primary algorithm due to its interpretability and computational efficiency. Given a predetermined number of clusters, K-means partitions the data by minimizing the Within-Cluster Sum of Squares (WCSS), defined mathematically as:

$$WCSS = \sum_{k=1}^{K} \sum_{x_i \in C_k} \|x_i - \mu_k\|^2$$

where x_i denotes an observation, μ_k represents the centroid of cluster C_k, and the summation is taken over all data points and clusters.

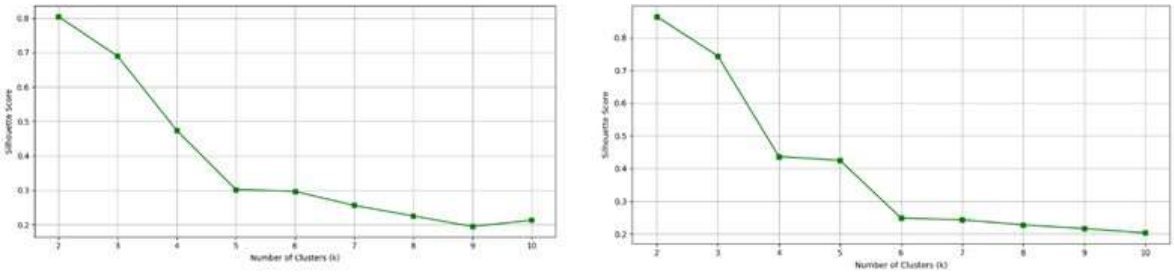
The optimal number of clusters was selected based on the Elbow method and Silhouette analysis. The Elbow method involved plotting WCSS across values of K ranging from 2 to 10 and identifying the point where marginal gains in fit began to diminish. For both TEA and EBO clusterings, K=3 was chosen as the optimal number of clusters, as the WCSS curve showed a visible flattening beyond this point.

Elbow Method for Determining Optimal Number of Clusters Based on WCSS: TEA and EBO, Armenia (2024)



To confirm the coherence of the clusters, average silhouette coefficients were computed. These coefficients quantify how well each observation fits within its assigned cluster relative to neighboring clusters. For both TEA and EBO clustering, the silhouette score for K=3 was approximately 0.70, indicating good separation.

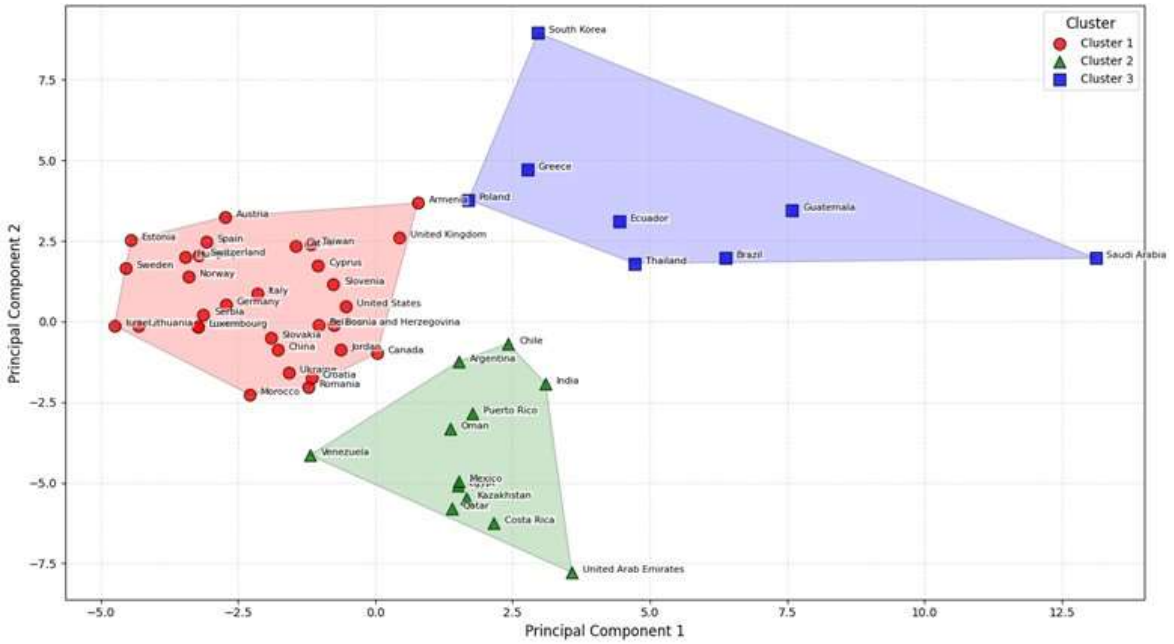
Silhouette Method for Evaluating Cluster Cohesion and Separation: TEA and EBO, Armenia (2024)



The results of the TEA clustering analysis are visualized in Figure 65 (see chapter 9, Section 9.2.). Armenia was grouped with countries such as India, Kazakhstan, and Costa Rica, forming a cluster characterized by high levels of perceived opportunity, strong entrepreneurial self-confidence, and early adoption of digital tools. These countries exhibit highly motivated early-stage entrepreneurs but often face challenges in institutional depth and scale-up infrastructure. In contrast, some countries formed a distinct cluster reflecting high visibility but more structurally constrained ecosystems, while many Western European countries clustered together as low-TEA, risk-averse environments.

A similar clustering procedure was carried out for EBO indicators, the results of which are shown in Figure below.

Cross-Country Clusters Based on Entrepreneurial Indicators: EBO, 2024



Armenia was grouped in a cluster of economies where established business ownership tends to emphasize long-term continuity, structural resilience, and conservative growth patterns. Although many of these countries are globally innovative at the national level, their inclusion in this group reflects the behavioral traits of their established businesses, which often prioritize stability over rapid transformation. These environments demonstrate strong business survival beyond 42 months, yet typically show slower adoption of digital technologies and limited scalability among existing firms. Armenia's presence in this cluster suggests that while entrepreneurial resilience is evident, challenges remain in formalizing operations, embracing innovation, and integrating advanced tools such as AI, cloud computing, and analytics. Unlike some peers in the cluster who benefit from well-developed innovation ecosystems, Armenia lacks the institutional and infrastructural capacity to translate continuity into competitiveness. To move toward a more dynamic entrepreneurial environment, policy support should target the digital transformation of established firms and the formalization of informal business practices.

It is important to note that PCA was applied solely for visualization purposes and did not influence cluster assignment. Nonetheless, the clustering framework provides a useful comparative lens through which Armenia's entrepreneurial profile can be evaluated in the context of international patterns.