

# IDE

Index of Dynamic  
Entrepreneurship

Entrepreneurship as an engine  
of sustainable development

2022

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## About the institutions



Prodem is a think tank and a do-tank on innovation and entrepreneurship ecosystems in Latin America. With 20 years of experience, Prodem stands out for generating and transferring world-class knowledge in coordination with the actual practice of real-life actors. Prodem conducts research, studies and measurements to get an insight into the status of ecosystems, providing technical assistance and training on entrepreneurship and innovation, both for scholars and professionals. Prodem gives priority to the development of networks and alliances, and works to support governments, international organizations and other institutions of the ecosystem in confronting challenges related to the design and assessment of dynamic entrepreneurship and innovation policies. For its role, Prodem received the 2016 Startup Nations Award for Groundbreaking Policy Thinking granted by the Global Entrepreneurship Network.

For more information about Prodem, please visit:  
**[www.prodem.ungs.edu.ar](http://www.prodem.ungs.edu.ar)**



The Global Entrepreneurship Network operates a platform of projects and programs in 180+ countries aimed at making it easier for anyone, anywhere to start and scale a business.

By fostering deeper cross-border collaboration and initiatives between entrepreneurs, investors, researchers, policymakers and entrepreneurial support organizations, GEN works to fuel healthier start and scale ecosystems that create more jobs, educate individuals, accelerate innovation and strengthen economic growth.

GEN's comprehensive global footprint of national operations and global verticals in policy, research and programs ensures members have uncommon access to the most relevant knowledge, networks, communities and programs relative to size of economy, maturity of ecosystem, language, culture, geography and more.

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## About the authors



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## Foreword

Hugo Kantis  
Director of Prodem

It gives us immense pleasure to share this 2022 edition of the IDE report, which coincides with Prodem's 20th anniversary. Prodem was born with the purpose of contributing to social and economic development by generating useful knowledge and research for those involved in entrepreneurship support and policies. Today, our initial mission is more relevant than ever, and it drives a great number of initiatives and knowledge products, one of which is the Index of Dynamic Entrepreneurship (IDE).

This year, the report highlights the findings on the role of entrepreneurship as an engine for sustainable development. Throughout the report, we illustrate with data and case studies how powerful entrepreneurship can be for achieving social, economic, and environmental development. The analysis also reveals how the systemic conditions for entrepreneurship shape and are shaped by the level of development, creating a virtuous circle between entrepreneurship, systemic conditions, and sustainable development.

As every year, this new edition of the IDE report contains the global ranking, as well as data and analyses for over 40 countries. The Index sheds light on the current imbalances and gaps between regions and countries concerning their conditions that affect the emergence and development of dynamic and sustainable new ventures.

Finally, as stated by the latest UN Report on SDGs, we believe that just as the impact of crises is compounded when they are linked, so are the solutions. Entrepreneurship is one of the key driving forces for change, but it needs the intervention of other forces such as governments, existing companies, universities, investors, and civil society as a whole to convert entrepreneurial energy into well-being.



## A message from GEN

**Matt Smith**  
Director for Policy + Research  
Global Entrepreneurship Network

The Global Entrepreneurship Network (GEN) is proud to partner with Prodem for the fifth time to launch the Index of Dynamic Entrepreneurship (IDE). This is a timely report delivering an important message that confirms what GEN and the wider entrepreneurial ecosystem have held true for many years; that entrepreneurship is a key driver of social, economic and environmental advancement.

The report also reinforces learnings from GEN's 2022 Global Entrepreneurship Congress. Following the height of the pandemic, demand is back, people are more entrepreneurial than ever before, and there is greater appreciation for entrepreneurs as problem solvers, innovators and job creators. As well, it illustrates that in terms of dynamic entrepreneurship, leading countries are those with high social capital that enable strong networks and cooperation. This reinforces the common entrepreneurial proverb: 'It takes a village to raise a child.' This finding is especially welcome as we celebrate the 15th anniversary of Global Entrepreneurship Week, a movement that has strengthened culture, social conditions, and social capital among tens of millions of people.

The report also holds good news on funding given the impressive growth of the venture capital supply in 2021. However, this boom in the venture capital industry is not uniform across the world, given that it is heavily concentrated in some well-developed ecosystems. It is important to bear in mind the significance of developing a full spectrum of startup and growth finance to help dynamic entrepreneurs start and scale their businesses.

Finally, the results of the IDE warn us about some unfavorable emerging trends that should be considered. Firstly, the report shows a decline in education in some countries. This deserves further analysis, as it risks holding back the development of existing entrepreneurs and reducing the pipeline of future entrepreneurs. Secondly, while many governments moved at speed to support businesses during the pandemic, the recovery and global headwinds have distracted many governments from further pro-entrepreneurship reforms, which risks holding back entrepreneurial growth. The importance of supportive policies cannot be understated in the development of inclusive, sustainable and dynamic ecosystems.

We hope the IDE serves as a strategic compass and evidence-based tool to stimulate dialogues and inform policies aimed at encouraging more people to start and scale businesses, a key step to unleashing the full transformative potential of entrepreneurs across the world.

# Executive Summary

This report comes at a key moment to provide evidence that can guide policy-making and development agendas across entrepreneurial ecosystems. In the aftermath of the Covid-19 pandemic, the world is navigating a context characterized by sharp contrasts. On the one hand, the acceleration of technological progress has favored the emergence of opportunities for start-ups and young companies, particularly in the digital and high-tech sectors. At the same time, there is a record number of young companies reaching unicorn status in 2021, i.e. reaching a valuation of at least \$1 billion. This phenomenon is in turn associated with record levels of venture capital investments.

However, we are also witnessing deeper disparities in levels of economic and social development, which widened the gap between advanced and developing countries. In fact, according to the latest United Nations report, progress made toward the achievement of the Sustainable Development Goals (SDGs) is seriously threatened.

In this context, the promotion of dynamic entrepreneurship finds an overriding purpose in the SDGs, given its potential to contribute to their achievement. But for this potential to unfold, a set of systemic conditions favorable to dynamic entrepreneurship must be in place.

As such, this 2022 edition of the IDE report includes a specific analysis of the relationship between the SDGs, systemic conditions, and dynamic entrepreneurship. We found a virtuous circle in this relationship, which confirms the relevance of entrepreneurship as an engine for economic, social, and environmental transformation. This virtuous circle also re-emphasizes the importance of developing systemic conditions for dynamic entrepreneurship, given that these conditions are associated with the Sustainable Development Goals.

The report also shares the results of the Index and the ranking of conditions for entrepreneurship at a global level, with the following highlights:

1. For the first time, the Netherlands surpassed the United States at the top of the ranking. Germany, Norway, and Sweden complete the list of the top five countries in the global ranking for dynamic entrepreneurship.
2. These countries stand out from the rest mainly through their strengths in conditions that facilitate the materialization of entrepreneurship projects into new companies, as well as their subsequent development. In this regard, the top countries in the ranking stand out in particular for having very favorable social capital for networking, above 80 points.
3. Most of the countries (two out of three) registered recovered demand conditions in the post-pandemic period. Nearly half of the countries analyzed also show progress in terms of entrepreneurial human capital and cultural conditions for entrepreneurship, associated with the greater appreciation of entrepreneurs as agents for progress and social, economic, and environmental transformation.

4. The financing dimension also shows a favorable evolution, driven largely by the 2021 investment boom, which doubled the amounts of 2020. However, this boom in the venture capital industry is not uniform across regions of the world, given that it is heavily concentrated in the United States (with half of the amounts invested and a third of the investments closed) and across six other ecosystems (China, India, Israel, the United Kingdom, Germany, and France).
5. The policies and regulations dimension is the only one that shows a clear decline vis-à-vis last year, as a consequence of their lower priority in government agendas compared to emergency-related policy areas to respond to the pandemic and global economic downturn.



# Presentation

A series of trends, which are not necessarily convergent, have emerged in recent years. On the one hand, technological change has accelerated at a dizzying pace, enabling new activities and new opportunities for dynamic startups<sup>1</sup>. On the other hand, the negative consequences of the Covid-19 pandemic have significantly widened inequality and gaps in the development levels.

More recently, the conflict in Eastern Europe has had a negative impact over the global economy due to increases in the prices of essential commodities such as food and energy and has so far caused the death of at least 5,000 civilians and some 6 million refugees<sup>2</sup>.

These new scenarios offer a mosaic of contradictory and challenging perspectives. The United Nations Report released at the onset of this year points out that the progress achieved in favor of the Sustainable Development Goals (SDGs) is seriously threatened and calls on governments to take urgent leadership measures to address the challenges described above. Towards that end, the SDGs and associated commitments provide a roadmap, such as caring for the planet and its natural resources, eliminating gender disparities, promoting decent work and economic growth, or developing an inclusive industrialization agenda and an STI platform at the service of the SDGs. The same report opens a glimmer of hope by stating that "just as the impact of crises is compounded when they are linked, so are solutions," emphasizing the systemic nature of the SDGs and their transformative potential<sup>3</sup>. Entrepreneurship thus has an overarching purpose when it comes to sustainable development.

**While the contribution of entrepreneurship to economic growth and development is a long-studied topic in the academic literature, it has gained renewed relevance with the SDGs.** Terms such as impact investment funds, sustainable entrepreneurship, triple impact business models, B Corporations, or, more recently, harmonious entrepreneurship are increasingly part of the terminology in entrepreneurial ecosystems around the world and are evidence of the growing importance attributed to social and environmental impact.

This does not imply trusting entrepreneurship as the only way to obtain sustainable development solutions. However, the magnitude of the challenges exceeds what governments or international cooperation agencies alone can do. Bottom-up and top-down efforts are necessary, with each community playing a vital role in generating conditions to achieve endogenous solutions<sup>4</sup>. Within this framework, entrepreneurship is a powerful vehicle for channeling communities' creativity in favor of the SDG agenda.

For this entrepreneurial potential to unfold, a set of systemic conditions that favor its creation and development must be in place. For this reason, the IDE 2022 report includes an analysis of SDGs and their relationship with systemic conditions for dynamic entrepreneurship.

As shown later in this report, systemic conditions are linked to the level of progress on the SDGs. The SDG agenda also offers challenges that could translate into business opportunities with high potential for global scalability. Advancing the SDG agenda contributes to improving the conditions for dynamic entrepreneurship, while higher rates of dynamic entrepreneurial activity contribute to fulfilling the SDGs. It is, therefore, possible to postulate that a virtuous circle exists between the SDGs, the conditions for entrepreneurship, and entrepreneurial activity.

This 2022 IDE report is structured as follows. First, the conceptual framework supporting the IDE is presented in a summarized way as a basis for the analysis, which is done in the second section (General Overview). The third section refers to the relationship between systemic conditions for dynamic entrepreneurship and SDGs with some final remarks as a final section. Like previous years individual country profiles are displayed at the end of the report.

## The Sustainable Development Goals

In September 2015, the United Nations General Assembly adopted the 2030 Agenda for Sustainable Development, a call to action to end poverty, protect the planet, ensure peace and improve the lives of people across the 193 signatory member states.

The 2030 Agenda is an improvement over the Millennium Development Goals (MDGs), a set of 8 overarching goals established by the UN General Assembly at the 2010 Millennium Summit. Unlike the MDGs, the 2030 Agenda is broader and encompasses a greater number of objectives related to industrialization, energy, climate change, life in the oceans, responsible production and consumption, sustainable cities, peace, and justice, among others. It also places greater emphasis on implementation aspects such as resource mobilization and the generation of institutional capacities, data, and institutions.

The 2030 Agenda sets forth 17 goals, broken down into 169 specific targets related to the three interconnected elements of sustainable development: economic growth, social inclusion, and environmental protection.



# Conceptual framework & methodology

## What is dynamic entrepreneurship?

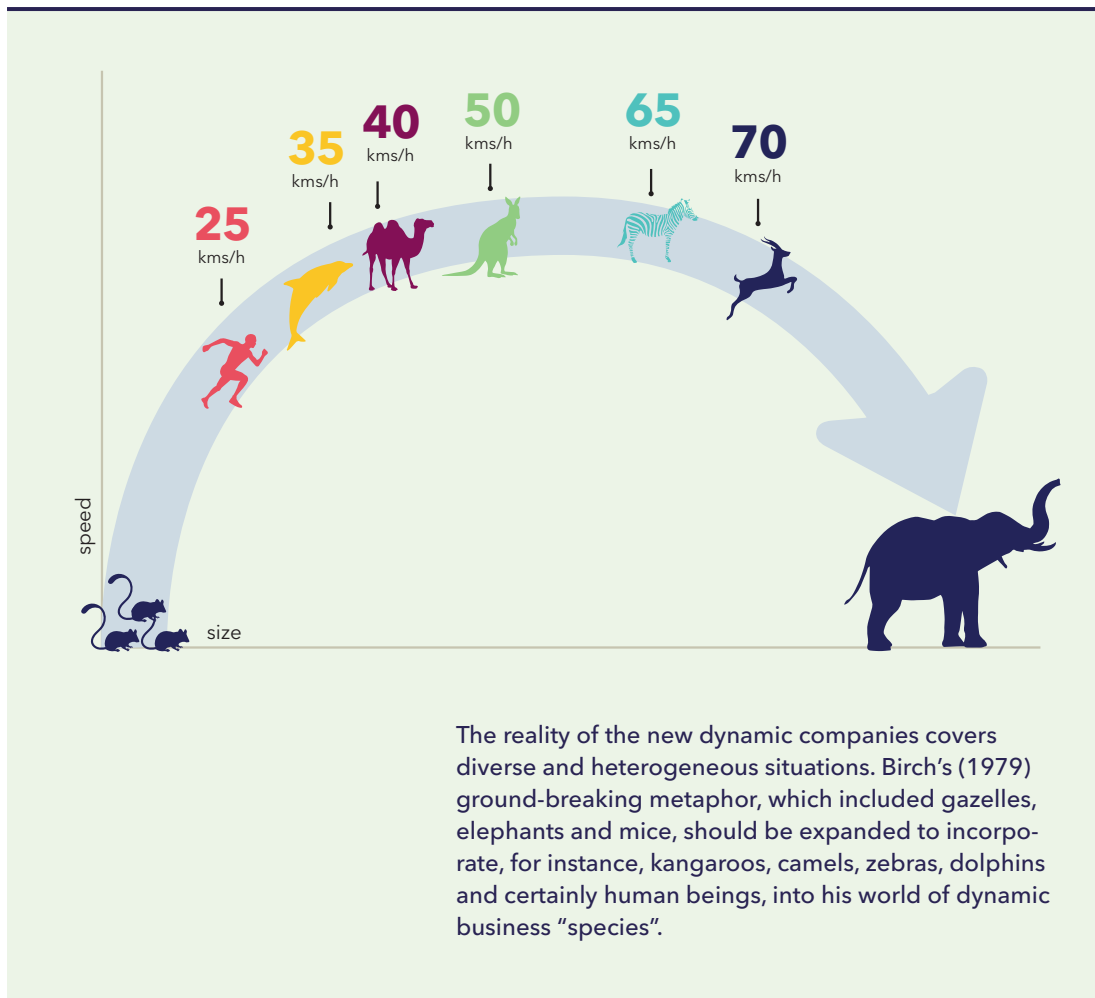
The concept of dynamic entrepreneurship encompasses entrepreneurial projects with growth potential and young firms that have overcome the early phase of higher mortality to become (at least) a competitive Small and Medium Enterprises (SMEs) with the potential and drive to continue growing.

Dynamic companies are usually founded by teams that have the enthusiasm, aspirations and competencies to grow, and which can leverage helpful networks as they pursue value propositions based on differentiation, innovation and/or business opportunities to capitalize on dynamic and scalable economic trends<sup>5</sup>.

This concept is akin to the idea of productive and transformational entrepreneurship and is certainly broader than other definitions in which firms are defined by their rate of growth<sup>6</sup>. As such, dynamic entrepreneurship refers to gazelles and high-impact firms<sup>7</sup> but also to companies that increase the pool of competitive SMEs even when they do not follow linear and continuous high-growth patterns.

The paths that dynamic companies travel are diverse and heterogeneous. Therefore, even Birch's (1979) ground-breaking metaphor, which included gazelles, elephants and mice, should be expanded to incorporate other animal species that do not reach the speed of gazelles but are valuable nonetheless, like kangaroos, dolphins and certainly human beings.

More recently, camels and zebras were included into this fauna. Camels were highlighted particularly during the pandemic due to their ability to deal with hostile environments and long-term focus, whereas Zebras were introduced due their "double nature": they are for profit and for a cause, a purpose. So, these zebra startups are the type of companies most likely to envisage the SDGs purposes.



The concept of dynamic entrepreneurship opens a broader spectrum of enterprise types to foster, instead of establishing rigid rules ex-ante. It also fits better with the reality in developing countries, where the gazelle phenomenon is quantitatively less marked. As well, it allows for the inclusion of other forms of dynamic entrepreneurial activities beyond new business creation, such as corporate ventures led by intra-entrepreneurs, increasingly in conjunction with startups, or driven by new generations in family businesses. In these cases, however, the conceptual framework must account for additional factors and more complex organizational phenomena than in the case of independent entrepreneurship.

When considering the contribution of entrepreneurial activity to achieving SDGs specifically, dynamic social enterprises or dynamic cooperatives often emerge as typical examples. We also find cases of institutional entrepreneurship as well as inclusive supply chains, where external dynamic entrepreneurs articulate with local producers and resources, usually arranging fair price mechanisms, that help improve their income and market insertion. In essence, the concept of dynamic entrepreneurial activity captures these examples and allows for different initiatives (institutional or business, individual or collective) to identify, stimulate, channel, enhance and transform local productive capacities and resources into innovative projects that contribute to economic and social development.

## A systemic approach to understand the emergence of dynamic entrepreneurship

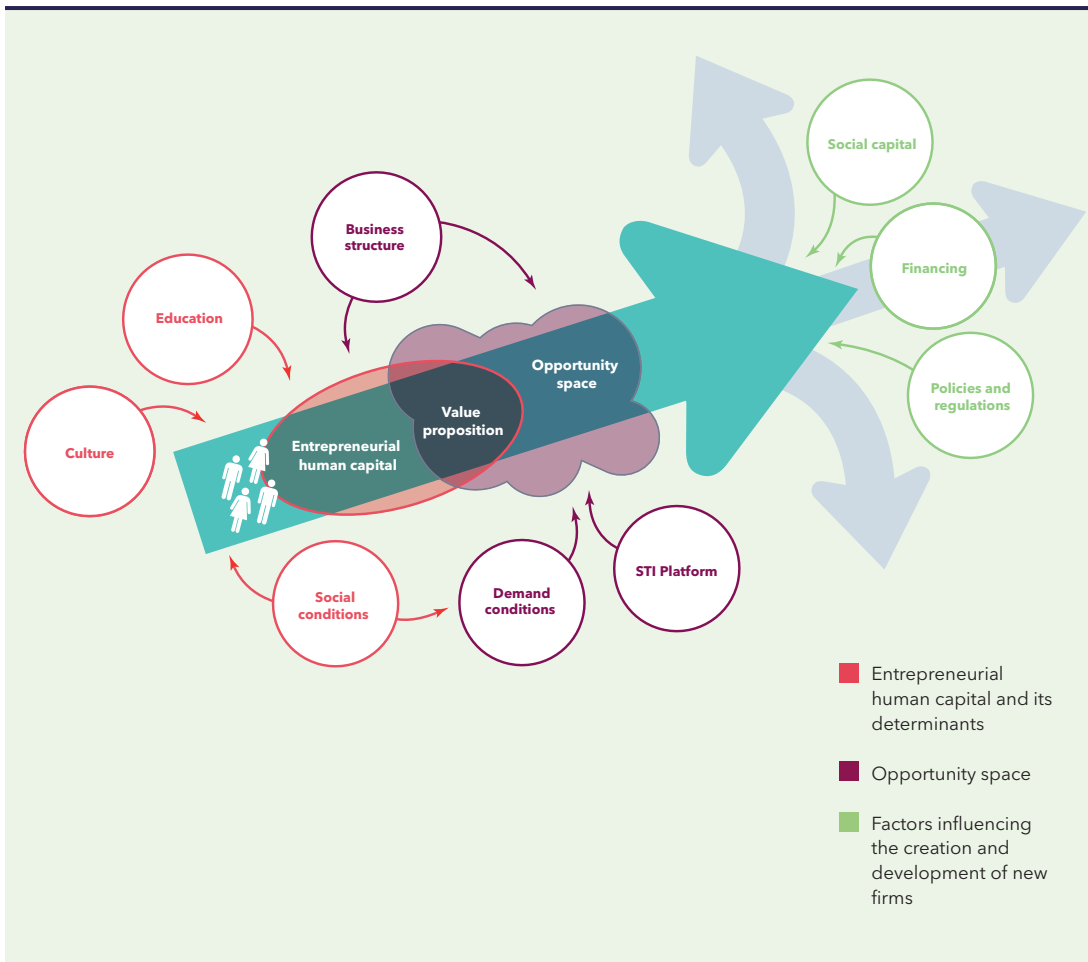
Dynamic entrepreneurship is the result of a process that, throughout its different stages and milestones, is affected by diverse social, cultural, political and economic factors. Therefore, we have adopted a systemic and eclectic approach supported by the international literature<sup>8</sup>.

The IDE is built around 10 key dimensions that have an impact on the quantity and quality of emerging companies. The first one –and main one– is the existence of **entrepreneurial human capital**, the actual entrepreneurs capable of conceiving powerful value propositions. The emergence of entrepreneurs is influenced by the values and beliefs that make up the **culture**, the **social conditions** of the families in which people are born and raised, and the way in which the **educational system** contributes to the development of entrepreneurial competences. Later in life, the companies where people work will complete (or not) the trajectory of development of said entrepreneurial human capital.

In particular, the emergence of entrepreneurial activities within consolidated companies is influenced by the **organizational culture**. For example, in family-owned SMEs, there are contrasts across companies with very different levels of proactivity and orientation toward new business creation and innovation (exploration versus exploitation). These variations often reflect differences in company leaders' entrepreneurial vitality (e.g., driven by generational changes that inject new dynamism and/or the entrepreneurial spirit of the founders), as well as in the behavioral logic of other firms in the sector and the local environment in which they operate. The same is true for large companies, where dominant values vary, such as the degree of tolerance for errors and uncertainty and their approach to human resource management (incentives), all of which have direct implications for innovative and entrepreneurial activity within the company.

The systemic approach also considers, as a second conceptual axis, those factors that influence the availability of business opportunities. This axis includes **demand conditions** associated with the economy's size and dynamism, as well as the profile of the companies that make up the **business structure**. Existing companies' demands for solutions generate business opportunities of high dynamic potential, which new and young companies seize. The tendency of large companies to collaborate with startups to boost innovation reflects this reality.

Another factor that shapes opportunities for creating new dynamic ventures is the **science, technology, and innovation (STI) platform**. The higher the rate of knowledge creation and transfer, the greater the potential for generating opportunities for new entrepreneurial initiatives with dynamic potential. This results in various forms of entrepreneurial activity, from science and technology-based spin-offs to corporate ventures within the framework of open innovation processes, to more traditional linkage mechanisms. For this reason, the intensity of innovation efforts, the quality of science and technology institutions, and their capacity to engage with entrepreneurs and industry are very relevant factors.



The last conceptual axis of this systemic vision is related to those factors that influence the materialization of business projects. In this regard, access to an appropriate supply of **financing** for entrepreneurs is of utmost importance. Another major factor is the existence of **social capital**. For example, an environment of trust that enables entrepreneurs to build bridges and network with key actors, such as other entrepreneurs and institutions, and access resources that contribute to the creation and development of start-ups.

Finally, this process is affected by **policies and regulations**. Governments establish rules (e.g., licenses and permits, taxes, foreign trade restrictions), which may be more or less friendly to entrepreneurs, as well as policies that, through action or omission, have an impact on them and their companies. Entrepreneurship policy in particular aims at the creation of more favorable conditions for dynamic entrepreneurs to emerge and the promotion of more and better new companies that manage to take off and attain substantial growth.

This systemic approach includes a set of structural variables and dimensions such as social conditions, business structure, social capital, or STI platform that are particularly important for developing regions like Latin America and are strongly related with the SDGs. In fact, as it will be illustrated in this report, there is a positive association between this systemic approach, IDE dimensions and the SDGs.

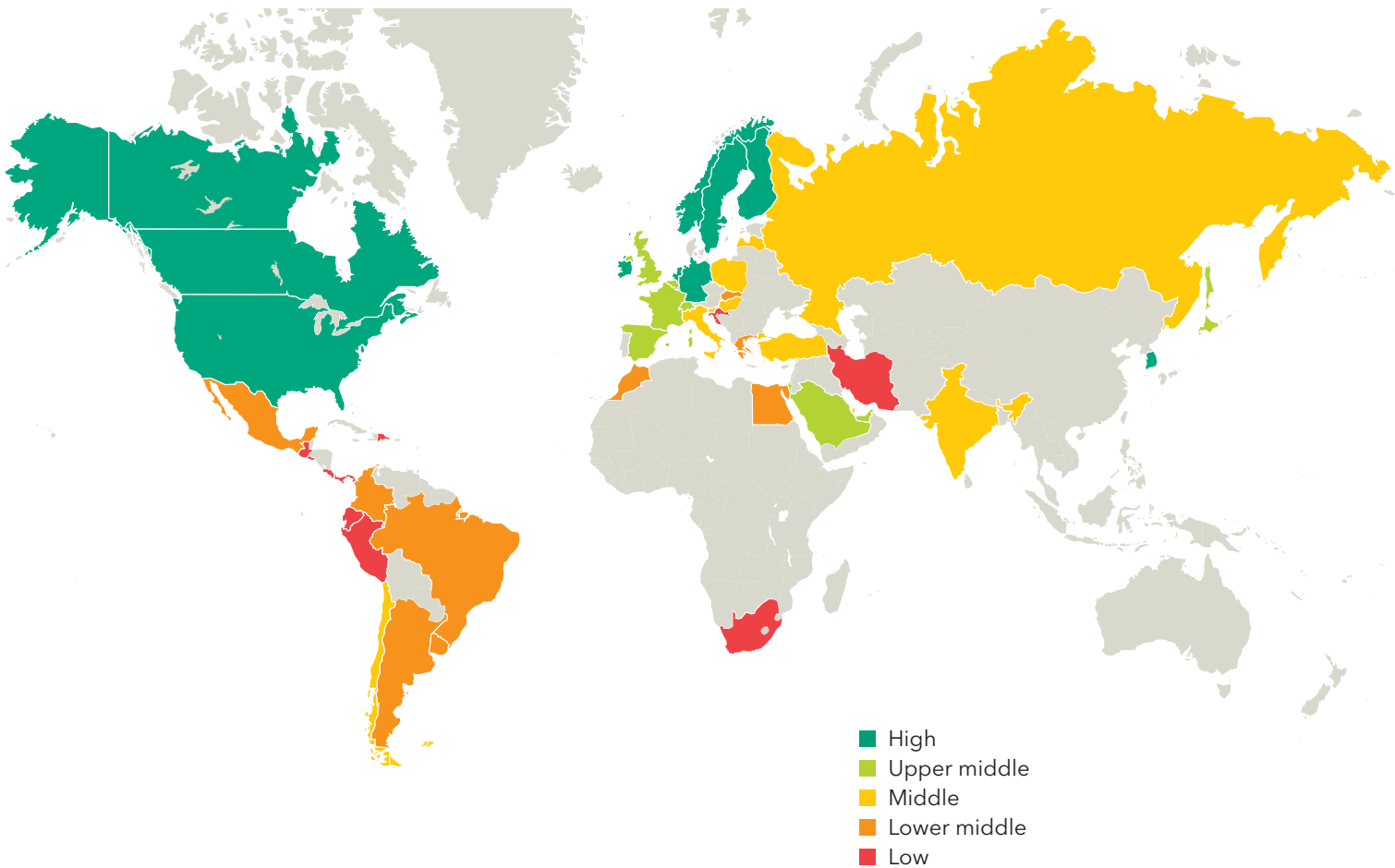
# Methodology

The recommendations from the Organization for Economic Cooperation and Development (OECD) for constructing indexes were followed when developing the Index of Dynamic Entrepreneurship (IDE). The 10 dimensions that form the IDE are based on the normalization of more than 40 variables obtained from different secondary information databases recognized at the international level (e.g., World Bank Group data, the Global Competitive Index, the Global Entrepreneurship Monitor, the World Value Survey, UNESCO data).

As recommended in specialized literature, the final value of the Index is calculated using the geometric mean. This method is consistent with the systemic approach since the weaker dimensions have a greater impact on the final IDE value than the stronger ones. As such, the weaker dimensions may be considered as restrictions to the startup process. Further details on the variables analyzed, the sources of data and the IDE construction process can be found at <https://prodem.ungs.edu.ar/>

# Global overview

A first look at the global map of systemic conditions for dynamic entrepreneurship shows the predominance of the most developed countries, including European countries, Nordic countries, and the United States, with average values above 50 points. At the other extreme are Latin American and African countries, for which scores do not exceed 30 points on average.







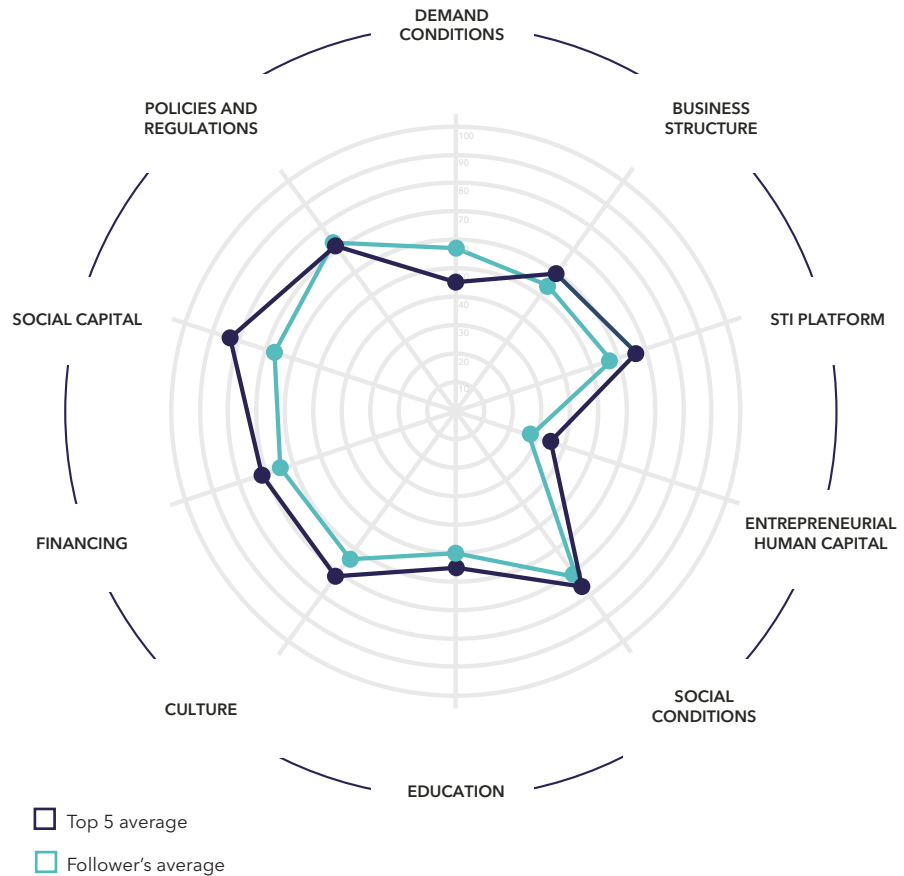
1.	Netherlands	65,1	24.	Russia	39,6
2.	United States	63,9	25.	Qatar	38,4
3.	Germany	61,3	26.	Italy	35,8
4.	Norway	60,9	27.	Chile	35,5
5.	Sweden	60,3	28.	India	35,3
6.	Finland	57,0	29.	Brazil	34,8
7.	Ireland	56,0	30.	Argentina	33,6
8.	Rep. of Korea	55,6	31.	Egypt	32,5
9.	Canada	55,2	32.	Mexico	31,2
10.	United Kingdom	54,9	33.	Morocco	31,0
11.	Israel	53,9	34.	Uruguay	30,5
12.	Switzerland	53,8	35.	Slovakia	28,6
13.	France	52,5	36.	Greece	28,1
14.	Luxembourg	51,2	37.	Colombia	28,0
15.	Japan	50,3	38.	Croatia	25,7
16.	United Arab Emirates	49,1	39.	Panama	24,2
17.	Saudi Arabia	45,7	40.	Peru	24,0
18.	Spain	42,3	41.	Costa Rica	22,0
19.	Slovenia	41,5	42.	Ecuador	21,6
20.	Poland	41,1	43.	South Africa	20,3
21.	Hungary	41,0	44.	Iran	19,6
22.	Latvia	40,1	45.	Dominican Republic	16,6
23.	Turkey	40,1	46.	Guatemala	11,1

In general, **the leading countries (top 5) distinguish themselves from the rest with strengths in the aspects most closely linked to the materialization of business projects, and the subsequent scale-up of these companies.** On the one hand, they have a good platform for social capital - above 80 points - which facilitates cooperation and the development of networks, an essential ingredient of any entrepreneurial process. They also have funding sources developed specifically for entrepreneurs (71 points) and governments relatively active in policymaking (71 points) within a regulatory environment that favors the emergence and development of new companies.

These advantages do not occur in a vacuum. They are based, most importantly, on social and cultural conditions favorable to entrepreneurship (76 and 71 points, respectively) and, secondly, on STI platforms (67 points) and business structures (60 points) with greater potential to contribute to innovation and therefore to address some of the challenges set out in the SDGs.

# What do the followers lack to become leaders?

A closer look into followers countries ranked 6th to 10th reveals that some, such as Korea and Finland, have just as favorable policies and regulations as those in the top 5 (or even better ones in the Korean case). This raises the question: What is holding these countries back in the ranking? The answer lies partly in their social capital conditions. The leaders (particularly the Netherlands and the Nordic countries) show a significant advantage over the followers in this regard. In addition, leaders have advanced in developing specific sources of financing for entrepreneurs, compared to slower development on this front in follower countries.

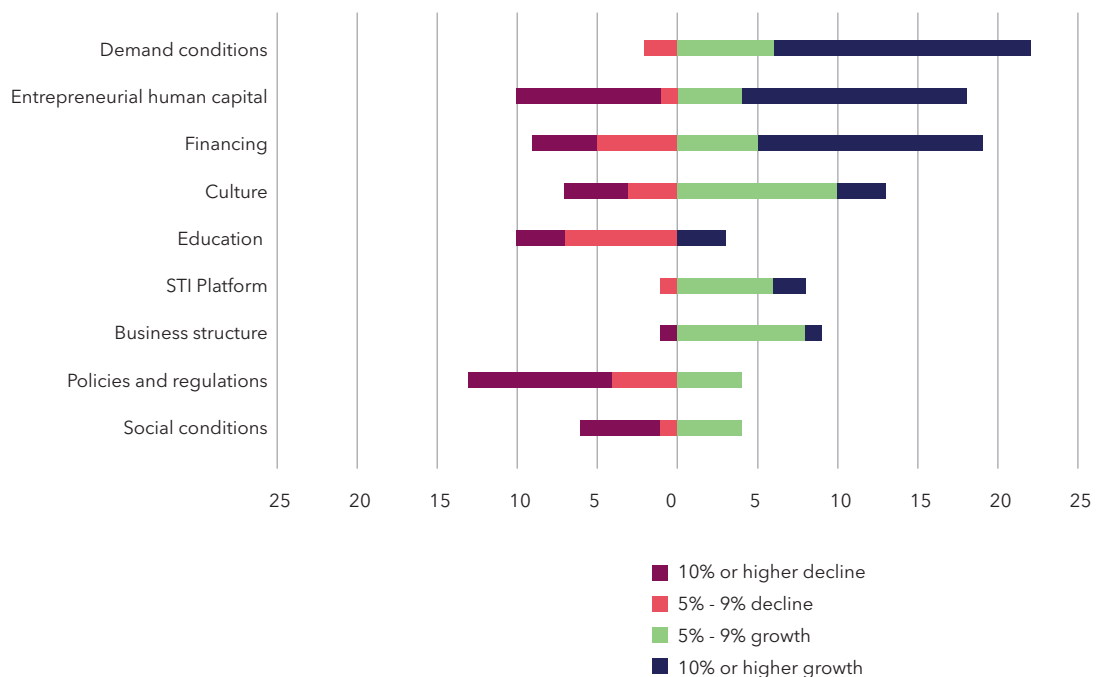


# How do the conditions for dynamic entrepreneurship evolve after the pandemic?<sup>9</sup>

**Two out of three countries experienced progress in their demand conditions compared to what was reported during the pandemic.** This is very favorable news as it would be evidence of a recovered window of opportunity, which had narrowed during the global crisis caused by the pandemic.

In addition, **nearly half of the countries showed progress on their entrepreneurial human capital levels.** In previous reports (Kantis et al., 2020), a favorable scenario for this dimension was foreseen for the end of the pandemic, given people’s greater inclination to entrepreneurship as a vehicle to solve the problems caused by the pandemic and as a way to face the formidable challenges it generated.

Improvements in cultural conditions also contributed to this post-pandemic scenario, where entrepreneurs and their ventures are increasingly valued as a source of progress and social, economic, and environmental transformation. We will return to this point later.

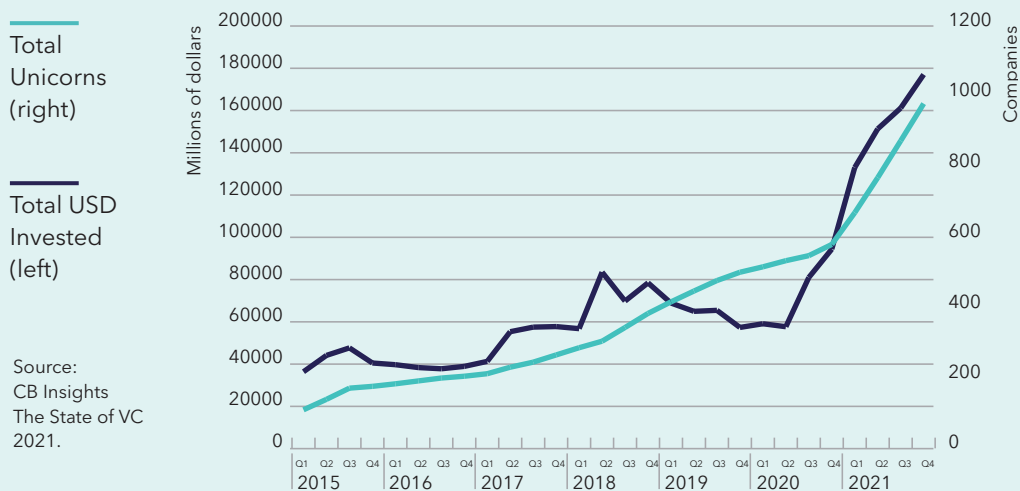


**There is also good news regarding financing where nearly half of the countries showed some progress.** To a large extent, this improvement is related to the significant increase in the supply of venture capital globally during 2021, the causes and effects of which are discussed in the following box.

# A record-breaking global VC industry growth in 2021 and the unicorns boom



In 2021, total amounts invested doubled compared to 2020, reaching USD 620 billion globally<sup>10</sup>. In particular, VC investments grew 1.7 times, reaching USD 124 billion in just over 10,000 investments<sup>11</sup>. In this context, the number of unicorns showed a record year.



Source: CB Insights The State of VC 2021.

The expansion of the VC industry responded, in the first place, to excess liquidity and lower interest rates at the international level. These forces unleashed funds available for VC investment. It is also important to point out that during the years before the pandemic, the major global funds had completed successful fundraising rounds and were ready to invest in new projects. In addition, major players such as Softbank and Tiger Global concentrated on increasingly larger rounds (Series D onwards) as part of a strategy of minimizing risk and maximizing portfolio returns by targeting more consolidated companies with proven customer bases and products or services. So, the number of mega-rounds (over USD 100 million) rose from 630 in 2020 to 1,556 in 2021. As well, the average size of investments in the venture capital (VC) segment increased from USD 8 million in 2020 to USD 12 million in 2021.

Nevertheless, this boom in the global VC industry has been highly concentrated. Half of the amount invested and one-third of the deals closed in 2021 were located in the US, followed by Asian countries with 28% of the investments and one-third of the deals.

2021 was also the year when the largest number of companies achieved unicorn status (young companies that reach a billion-dollar valuation). According to Pitchbook data, 578 companies crossed the USD billion threshold in 2021, tripling the number observed in 2020 and 3.7 times more than in 2019<sup>12</sup>. According to the same source, 8% of companies that received venture capital (VC) investment in 2021 are categorized as unicorns, extending the list to approximately 1,200 companies worldwide since 2016. With 653 of these companies, the United States accounts for nearly half of the world's unicorns, followed by China (209) and then, to a lower extent, India (67), the United Kingdom (35), and Germany (26).

Beside the availability of funds, the main reason explaining this growth in the number of unicorns is the acceleration of technological change and the exponential spread of digital technologies during the pandemic, often introduced by unicorn companies. This context allowed the hyper-growth of digital new business which achieved the later stages of consolidation in very short periods of time<sup>13</sup>.

However, this favorable outlook seems to have come to a halt. A set of global factors, including the global crisis caused by the conflict between Russia and Ukraine, and rising inflation in the United States resulting in higher interest rates, have hurt the influx of capital into the VC industry, reversing the trend observed in 2021. Moreover, in response to the lower flow of funds, the industry is undergoing a readjustment that could impact the total number of new investments, amounts invested, and, ultimately, unicorns. CB Insights data for the first half of 2022 already show a slowdown in the amounts invested of 25% compared to the last semester of 2021. In particular, VC investments decreased 22% whereas VC deals showed an 8% of decline, signaling a drop in the number of mega-rounds (in fact, mega-rounds fell 25% between the last semester of 2021 and the first semester of 2022). The number of new unicorns, in turn, also showed a downward trend falling from 274 at the second semester of 2021 to 212 in the first half of 2022 according to CB Insights. Thus, it all points to a general contraction for 2022, a scenario that will likely be reflected in the following IDE report.

**On the contrary, a setback has been observed in policies and regulations.**

The IDE 2020<sup>14</sup> report explained that this scenario would likely result from the conjunction of two potential forces: a) the relative loss of importance of entrepreneurship on the policy agenda, compared to areas directly linked to the need to address the emergencies and crises caused by the pandemic; and b) governments favoring fiscal austerity in order to restore their accounts after almost two years of heavy pandemic-related spending. To a lesser extent, a negative scenario has also been observed in education, calling for some attention due to its effects on the supply-side of potential entrepreneurs and entrepreneurial human capital.

# SDGs and systemic conditions for entrepreneurship

An article by Dane Stangler published in Forbes Magazine argued that the IDE conditions for dynamic entrepreneurship and the SDGs are strongly related. According to him, *‘the dimensions that comprise the Index include “entrepreneurial human capital,” “business structure,” “social conditions,” and “social capital.” These could easily be assumed to include some measure of impact, or be tweaked as such’*<sup>15</sup>.

His argument is sound, given that **our estimates show there is a significant correlation between IDE and the SDGs**<sup>16</sup>. This is because both indicators correlate with countries’ economic and social development<sup>17</sup>. In line with this, it is possible to argue that the IDE measures the systemic conditions for dynamic and sustainable entrepreneurship.

**A closer look also shows that there is a virtuous circle between the SDGs, the conditions for entrepreneurship and entrepreneurial activity.** On the one hand, the SDGs and systemic conditions contribute to the emergence of opportunity entrepreneurship, the source of dynamic entrepreneurship<sup>18</sup>. On the other hand, a recent study confirms the contribution of opportunity entrepreneurship to economic and social development goals, based on explanations similar to those of the IDE conceptual framework<sup>19</sup>. For example, increasing GDP per capita helps generate opportunities for entrepreneurs (IDE Demand Conditions), as does the development of industry and innovation (IDE’s Business Structure and STI Platform).

The article also points out that better social conditions allow entrepreneurs to have better mental health and to capitalize on their skills, knowledge and experience, with a lesser fear of failure. At the same time, quality education favors the emergence of capable entrepreneurs<sup>20</sup>.

With respect to environmental sustainability, the link is illustrated in a study conducted in Africa, which points out that government efforts to improve infrastructure to improve access to clean water and sanitation, transportation, electricity and ICTs generate entrepreneurial opportunities, which, in turn, can help reduce poverty, create jobs and increase productivity<sup>21</sup>. Previous studies have already suggested that environmental problems offer opportunities for entrepreneurs interested in providing solutions through business creation. Such would be the case of green ventures, an example of which is Seab Energy’s garbage recycling and transformation into energy<sup>22</sup>.



## Seab Energy: transforming waste into clean energy

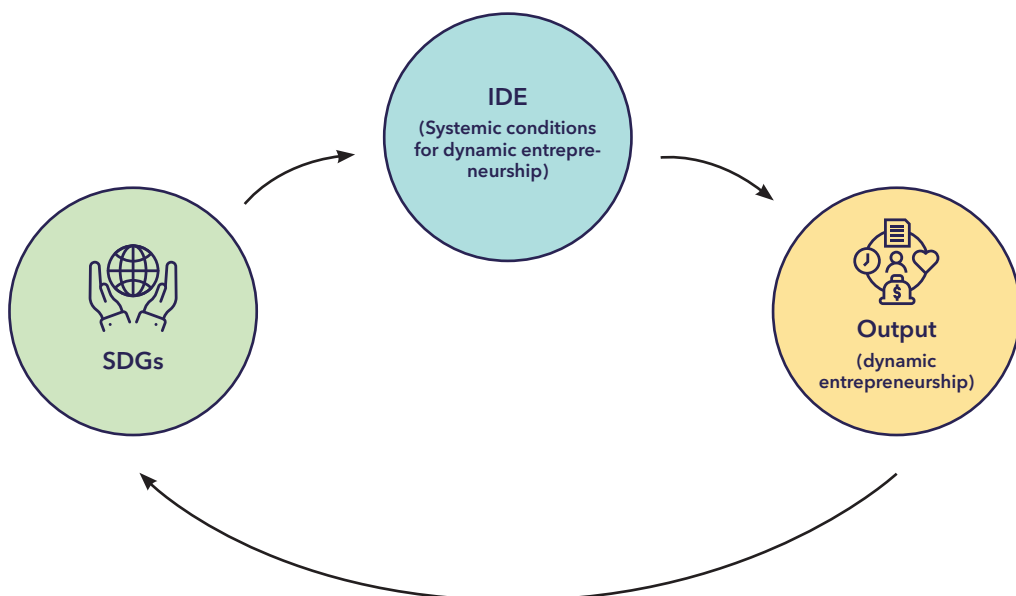
Created in 2018 by Sandra Sassow and her husband this start up seeks to address the problem of garbage accumulation by generating sustainable energy from it. Sandra's husband had experience in the renewable energy sector. Evaluating the possibility of investing in the sustainable energy markets, they spotted a business opportunity in the creation of renewable energy machinery using the process of anaerobic digestion, which allows microorganisms to decompose into biodegradable material in the absence of oxygen. This process generates various gases, including carbon dioxide and methane. These biogases are used in thermal en-

gines. The process also produces a digestate rich in nutrients, which is used as fertilizer.

Seab's technology could be installed at food and biological waste sites to transform them into green energy, water and fertilizer. This avoids the transfer and treatment of organic waste and allows it to be reused in a sustainable manner. The machine avoids waste disposal costs and methane emissions as the gas is captured and used to generate energy.

Recently, the firm closed a successful investment round for accelerating their market penetration in Europe, Latin America and the United States.

Thus, a two-way relationship is visible, where the SDGs lead to opportunity entrepreneurship and where opportunity entrepreneurship contributes to the SDGs. The latter directionality can also be found in other studies demonstrating the contribution of entrepreneurship and young businesses to the SDGs<sup>23</sup>, for example, by taking into account variables such as poverty and inequality reduction, human capital<sup>24</sup>, wealth creation and social progress<sup>25</sup>, competition, efficiency, and economic diversification<sup>26</sup>, structural change, as well as dimensions more extensively studied such as net job creation<sup>27</sup> or innovation<sup>28</sup>.



**This virtuous circle between the SDGs, systemic conditions, and entrepreneurship shows contrasts between groups of ecosystems according to the degree of development of their systemic conditions.** Applying the typology developed by Prodem<sup>29</sup>, some differences stand out and reinforce the above comments. First, and as expected, the groups corresponding to the most advanced countries also show greater progress in fulfilling SDGs in the three dimensions of sustainable development (social, economic, and environmental).

Among the emerging countries, the analysis reveals a diversity of situations. Countries characterized as configurations with underexploited structural bases (mainly Central and Eastern European countries), outperform the rest of the emerging countries, particularly in indicators related to the social dimension of the SDGs. Those with unbalanced frameworks follow this group. Here, we also observe some differences - although not statistically significant - between countries with less developed frameworks (mainly across Latin America and the Middle East) and those in East Asia. At the end of the list are countries with lower systemic development, confirming the positive relationship between the level of development of systemic conditions for entrepreneurship and the SDGs. Thus, it is possible to affirm that more committed attention to the SDGs and the improvement of systemic conditions for dynamic entrepreneurship could translate into benefits for the population and future development, especially in those countries with nascent and unbalanced conditions for entrepreneurship, such as Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico, Peru, and Uruguay, as well as Latin America, and South Africa, Turkey, Egypt, Iran, and Morocco, in other continents.

	1 Advanced Systems with Sustainability Challenges	2 Advanced Systems with Proactive Governments	3 Unbalanced Emerging Configurations	4 Configurations with Unexploited Structural Basis	5 Unbalanced Incipient Configurations	6 Low Systemic Development Configurations
SDG Index	79,86	81,25	68,7	78,7	71,31	66,3
Social Impact Sub-Index	84,57	85,79	66,9	81,07	70,10	62,03
Economic Impact Sub-Index	81,83	81,12	71,76	77,87	72,50	68,04
Environmental Impact Sub-Index	67,95	72,32	68,4	75,14	72,06	72,94



Beyond statistical relationships, there are numerous inspiring cases on how entrepreneurial activity contributes to SDGs, like **Kuunda**, **Pachama**, **Esusu** and **M-Schule**. The first one facilitates the access to 3D printing technologies to improve production conditions, especially for the most vulnerable groups. Pachama uses artificial intelligence to improve carbon bonds' market accountability. Esusu creates a financial solution for immigrants to facilitate access to housing, while M-Schule facilitates access to education for young people even with the limited technology available in underdeveloped villages.



## Kuunda 3D:

### Facilitating access to 3D technology to improve productivity and create jobs

Kuunda 3D is a 3D printing start up founded by Elizabeth Rogers in Kenya and Tanzania. It leverages a technology that allows it to recycle plastic converted into filament for the 3D printer, serving as raw material to build various machinery and tools. Elizabeth studied biochemistry at the University of Victoria and has always had an interest in sustainability and ecology. While an MBA student at the Rotterdam School of Management, she became determined to start an enterprise that makes an impact.

Kuunda 3D offers products and services to industries, architects, educational establishments and medical facilities. Its main contribution to society is providing local communities in rural areas with resources, training and support such that individuals and small businesses can print their own agricultural equipment and tools to improve productivity and generate employment. During the pandemic, it played a key role in providing protective equipment for healthcare workers and medical supplies to the health system. It is now expanding into East and West Africa.



## Pachama:

### AI technology helping to climate mitigation

Pachama, is an Argentinean startup created in 2018 by Diego Sáez-Gil that allows firms, especially large ones, to invest in natural-based forestry projects to generate a guaranteed supply of carbon credits, compensating their contamination levels and helping to reach the Net Zero goal. This startup uses available satellite data, AI and automation technologies to ensure the quality of nature-based carbon credits, measuring the development of forests, validating the effective stock of carbon credits.

Pachama offers a solution for the carbon credits' market making it more transparent and accountable, and encouraging firms to direct their investments towards forestry regeneration projects, a natural-based method of carbon sequestration. So far, Pachama's projects contributed to restore more than 10 million trees and to plant more than 1 million new trees.

## Esusu: facilitating access to credit for marginalized groups

Esusu is a U.S. startup founded in 2016. Its mission is to democratize access to finance for low to middle-income populations, with a special focus on immigrants and minority groups. Its founders, Abbey Wemimo (Nigerian-born American) and Samir Goel (Indian American), grew up in immigrant households and experienced financial exclusion first-hand.

Esusu is a rental reporting platform that captures rent payment data and reports it to

credit bureaus. Based on this information, tenants can obtain more favorable credit scores and landlords can leverage the information to attract tenants, reduce turnover and improve collections. The platform tracks real-time rent payments from subscribed tenants, and they report to the three major U.S. credit bureaus (Equifax, TransUnion and Experian).

Earlier this year, the company already raised \$140 million joined the long list of unicorns that exist globally.



## M-Shule: democratizing access to education through AI

In Africa, 80% of the population lacks access to a smartphone or the internet, which, among other things, puts children and youth at a disadvantage when accessing online education tools, which are often used in developing countries. In this context, Julie Otieno and Claire Mongeau set up the first personalized education platform to provide educational institutions with tools for teaching and evaluating students adapted to the technological conditions of less developed countries.

M-shule (mobile school in Swahili) combines simple function phone text messaging technology with AI to provide underserved or under-connected communities with personalized, interactive educational resources. AI technology recognizes each student and personalizes learning material specific to their needs. The AI also tracks the students' learning process on the platform, analyzes their performance and recommends them the most appropriate learning materials, which helps them improve in areas where they have deficiencies.



# Final remarks

This 2022 IDE Report has provided a global overview of systemic conditions for dynamic entrepreneurship in the post-pandemic scenario. We have identified the countries that lead the ranking of conditions for entrepreneurship and analyzed the systemic factors that enable them to occupy those positions. These leaders share advantages in those aspects more closely linked to the conversion of projects into companies that subsequently scale, within a context of favorable structural conditions that drive the emergence of entrepreneurs and opportunities.

In terms of the evolution of systemic conditions at the end of the COVID-19 crisis, the analysis revealed improvements in demand conditions, entrepreneurial human capital, culture and financing. Finally, the study of the relationship between the SDGs, systemic conditions, and dynamic entrepreneurship, affirms the possibility of a virtuous circle between these variables. This provides solid arguments for the relevance of entrepreneurship as a vehicle for social, economic, and environmental transformation. As well, this approach calls for establishing a policy agenda to develop and strengthen dynamic entrepreneurship and its systemic conditions since it will simultaneously drive sustainable development goals.

1. Kantis, H. Federico, J., Ibarra García, S. & Fernández, C. (2020). Beyond the pandemic: Re-imagining Future Entrepreneurship Ecosystems. Available at <https://prodem.ungs.edu.ar/>
2. <https://www.nytimes.com/2022/08/24/world/europe/russia-ukraine-war-toll.html>
3. United Nations (2022). The Sustainable Development Goals Report 2022. Available at <https://unstats.un.org/sdgs/report/2022/>
4. Apostolopoulos, N., Al-Dajani, H., Holt, D., Jones, P., & Newbery, R. (2018). Entrepreneurship and the sustainable development goals. In *Entrepreneurship and the sustainable development goals* (Vol. 8, pp. 1-7). Emerald Publishing Limited.
5. Kantis, H., Angelelli, P., & Moori Koenig, V. (2005). *Developing Entrepreneurship: Experience in Latin America and Worldwide*. Washington: Inter-American Development Bank
6. Schoar, A. (2010). The divide between subsistence and transformational entrepreneurship. in J. Lerner & S. Stern (Eds.), *Innovation Policy and the Economy* (Vol. 10, pp. 57-81). Cambridge, MA: National Bureau of Economic Research.
7. Baumol, W. J. (1996). Entrepreneurship: Productive, unproductive, and destructive. *Journal of Business Venturing*, 11(1), 3-22
8. See a review of the literature in Kantis, H., Ishida, M., & Komori, M. (2002). Entrepreneurship in Emerging Economies: The Creation and Development of New Firms in Latin America and East Asia. Washington: Inter American Bank and Bank of Development of Japan, and a pioneer presentation of the systemic approach in Kantis, H., Angelelli, P., & Moori Koenig, V. (2005). *Developing Entrepreneurship: Experience in Latin America and Worldwide*. Washington: Inter American Development Bank. For the eclectic perspective see in particular Verheul, I., Wennekers, S., Audretsch, D., & Thurik, R. (2002). An eclectic theory of entrepreneurship: policies, institutions and culture. *Entrepreneurship: Determinants and policy in a European-US comparison*, 11-81. The systemic approach was some years later proposed in Isenberg (2011) with the ecosystems perspective in his HBR article *How to start an entrepreneurial revolution* and in Acs, Z. J., Audretsch, D. B., Lehmann, E. E., & Licht, G. (2016). National systems of entrepreneurship. *Small Business Economics*, 46(4), 527-535.
9. To compute the changes in position and values with respect to the last year (t0), IDE values were re-expressed considering only the countries present in both reports and setting the extreme values at the level of year t0. The latter was done to avoid computing variations that respond only to changes in the extreme values used in the normalization or the addition of new countries.
10. CB Insights Global VC Report. Available at [https://www.cbinsights.com/reports/CB-Insights\\_Venture-Report-2021.pdf](https://www.cbinsights.com/reports/CB-Insights_Venture-Report-2021.pdf)
11. The global information compiled by CB Insights includes different investor profiles, mainly venture capital (VC) and private equity (PE), but without differentiating the amounts invested by investor profile. The reported value is an estimate based on the average size of investments per profile and the number of investments per profile which is reported by CB Insights.
12. Pitchbook Unicorn companies tracker. Available at <https://pitchbook.com/news/articles/unicorn-startups-list-trends>
13. In fact, according to data from CB Insights, the average time from the first financing round to reaching unicorn status was 54 months in 2021, about ten months less than in 2015.
14. Kantis et al. (2020). *Index of Dynamic Entrepreneurship 2020: Beyond the pandemic: imagining the entrepreneurial ecosystems of the future*.
15. Stangler, D. (2021) *Can Dynamic Entrepreneurship Advance Social Progress?* Forbes. Available at <https://www.forbes.com>
16. 1% level of significance, 0.68 coefficient.
17. Some dimensions measured by the IDE are constructed based on variables related to SDG targets. For example, the Social Conditions dimension is linked to the SDG goals of poverty and inequality reduction; the Education dimension to the quality of education; Demand Conditions to economic growth and decent work; STI Platform with Industry, Innovation and Infrastructure.
18. There is also a significant correlation between systemic conditions and “new density”, a variable measured by the World Bank referring to the emergence of new (limited liability) companies and which would be more linked to transformational entrepreneurship (Henderkson & Sanandaji, 2020).

- Henrekson, M., & Sanandaji, T. (2020). Measuring entrepreneurship: Do established metrics capture Schumpeterian entrepreneurship?. *Entrepreneurship Theory and Practice*, 44(4), 733-760.
19. Dhahri, S., Slimani, S., & Omri, A. (2021). Behavioral entrepreneurship for achieving the sustainable development goals. *Technological Forecasting and Social Change*, 165, 120561.
20. Carpentier, C. L.; Landveld, R & Shashiar, N (2019) "Role of MSMEs and entrepreneurship in achieving the SDGS". With support from Abana, O. UNTACD New York Office. ICSB Gazette: The global leader support micro-small and medium enterprise.
21. Sachs, J., Lafortune, G., Kroll, C., Fuller, G., Woelm, F., (2022). *From Crisis to Sustainable Development: the SDGs as Roadmap to 2030 and Beyond*. Sustainable Development Report 2022. Cambridge: Cambridge University Press
22. Ben Youssef, A., Boubaker, S., Omri, A., 2018. Entrepreneurship and sustainability: the need for innovative and institutional solutions. *Technol. Forecast. Soc. Change* 129. <https://doi.org/10.1016/j.techfore.2017.11.003>, 232e241.
23. Yanya, M., Abdul-Hakim, R., Abdul-Razak, N.A., 2013. Does Entrepreneurship Bring an Equal Society and Alleviate Poverty? Evidence from Thailand. *Procedia - Soc. Behav. Sci.* 91, 331-340.
24. Gries, T., & Naudé, W. (2011). Entrepreneurship and human development: A capability approach. *Journal of Public Economics*, 95(3-4), 216-224.
25. Chavez, V.A., Stinnett, R., Tierney, R., Walsh, S., 2017. The importance of the technologically able social innovators and entrepreneurs: a US National Laboratory Perspective. *Technological Forecasting and Social Change. Technol. Forecast. Soc. Change* 121, 205-215.
26. Dejardin, M. (2011). Linking net entry to regional economic growth. *Small Business Economics*, 36(4), 443-460.
27. Haltiwanger, J., Jarmin, R. S., & Miranda, J. (2013). Who creates jobs? Small versus large versus young. *Review of Economics and Statistics*, 95(2), 347-361.
28. Audretsch, D. B., & Keilbach, M. (2007). The theory of knowledge spillover entrepreneurship. *Journal of Management studies*, 44(7), 1242-1254.
29. Kantis, H., Federico, J. & Ibarra García, S. (2020). Entrepreneurship policy and systemic conditions: Evidence-based implications and recommendations for emerging countries. *Socio-Economic Planning Sciences*, 72, 100872

# A closer look at the country level

# IDE 2022 Argentina



IDE ranking

**30**

IDE value

**33.58**

Population  
(Million habitants)

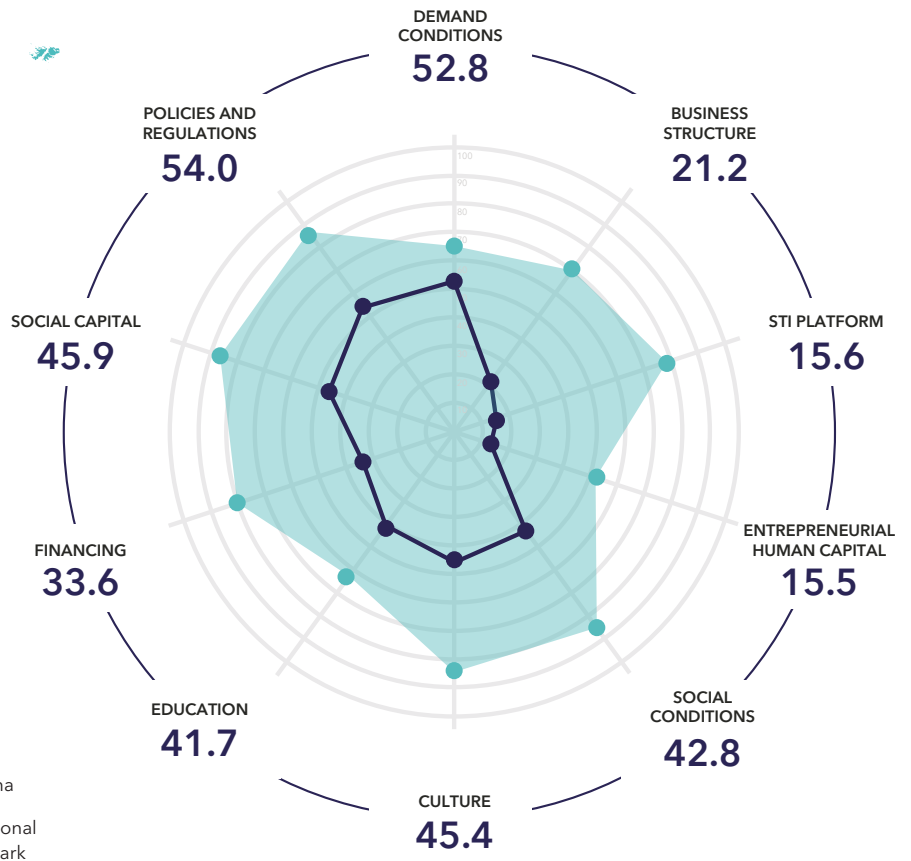
**46 M**

GDP per capita  
(USD)

**10,658**

GDP growth rate

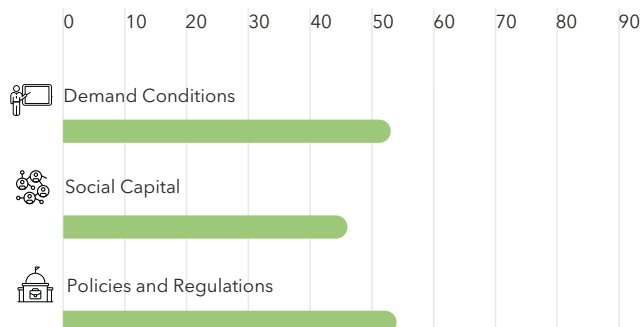
**10.2%**



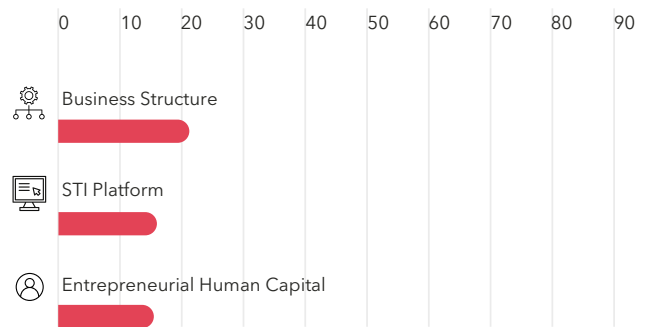
□ Argentina  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Brazil



IDE ranking

**29**

IDE value

**34.77**

Population  
(Million habitants)

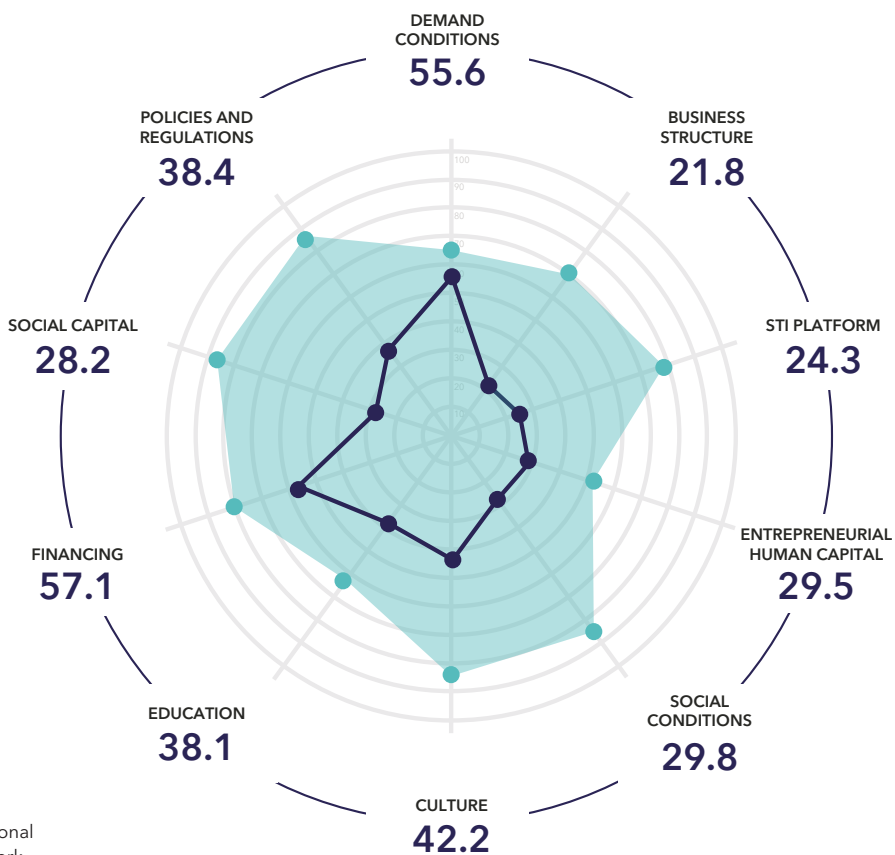
**214 M**

GDP per capita  
(USD)

**7,564**

GDP growth rate

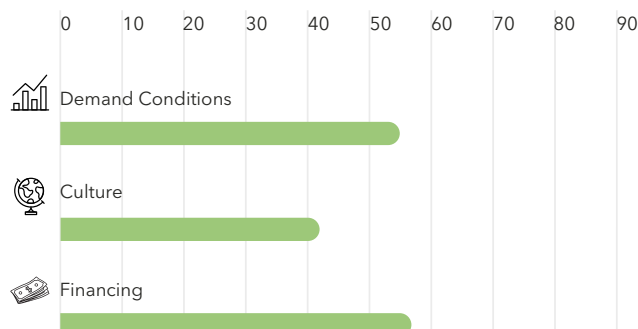
**4.6%**



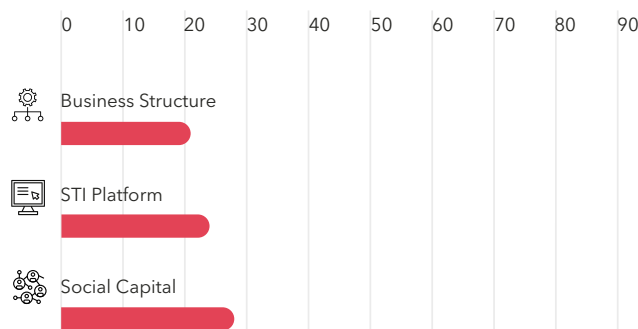
□ Brazil  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions





# IDE 2022 Canada



IDE ranking

**9**

IDE value

**55.25**

Population  
(Million habitants)

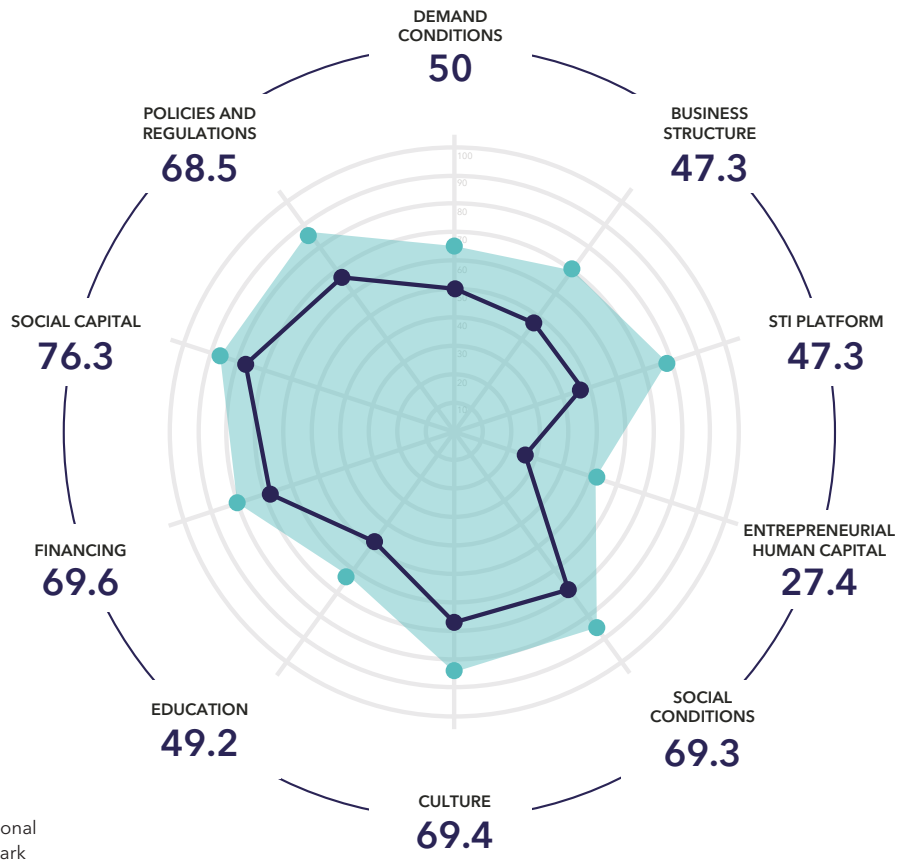
**39 M**

GDP per capita  
(USD)

**52,079**

GDP growth rate

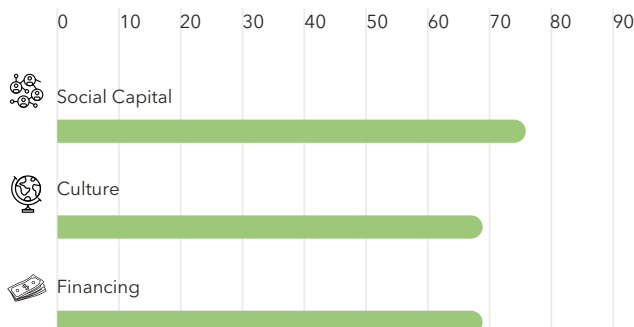
**4.6%**



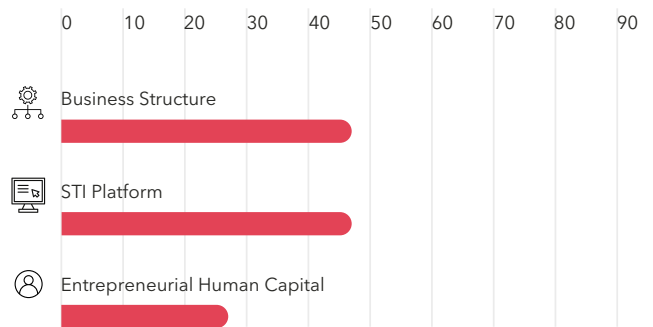
□ Canada  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Chile



IDE ranking

**27**

IDE value

**35.54**

Population (Million habitants)

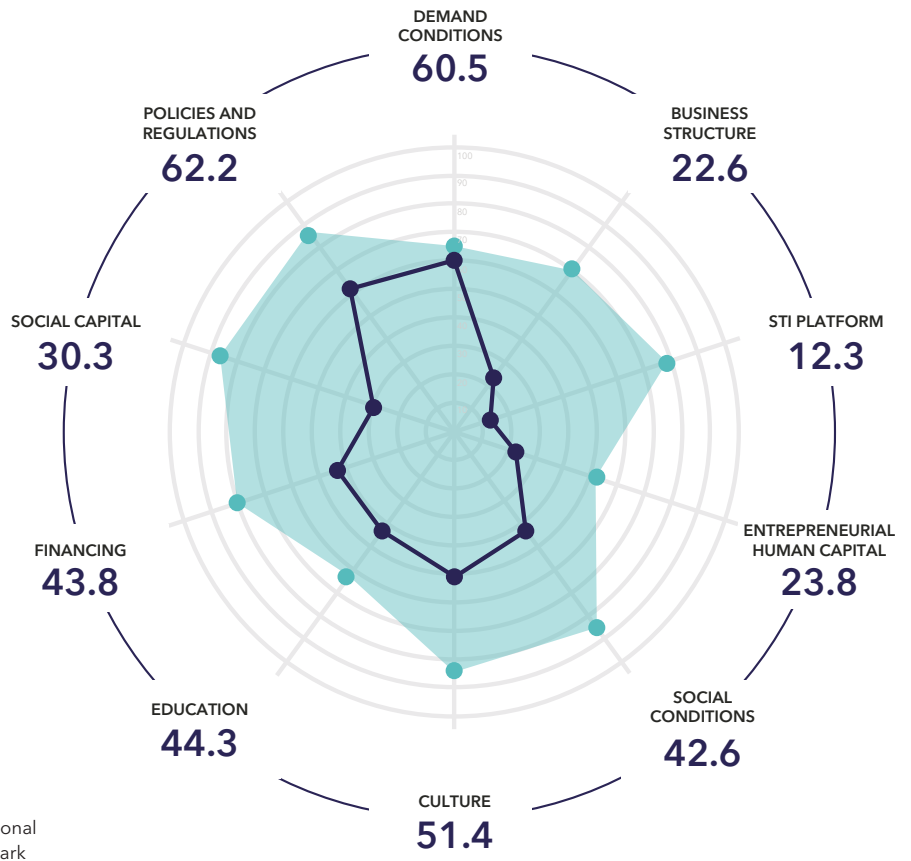
**20 M**

GDP per capita (USD)

**16,070**

GDP growth rate

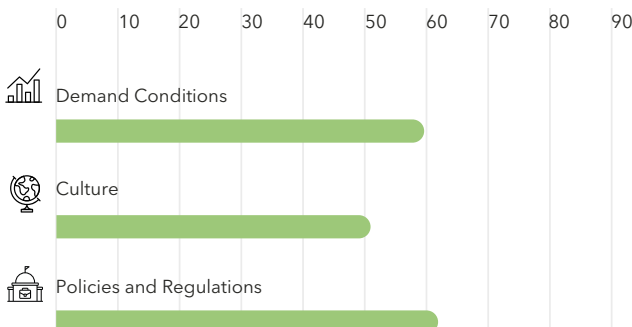
**11.6%**



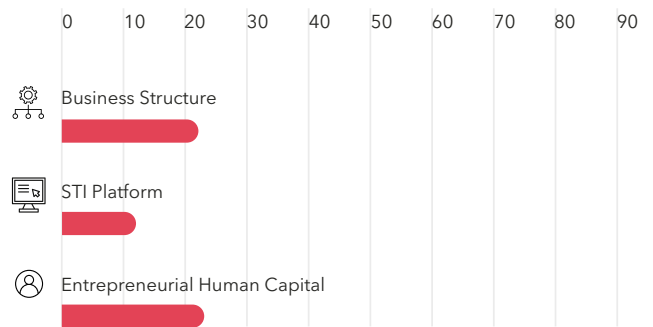
□ Chile  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Colombia



IDE ranking

**37**

IDE value

**27.95**

Population  
(Million habitants)

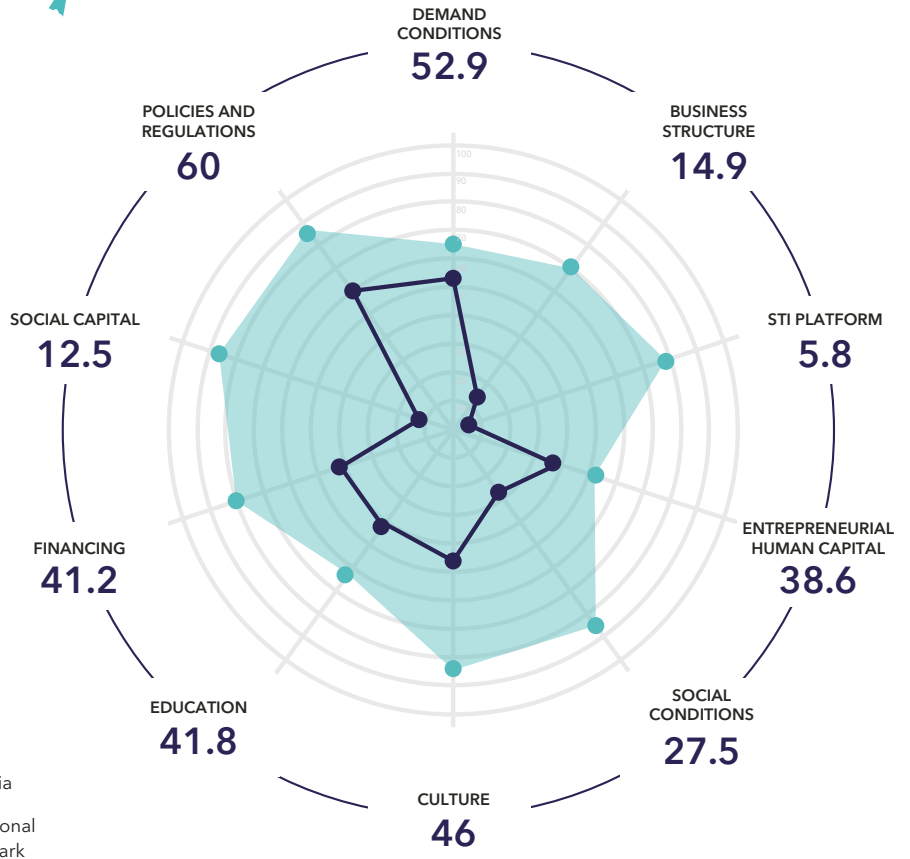
**52 M**

GDP per capita  
(USD)

**6,156**

GDP growth rate

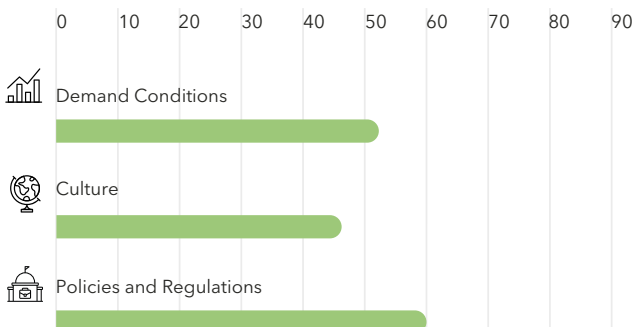
**10.5%**



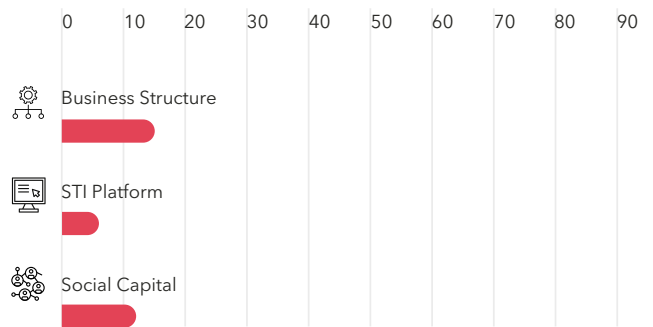
□ Colombia  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Costa Rica



IDE ranking

**41**

IDE value

**21.99**

Population  
(Million habitants)

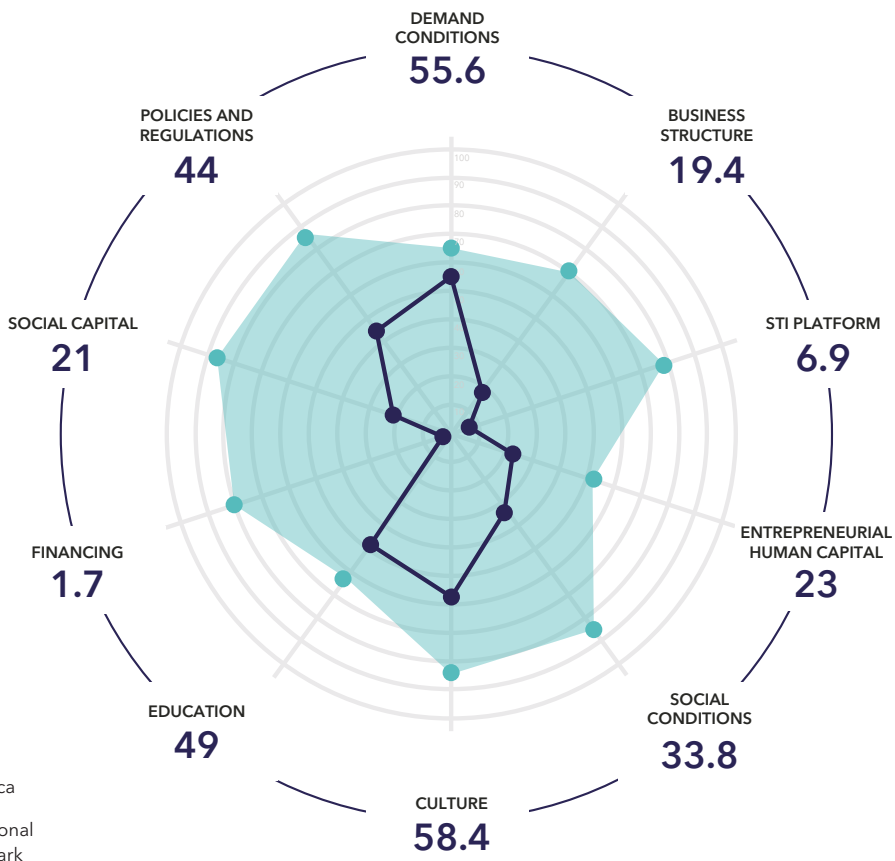
**5 M**

GDP per capita  
(USD)

**12,408**

GDP growth rate

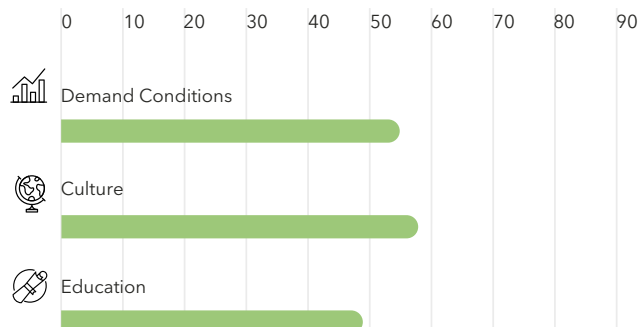
**7.5%**



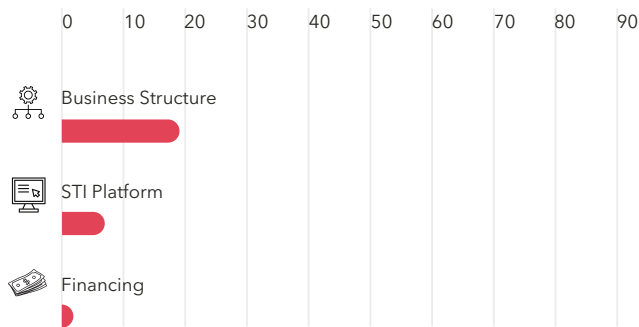
□ Costa Rica  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Croatia



IDE ranking

**38**

IDE value

**25.71**

Population  
(Million habitants)

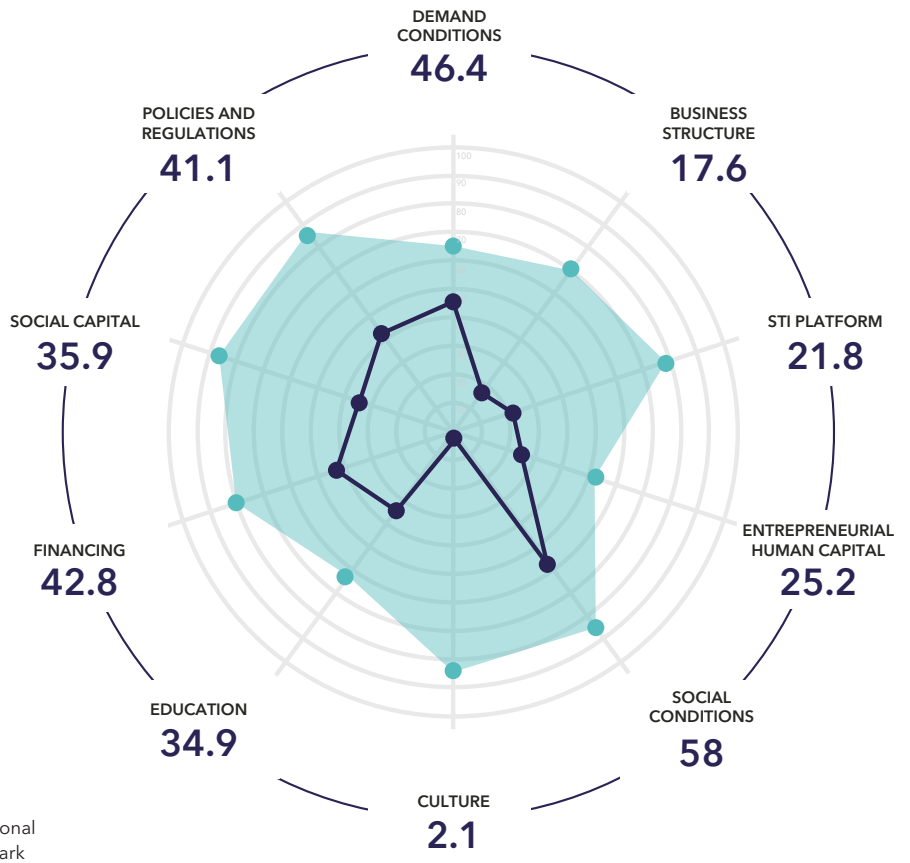
**4 M**

GDP per capita  
(USD)

**16,818**

GDP growth rate

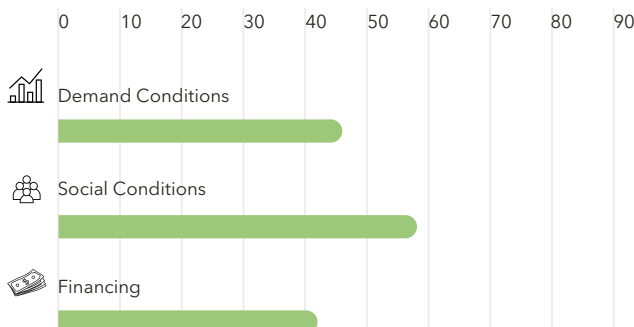
**10.4%**



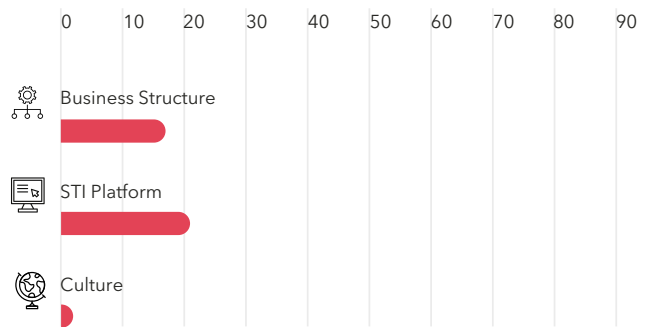
□ Croatia  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



IDE 2022

# Dominican Republic



IDE ranking

45

IDE value

16.63

Population (Million habitants)

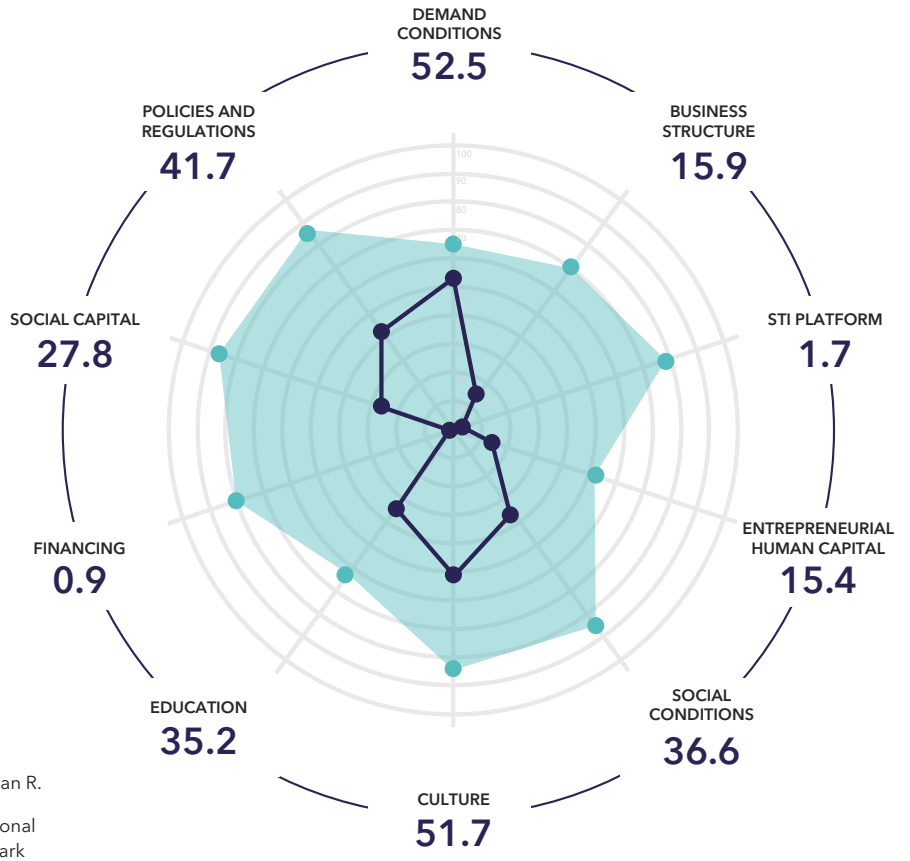
11 M

GDP per capita (USD)

8,986

GDP growth rate

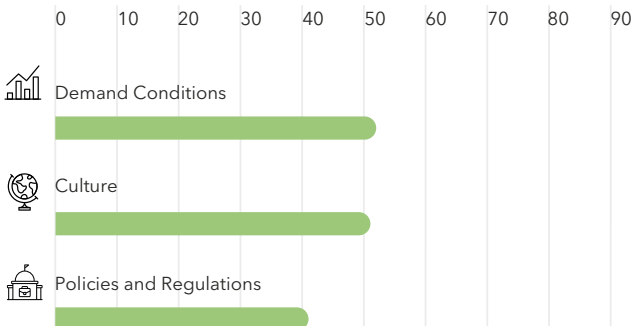
12.3%



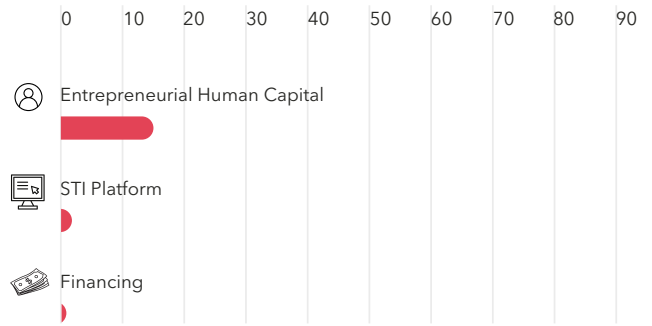
□ Dominican R.  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

### Highest Scoring Dimensions



### Lowest Scoring Dimensions



# IDE 2022 Ecuador



IDE ranking

**42**

IDE value

**21.59**

Population  
(Million habitants)

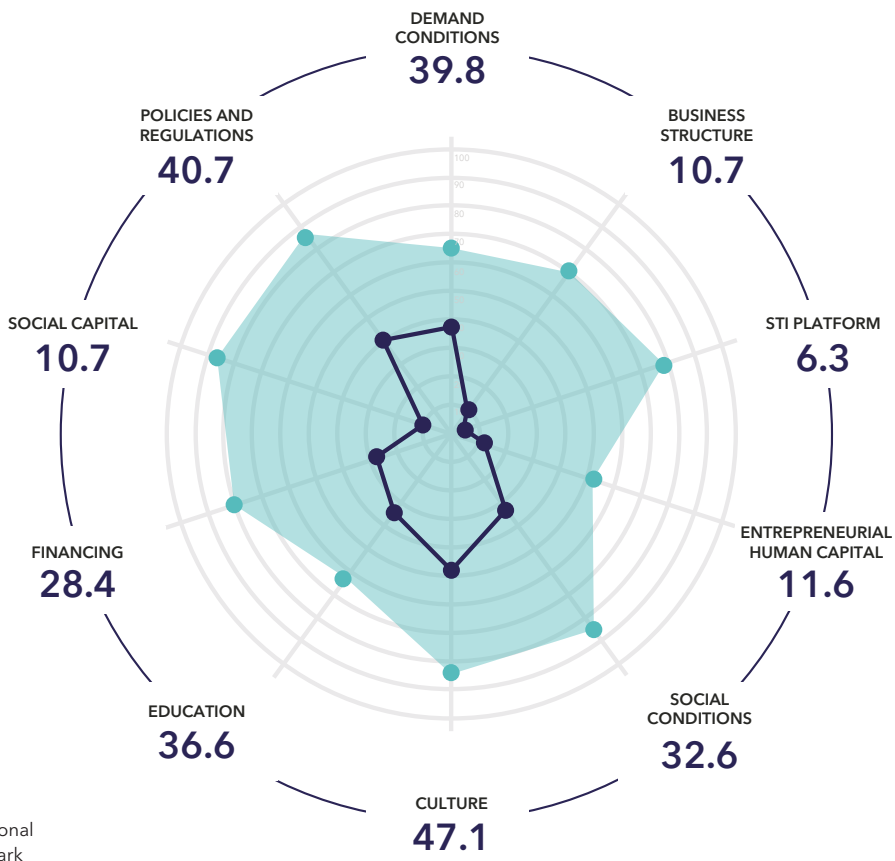
**18 M**

GDP per capita  
(USD)

**5,979**

GDP growth rate

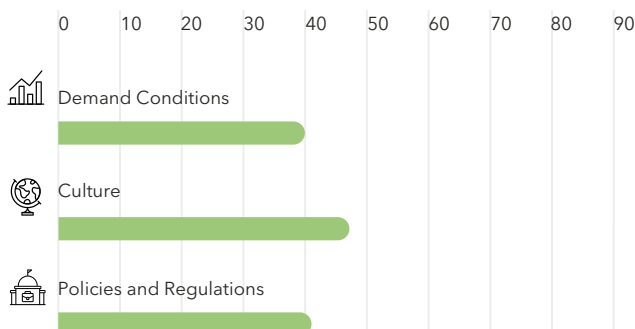
**4.2%**



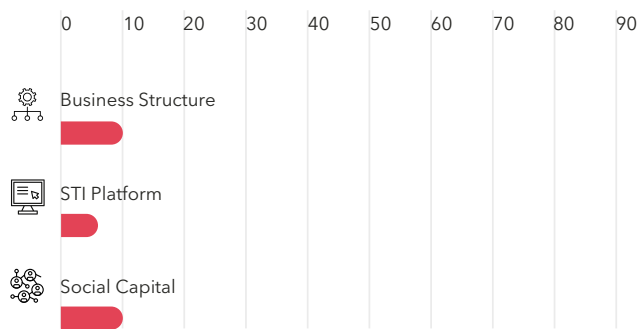
□ Ecuador  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Egypt



IDE ranking

**31**

IDE value

**32.55**

Population  
(Million habitants)

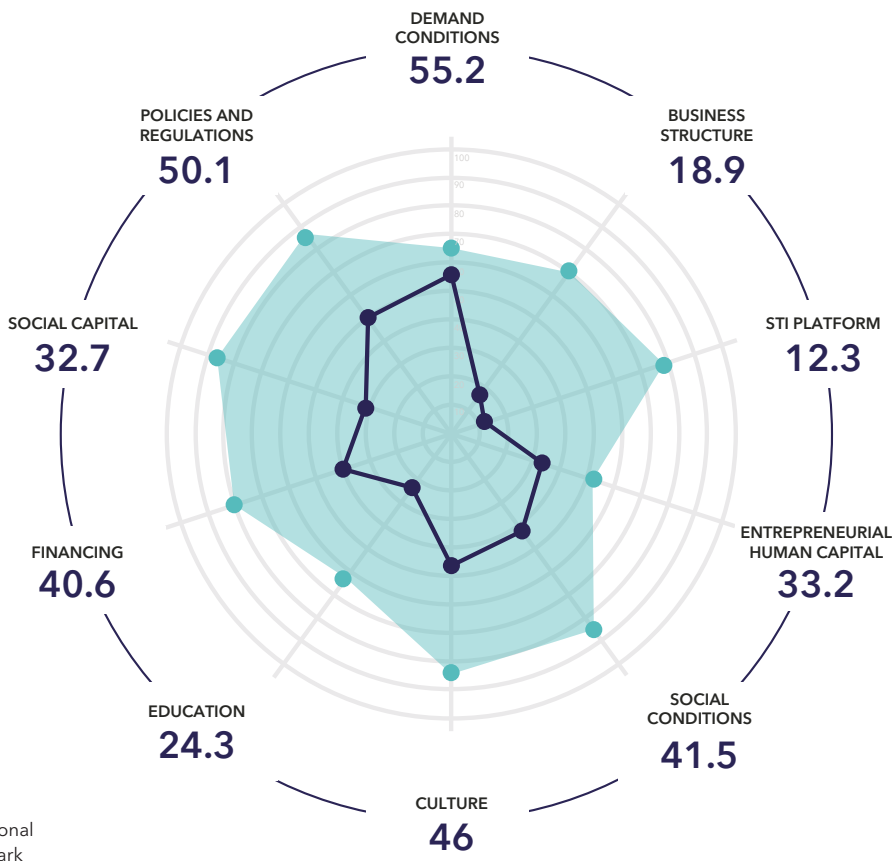
**105 M**

GDP per capita  
(USD)

**3,926**

GDP growth rate

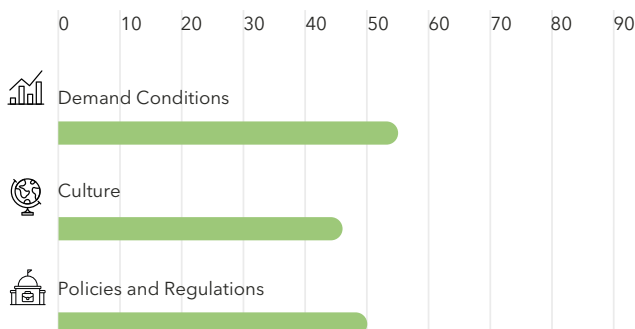
**3.3%**



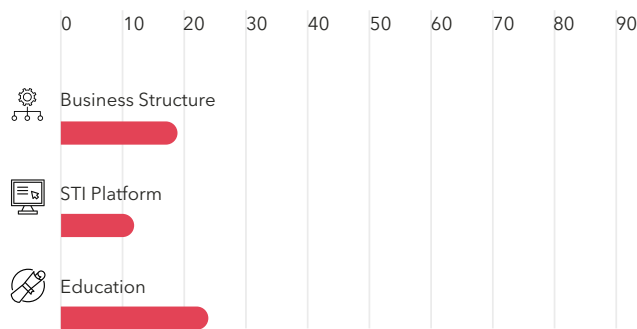
□ Egypt  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions





# IDE 2022 Finland



IDE ranking

**6**

IDE value

**57.02**

Population  
(Million habitants)

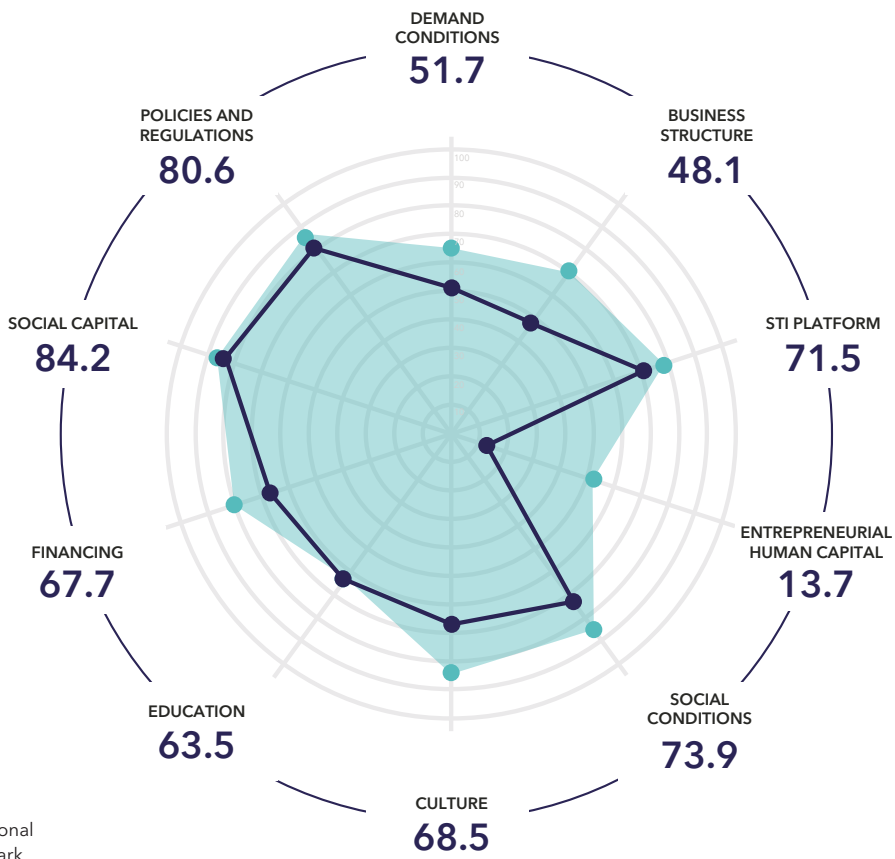
**6 M**

GDP per capita  
(USD)

**54,008**

GDP growth rate

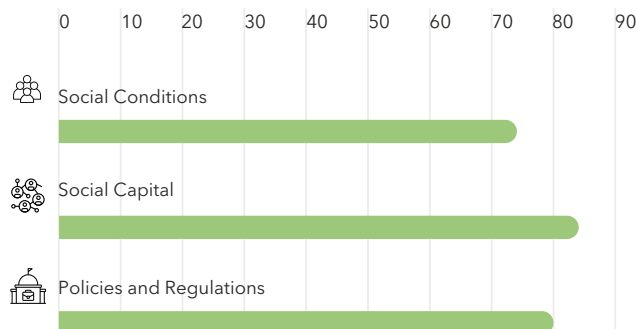
**3.3%**



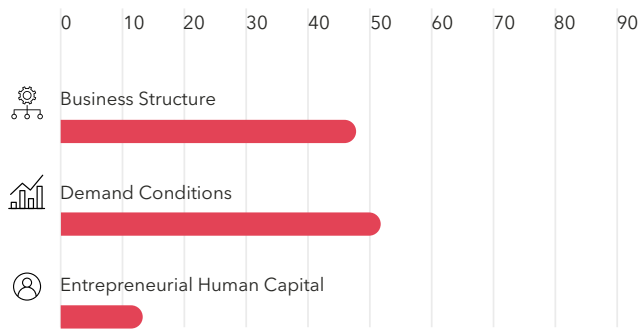
□ Finland  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

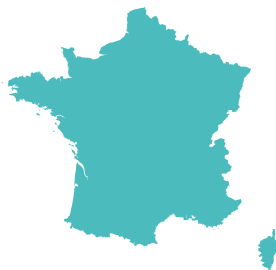
## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 France



IDE ranking

**13**

IDE value

**52.55**

Population  
(Million habitants)

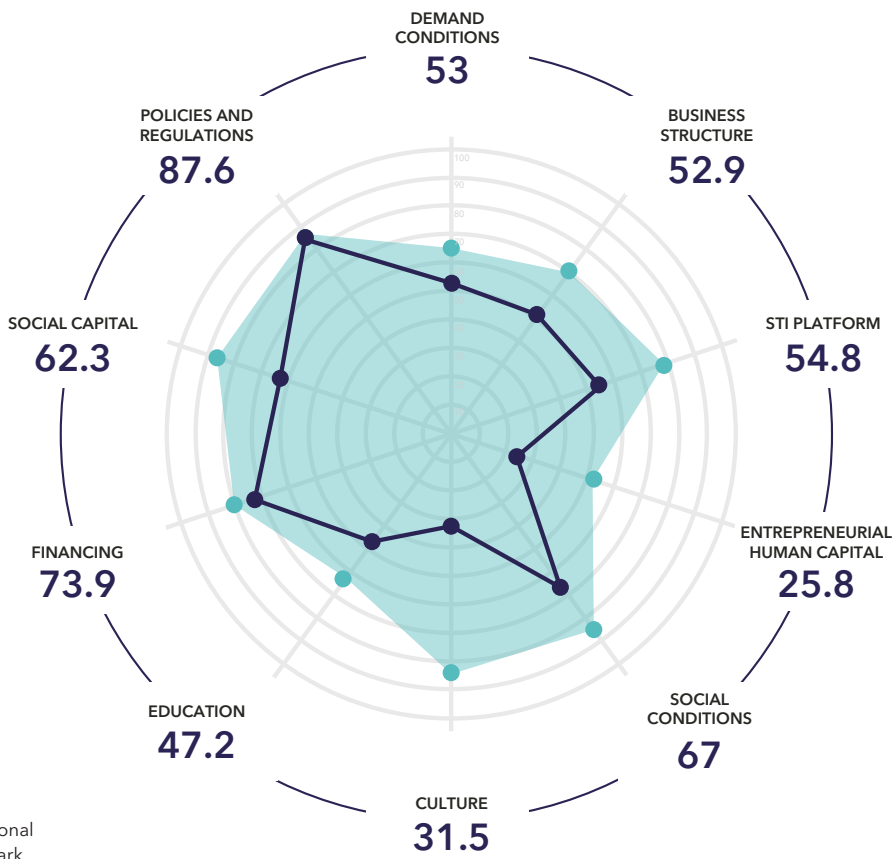
**66 M**

GDP per capita  
(USD)

**44,853**

GDP growth rate

**7%**

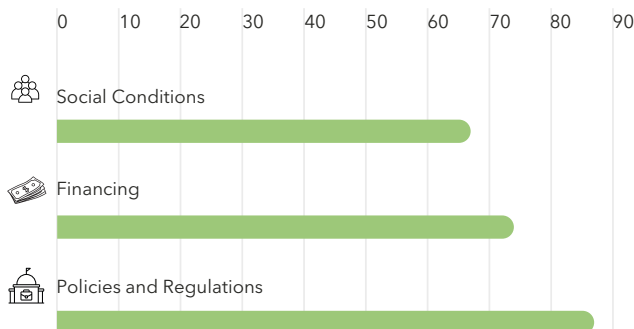


□ France

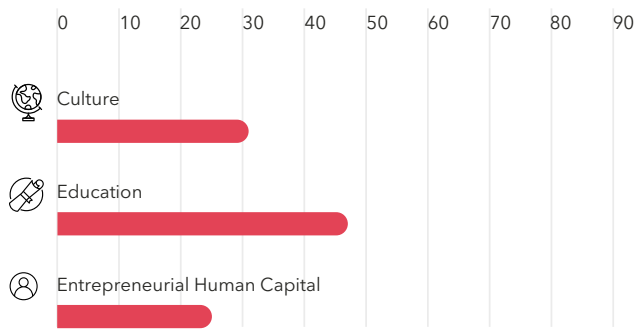
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Germany



IDE ranking

**3**

IDE value

**61.28**

Population  
(Million habitants)

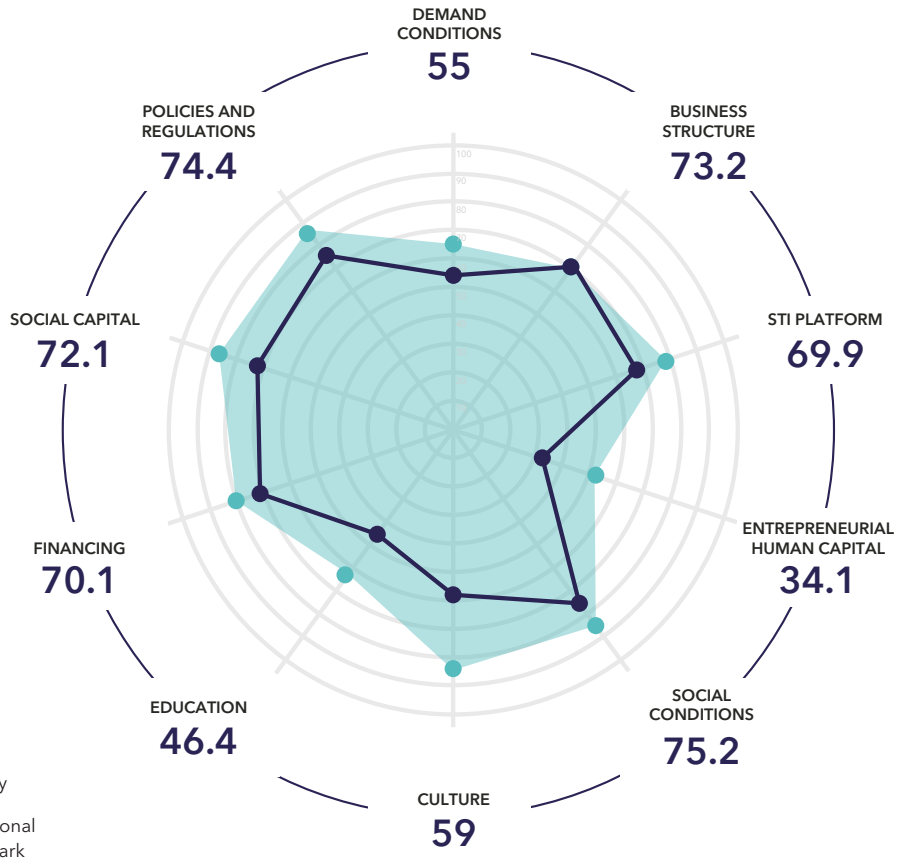
**83 M**

GDP per capita  
(USD)

**50,795**

GDP growth rate

**2.8%**



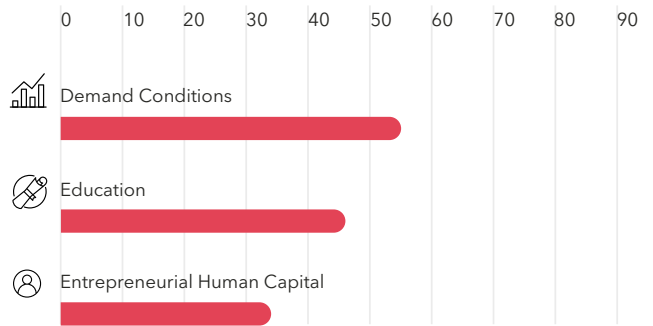
□ Germany  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Greece



IDE ranking

**36**

IDE value

**28.1**

Population  
(Million habitants)

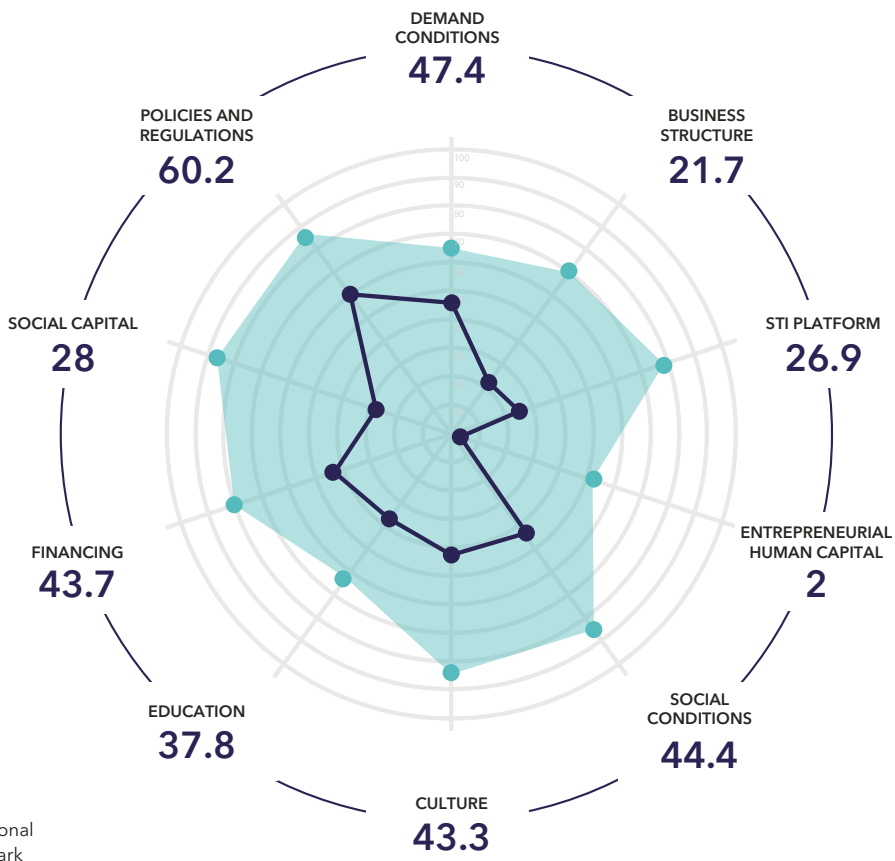
**11 M**

GDP per capita  
(USD)

**20,256**

GDP growth rate

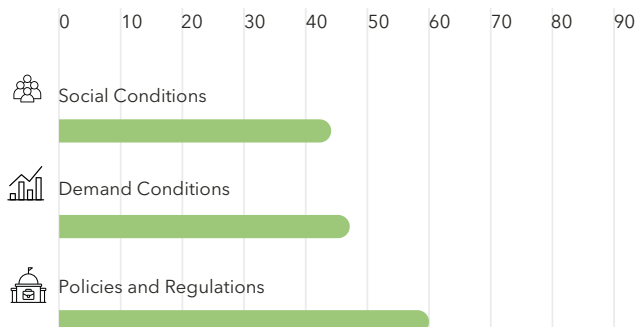
**8.3%**



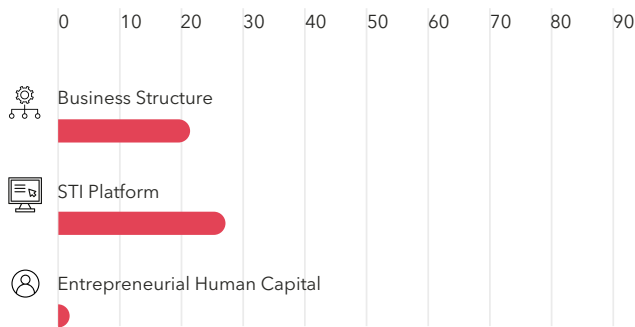
□ Greece  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Guatemala



IDE ranking

**46**

IDE value

**11.11**

Population  
(Million habitants)

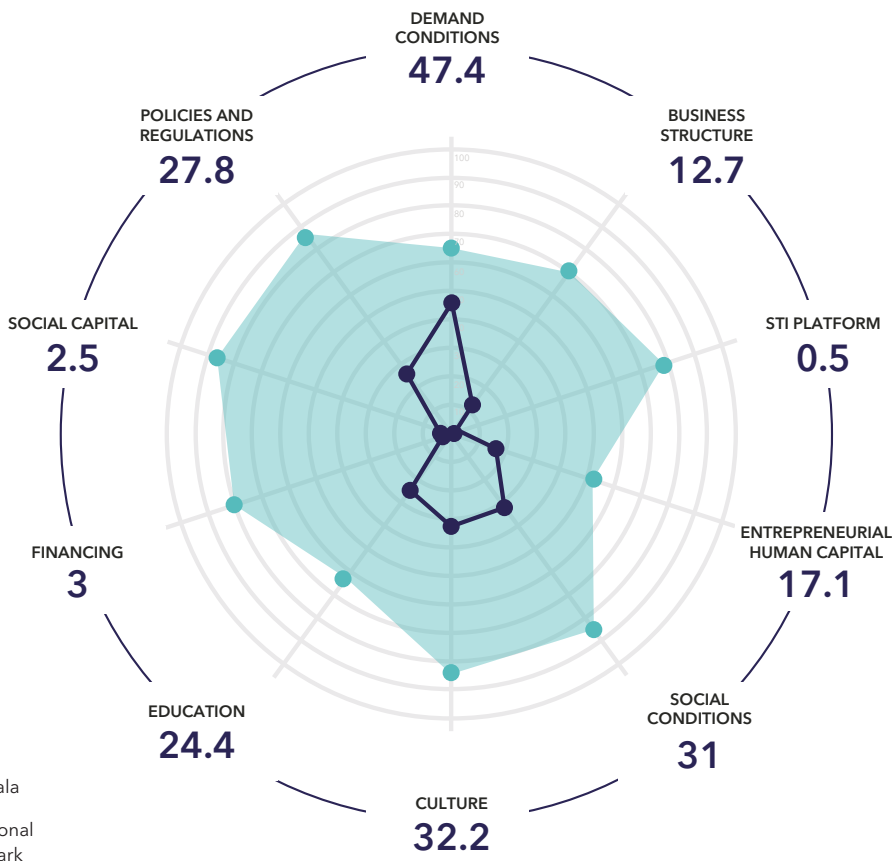
**19 M**

GDP per capita  
(USD)

**4,674**

GDP growth rate

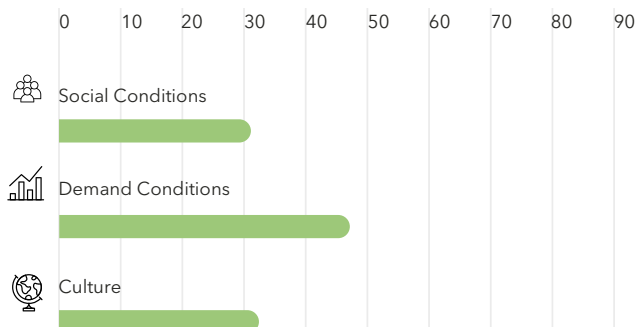
**8%**



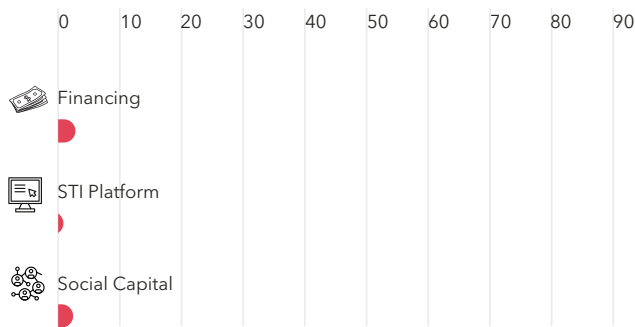
□ Guatemala  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Hungary



IDE ranking

**21**

IDE value

**41.05**

Population  
(Million habitants)

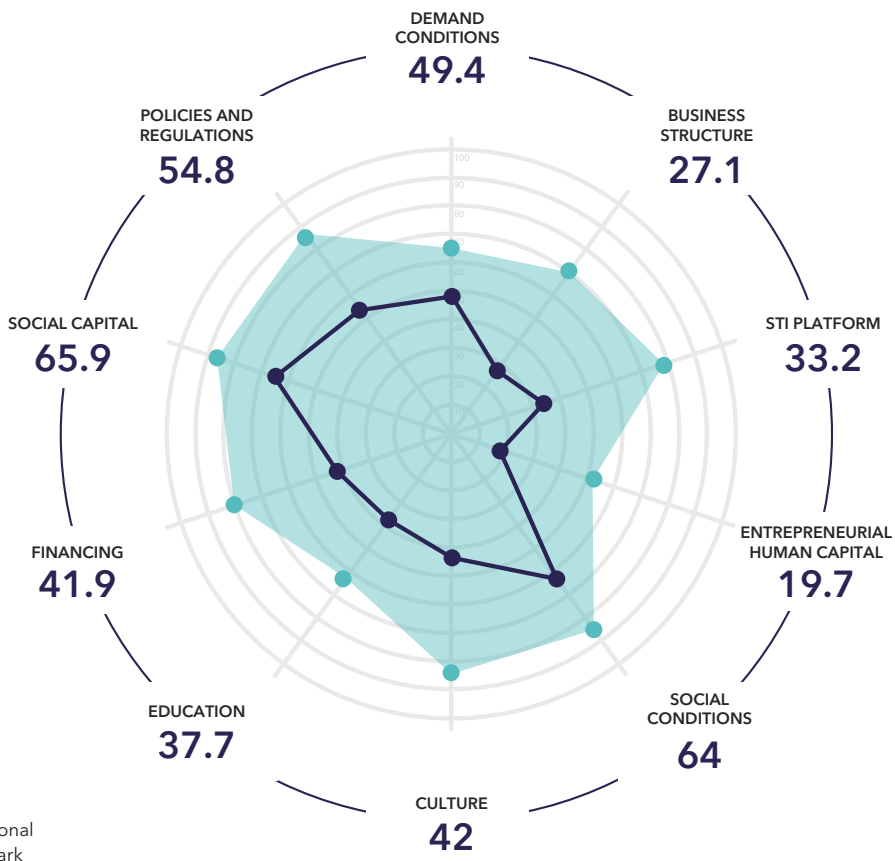
**10 M**

GDP per capita  
(USD)

**18,968**

GDP growth rate

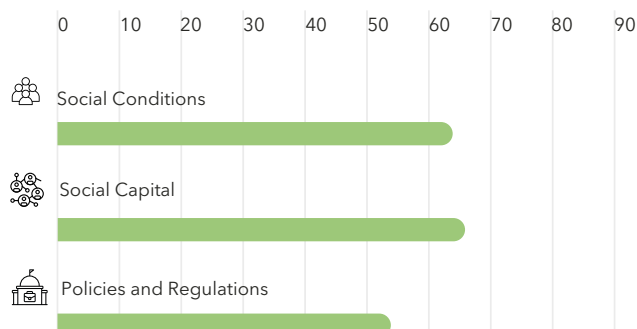
**7.1%**



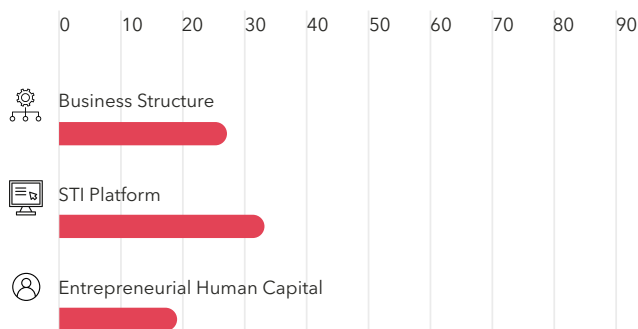
□ Hungary  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 India



IDE ranking

**28**

IDE value

**35.27**

Population  
(Million habitants)

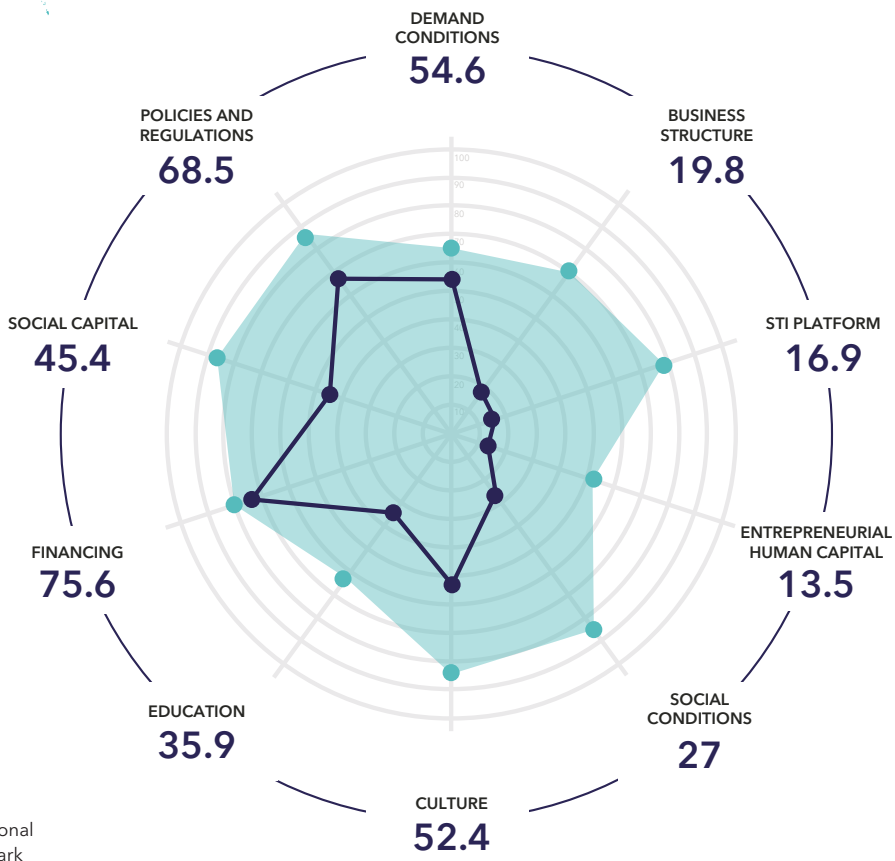
**1,405 M**

GDP per capita  
(USD)

**2,283**

GDP growth rate

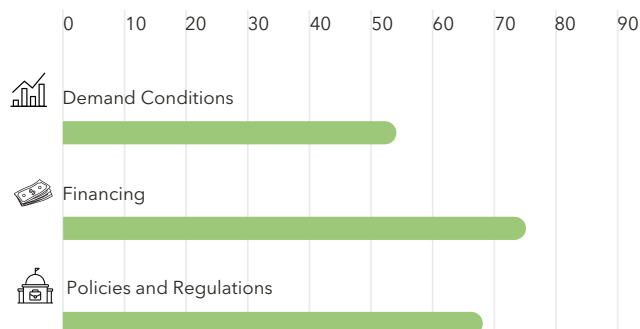
**8.9%**



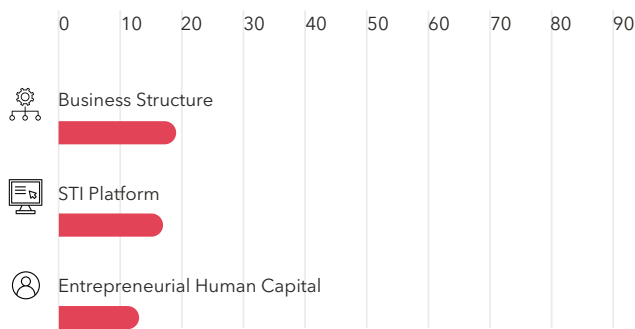
□ India  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Iran



IDE ranking

**44**

IDE value

**19.62**

Population  
(Million habitants)

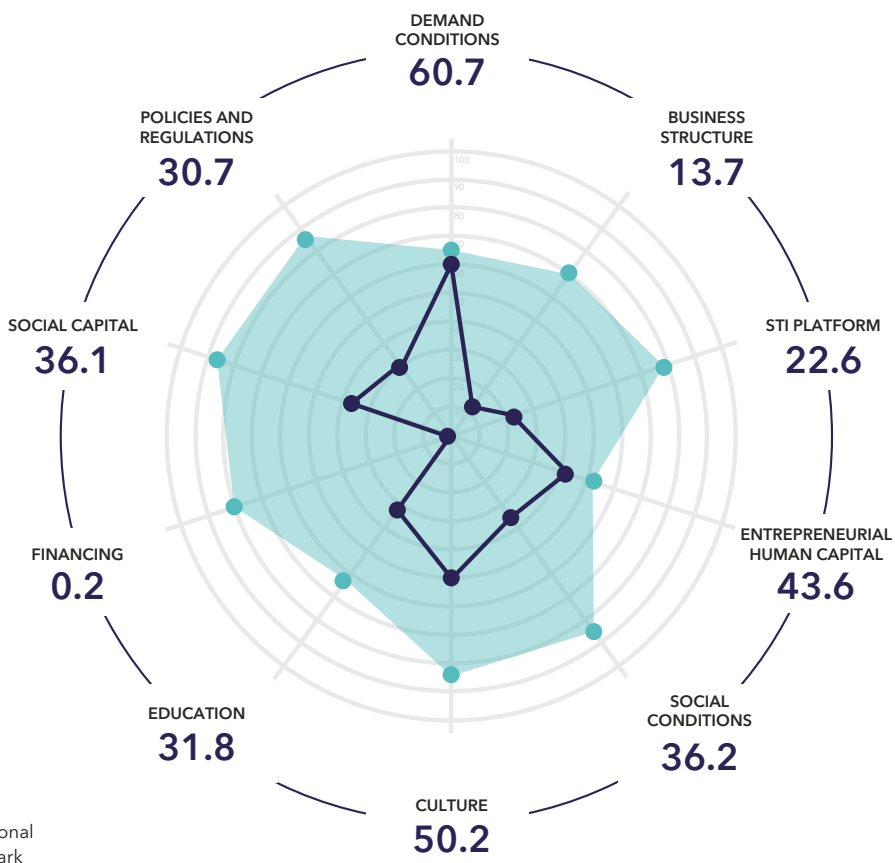
**86 M**

GDP per capita  
(USD)

**16,784**

GDP growth rate

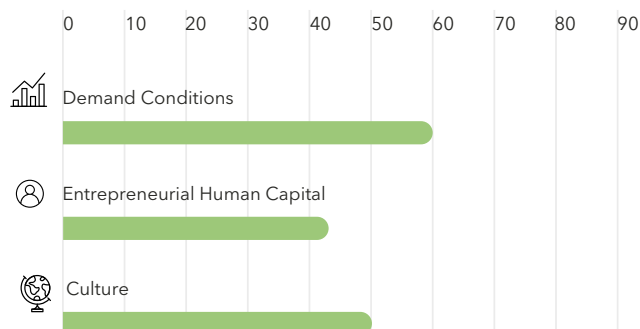
**4%**



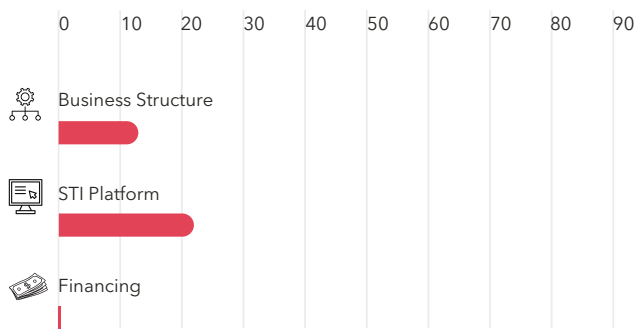
□ Iran  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions





# IDE 2022 Ireland



IDE ranking

**7**

IDE value

**55.96**

Population  
(Million habitants)

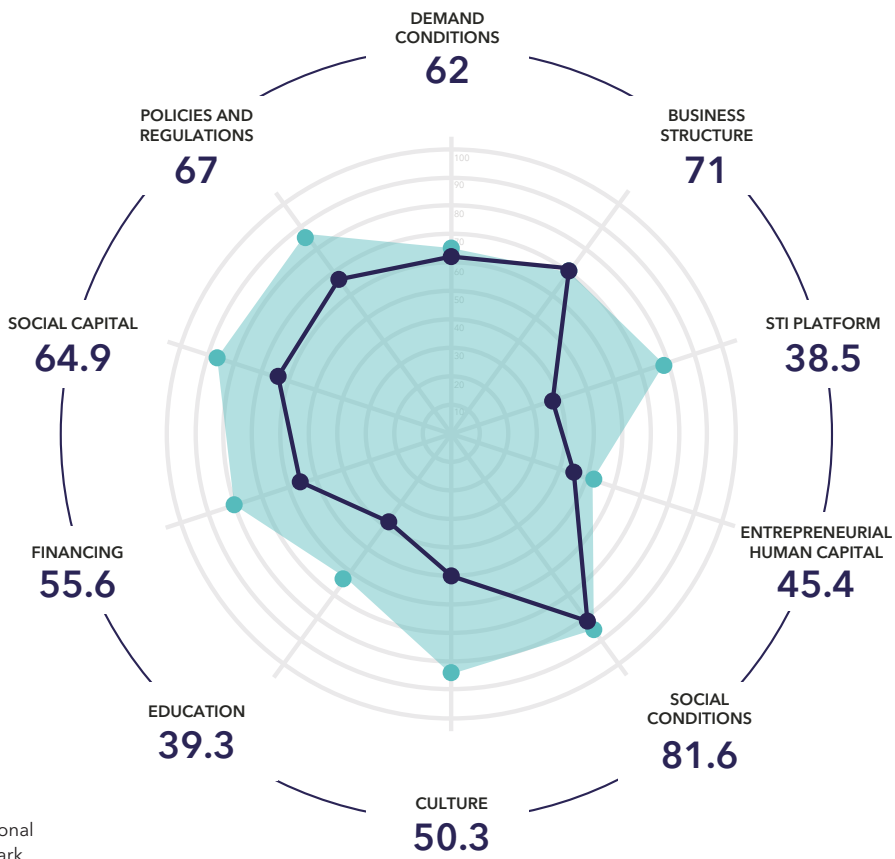
**5 M**

GDP per capita  
(USD)

**99,013**

GDP growth rate

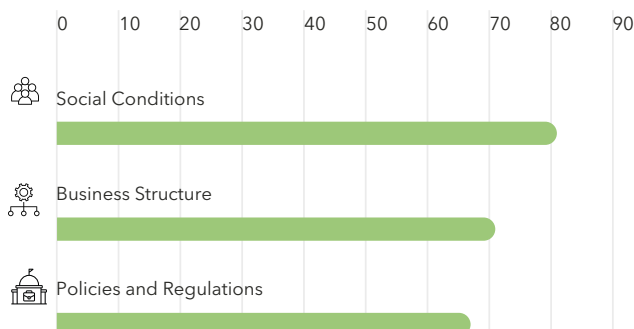
**13.5%**



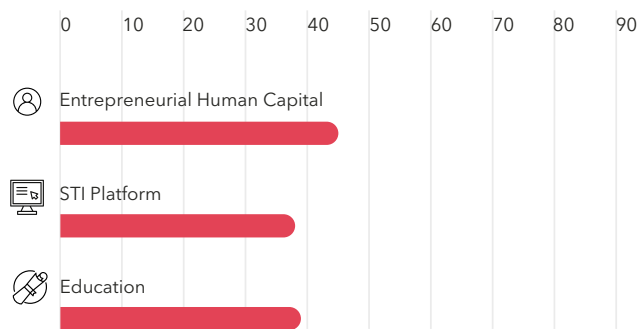
□ Ireland  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Israel



IDE ranking

**11**

IDE value

**53.92**

Population  
(Million habitants)

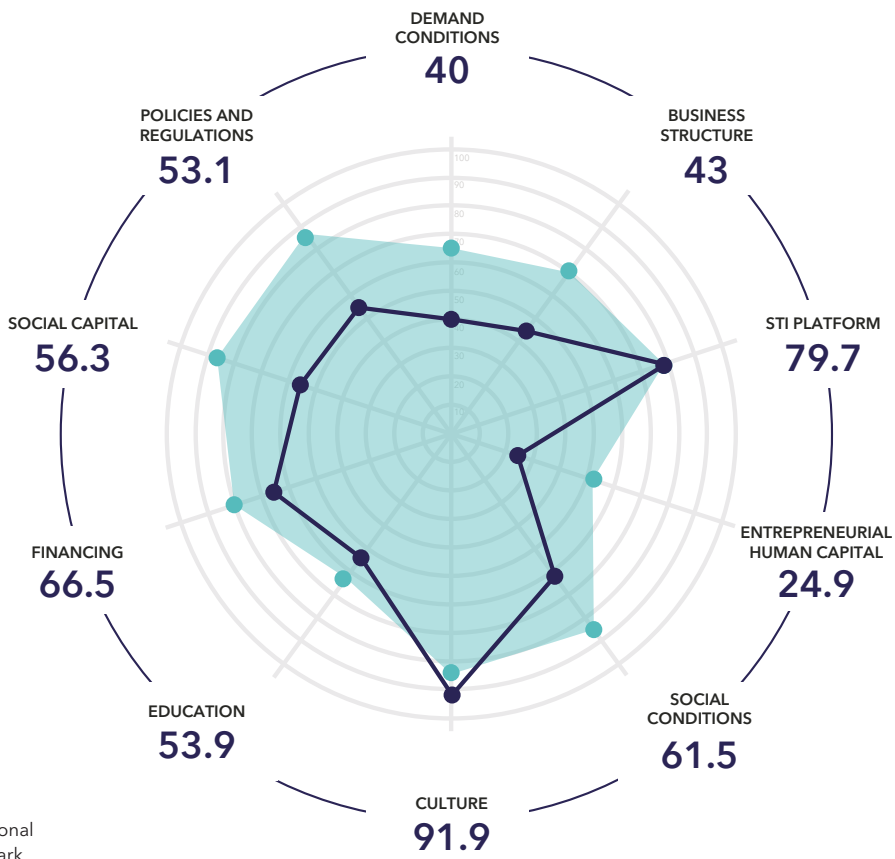
**10 M**

GDP per capita  
(USD)

**51,416**

GDP growth rate

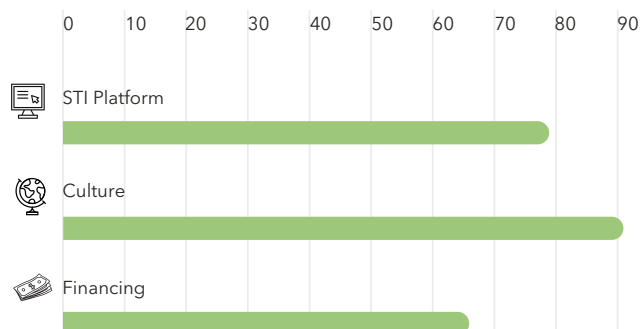
**8.2%**



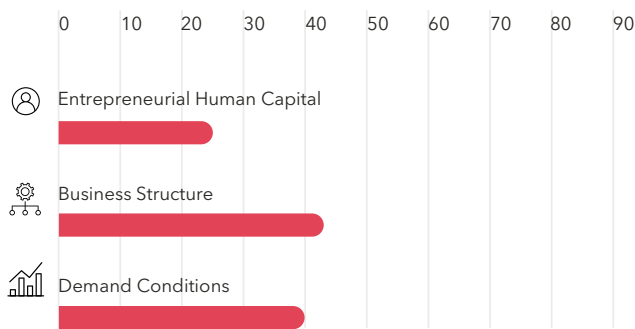
□ Israel  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Italy



IDE ranking

**26**

IDE value

**35.84**

Population  
(Million habitants)

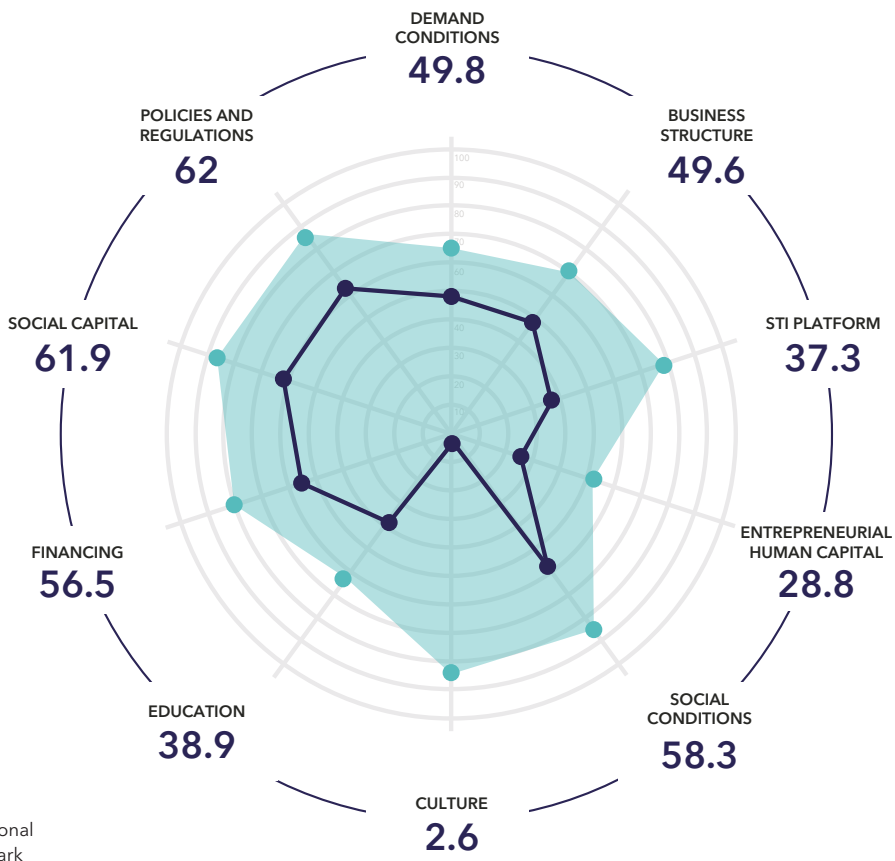
**59 M**

GDP per capita  
(USD)

**35,473**

GDP growth rate

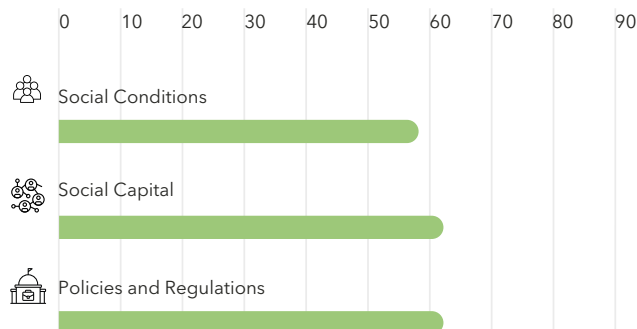
**6.6%**



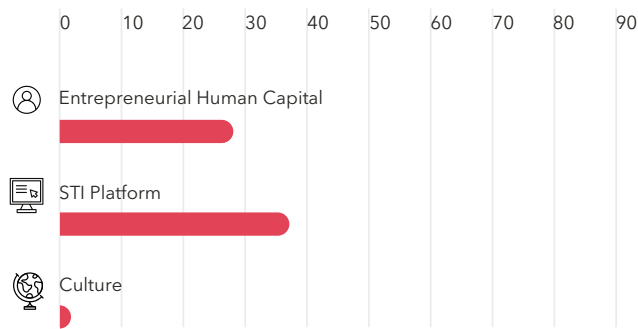
□ Italy  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Japan



IDE ranking

**15**

IDE value

**50.33**

Population  
(Million habitants)

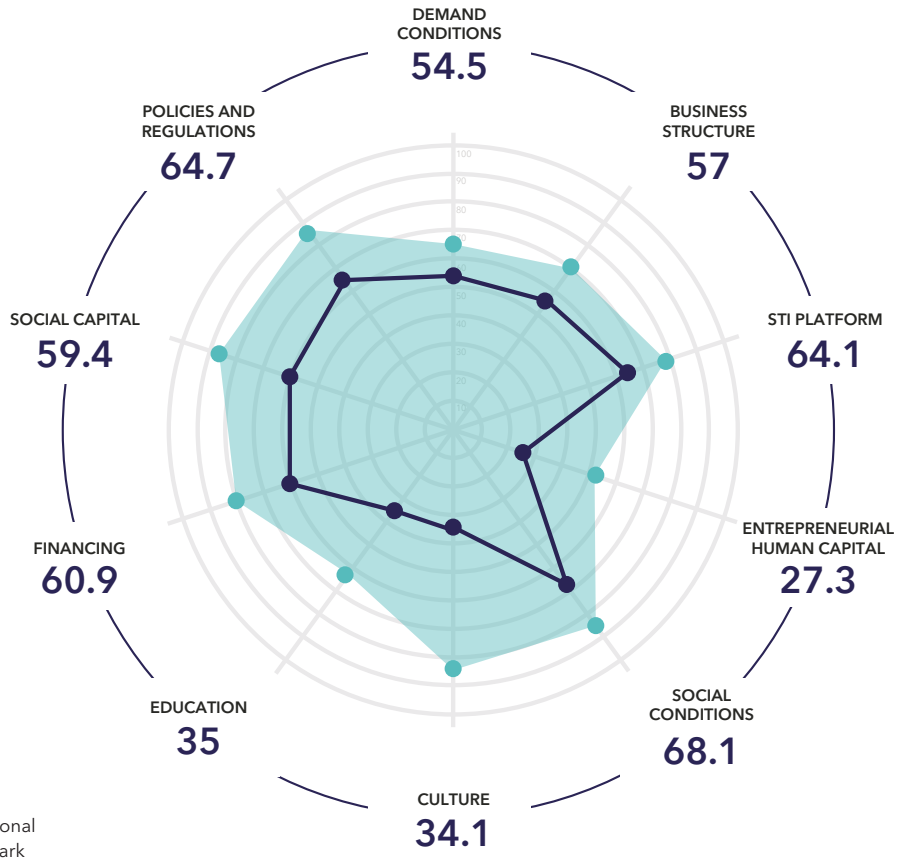
**125 M**

GDP per capita  
(USD)

**39,340**

GDP growth rate

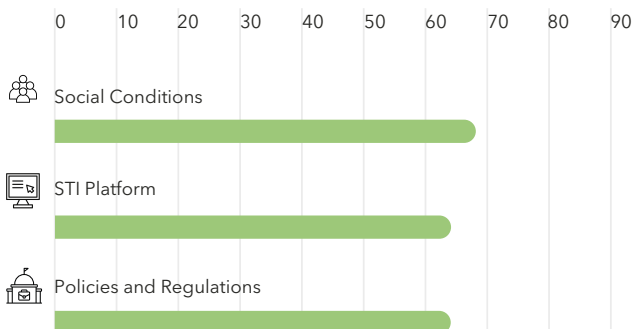
**1.6%**



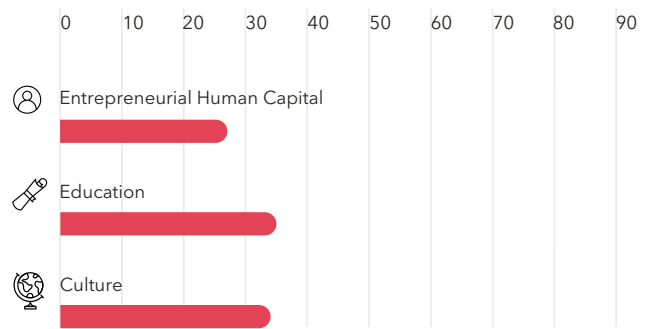
□ Japan  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Korea, Rep.



IDE ranking

**8**

IDE value

**55.64**

Population  
(Million habitants)

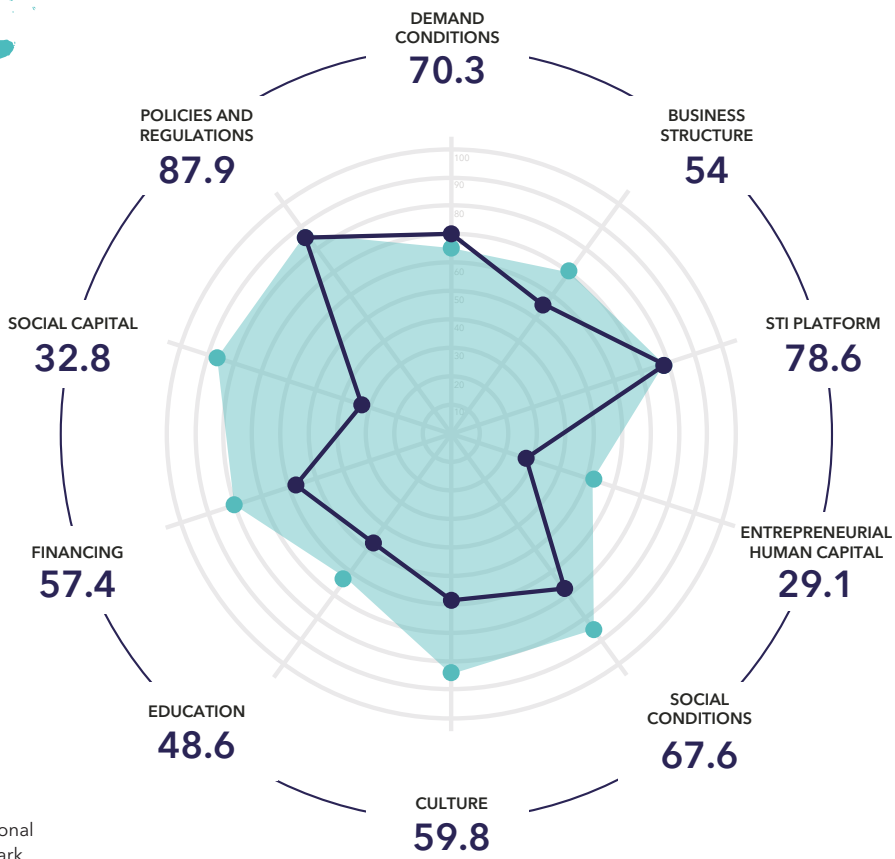
**52 M**

GDP per capita  
(USD)

**34,801**

GDP growth rate

**4%**

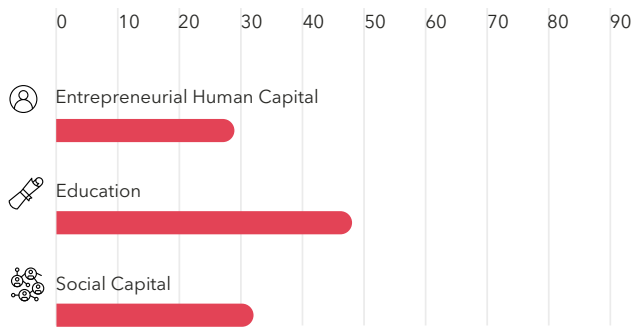
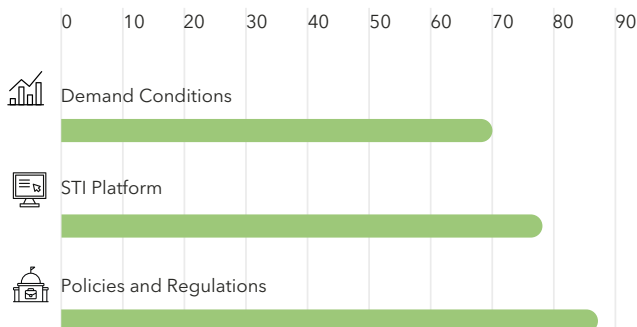


□ Korea  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions

## Lowest Scoring Dimensions



# IDE 2022 Latvia



IDE ranking

**22**

IDE value

**40.13**

Population  
(Million habitants)

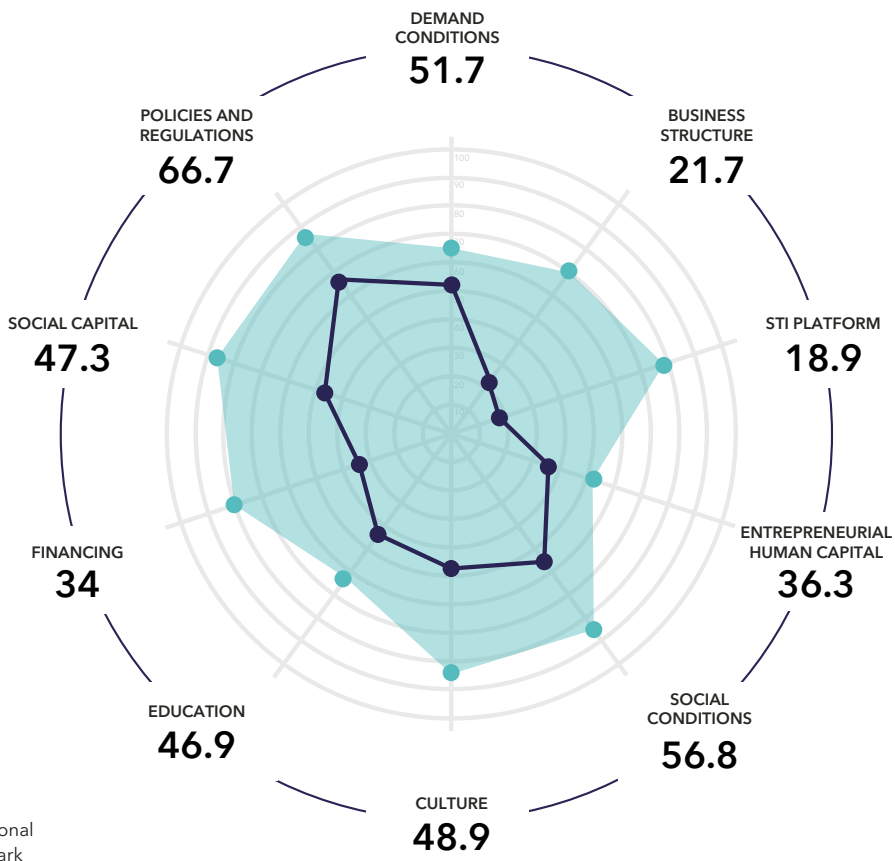
**2 M**

GDP per capita  
(USD)

**20,581**

GDP growth rate

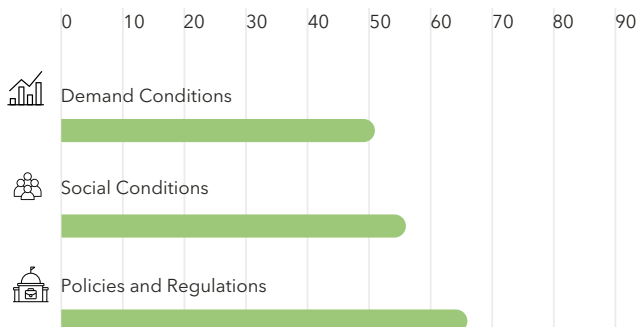
**4.7%**



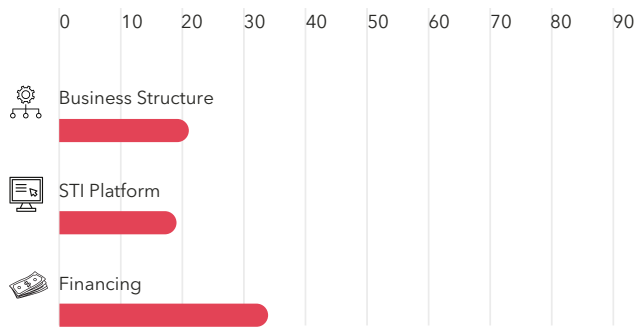
□ Latvia  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Luxembourg



IDE ranking

**14**

IDE value

**51.18**

Population  
(Million habitants)

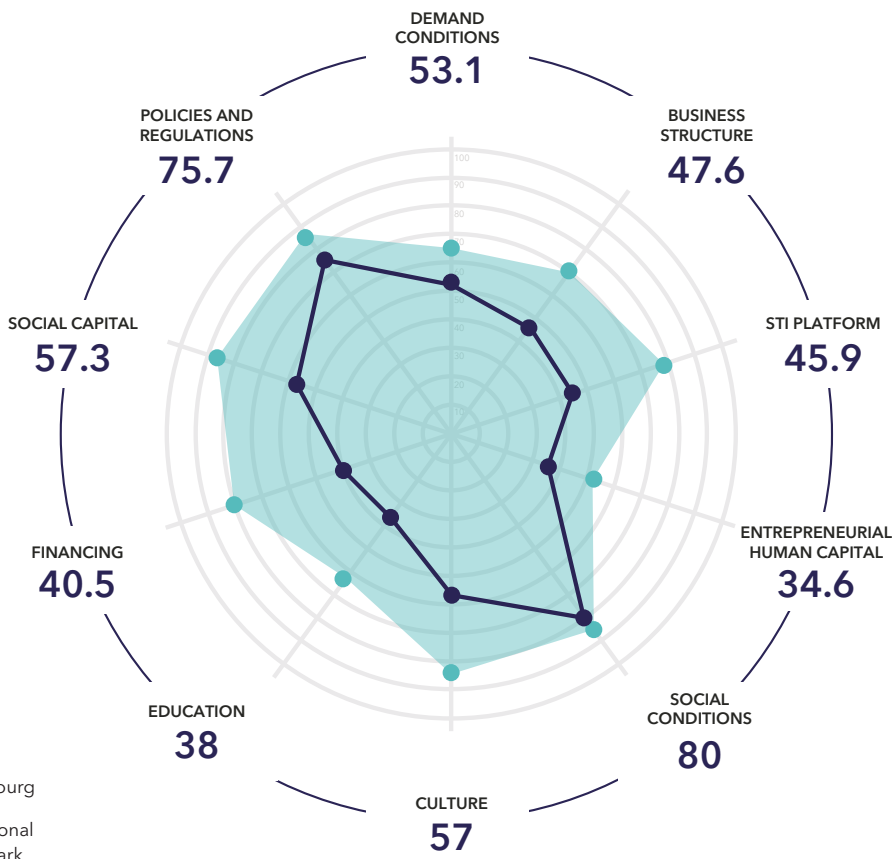
**1 M**

GDP per capita  
(USD)

**136,701**

GDP growth rate

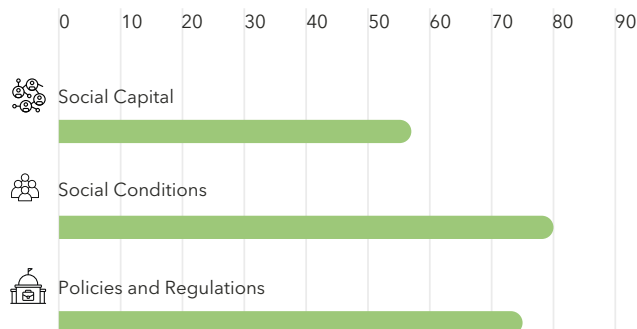
**6.9%**



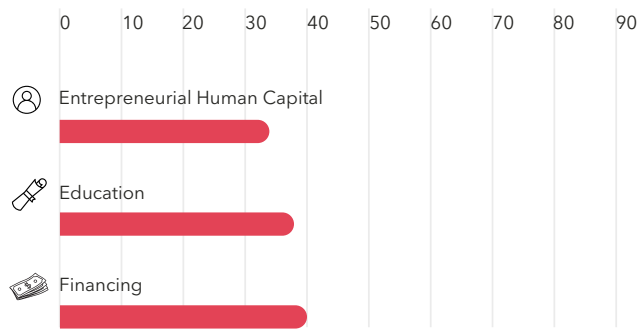
□ Luxembourg  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Mexico



IDE ranking

**32**

IDE value

**31.2**

Population  
(Million habitants)

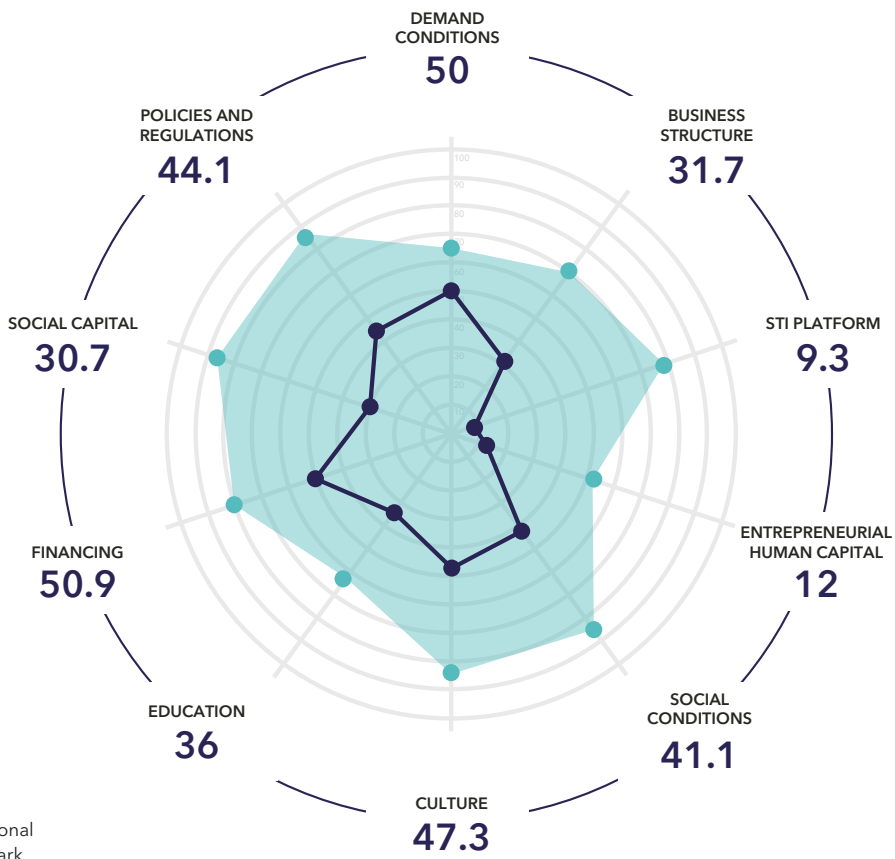
**130 M**

GDP per capita  
(USD)

**10,040**

GDP growth rate

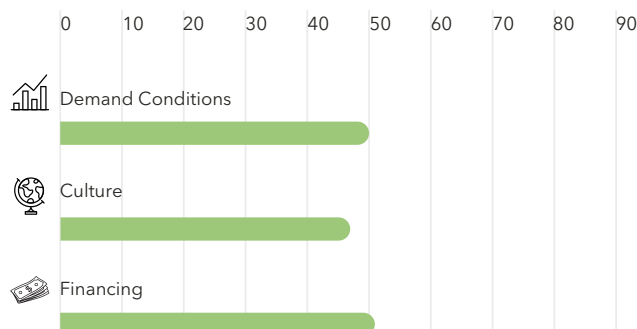
**4.8%**



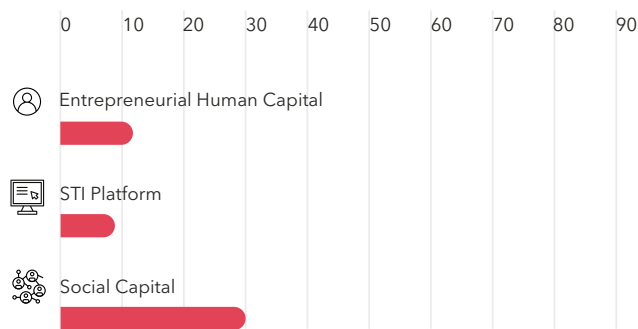
□ Mexico  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions





# IDE 2022 Morocco



IDE ranking

**33**

IDE value

**30.97**

Population  
(Million habitants)

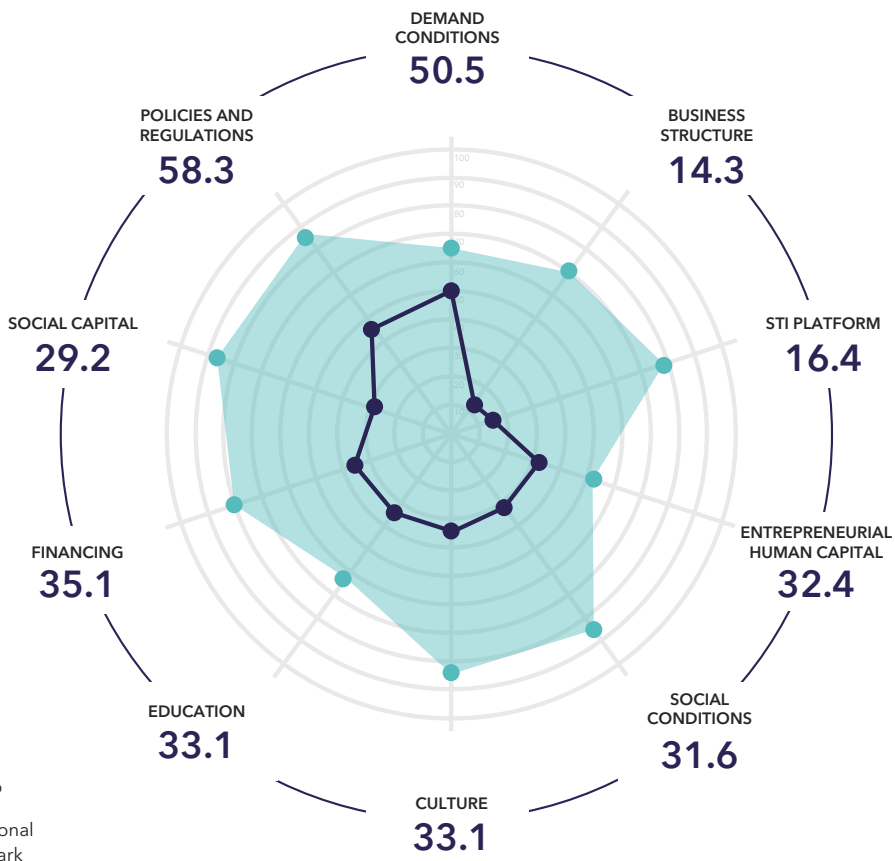
**37 M**

GDP per capita  
(USD)

**3,620**

GDP growth rate

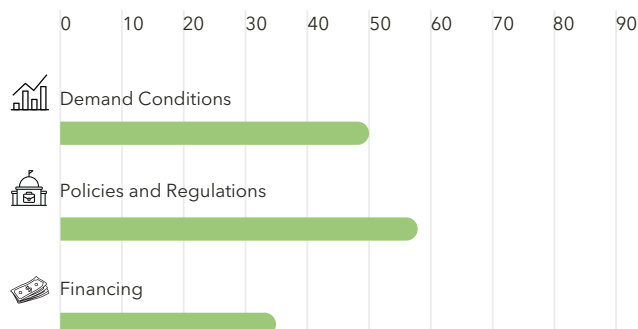
**7.2%**



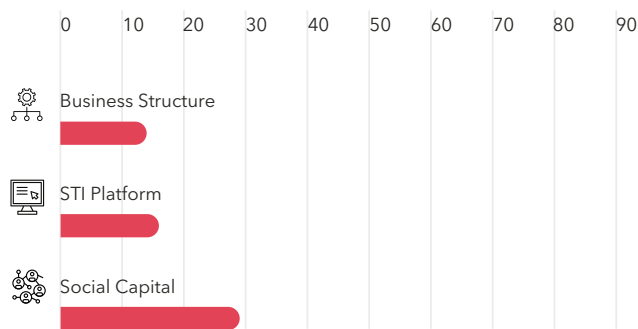
□ Morocco  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Netherlands



IDE ranking

**1**

IDE value

**65.13**

Population  
(Million habitants)

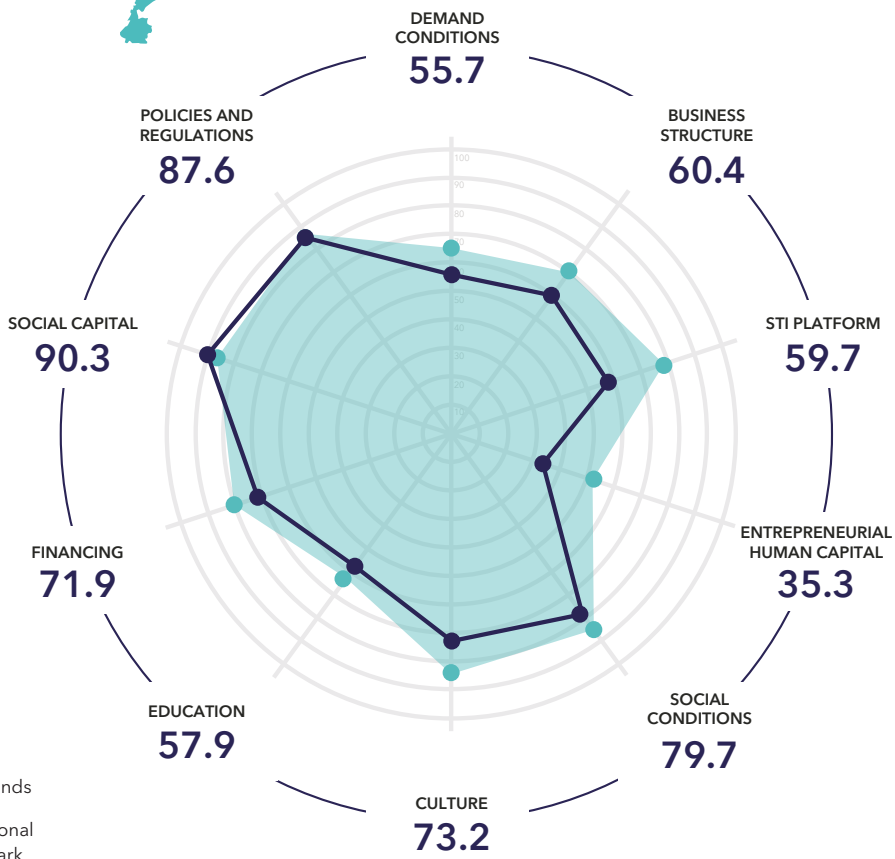
**18 M**

GDP per capita  
(USD)

**58,292**

GDP growth rate

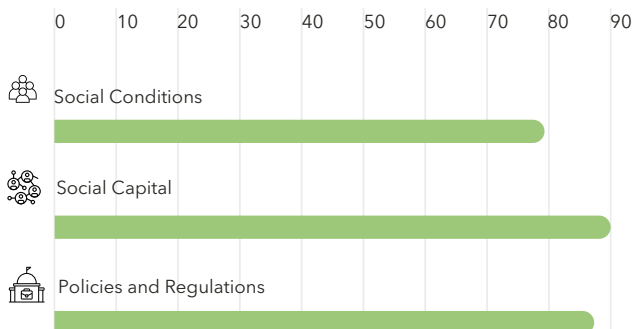
**5%**



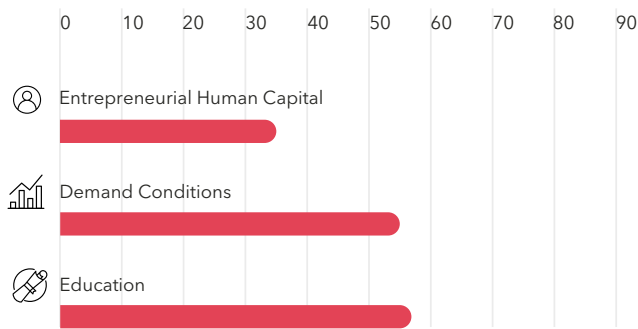
□ Netherlands  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Norway



IDE ranking

**4**

IDE value

**60.92**

Population  
(Million habitants)

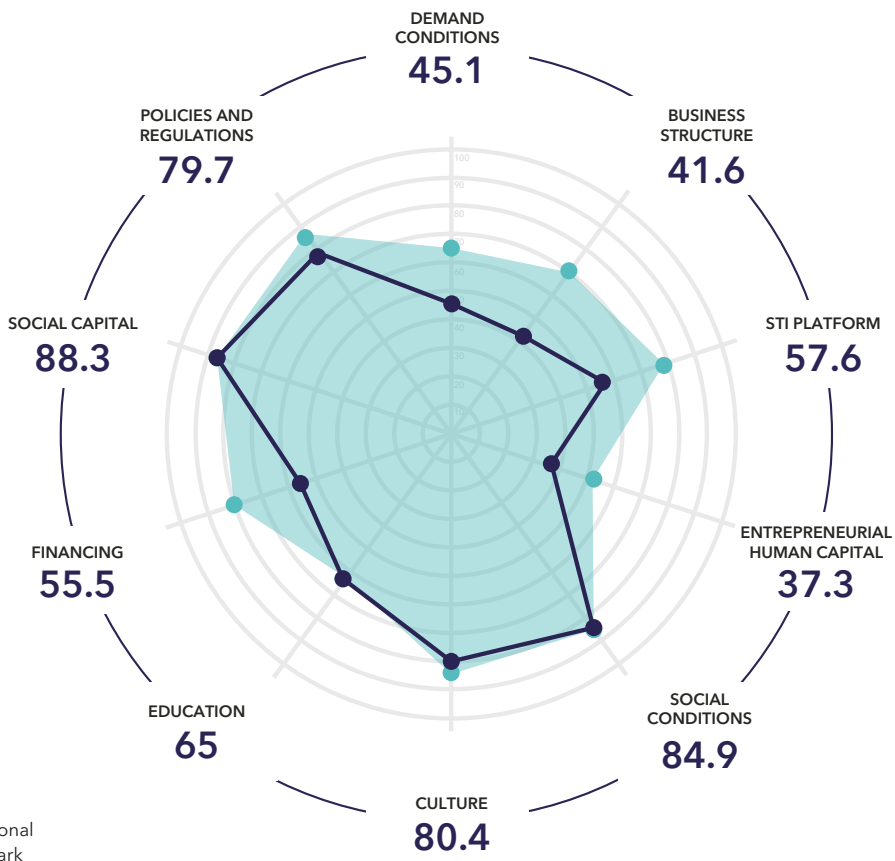
**5 M**

GDP per capita  
(USD)

**89,090**

GDP growth rate

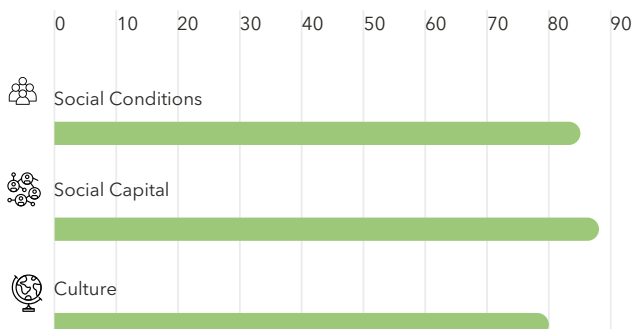
**3.9%**



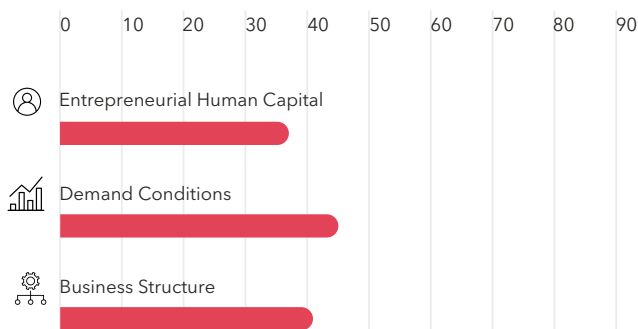
□ Norway  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Panama



IDE ranking

**39**

IDE value

**24.19**

Population  
(Million habitants)

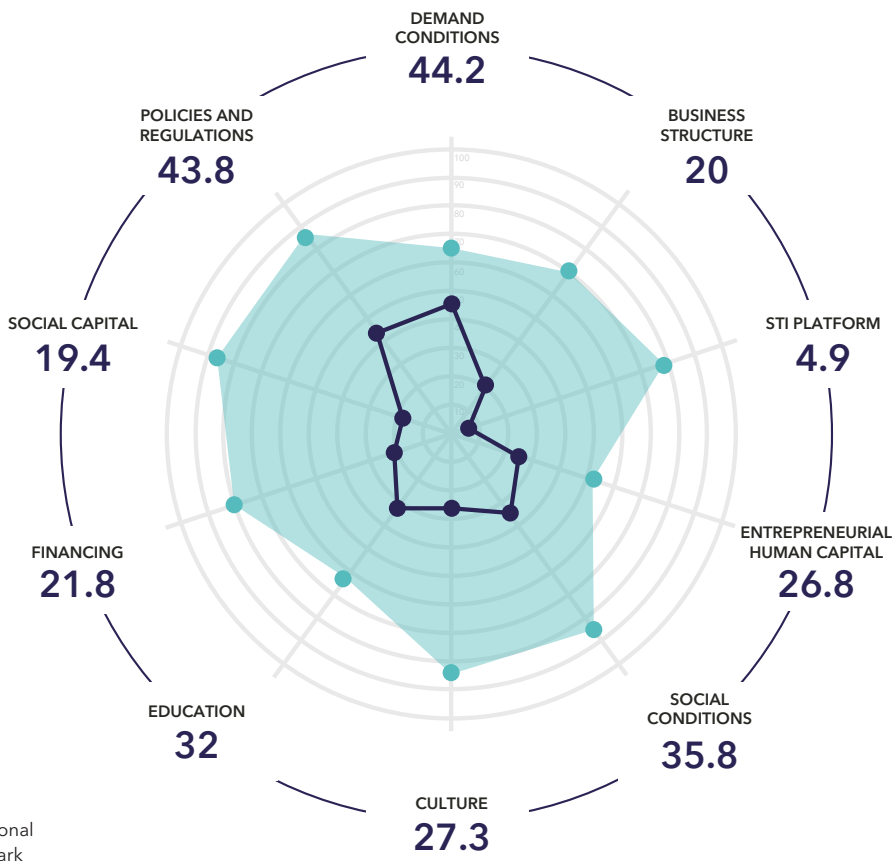
**4 M**

GDP per capita  
(USD)

**14,664**

GDP growth rate

**15.3%**

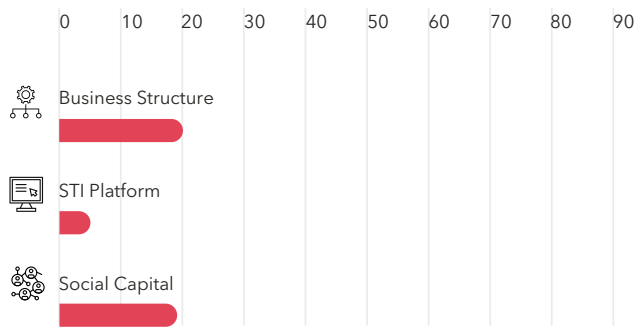
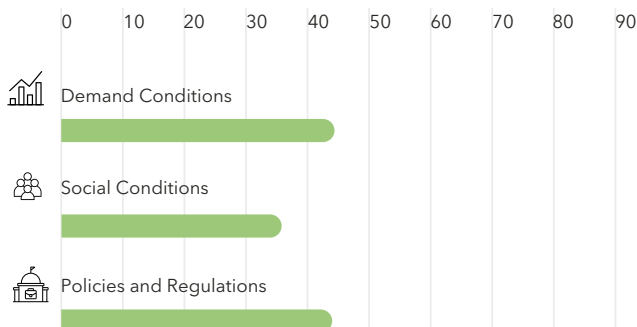


□ Panama  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions

## Lowest Scoring Dimensions



# IDE 2022 Peru



IDE ranking

**40**

IDE value

**23.97**

Population  
(Million habitants)

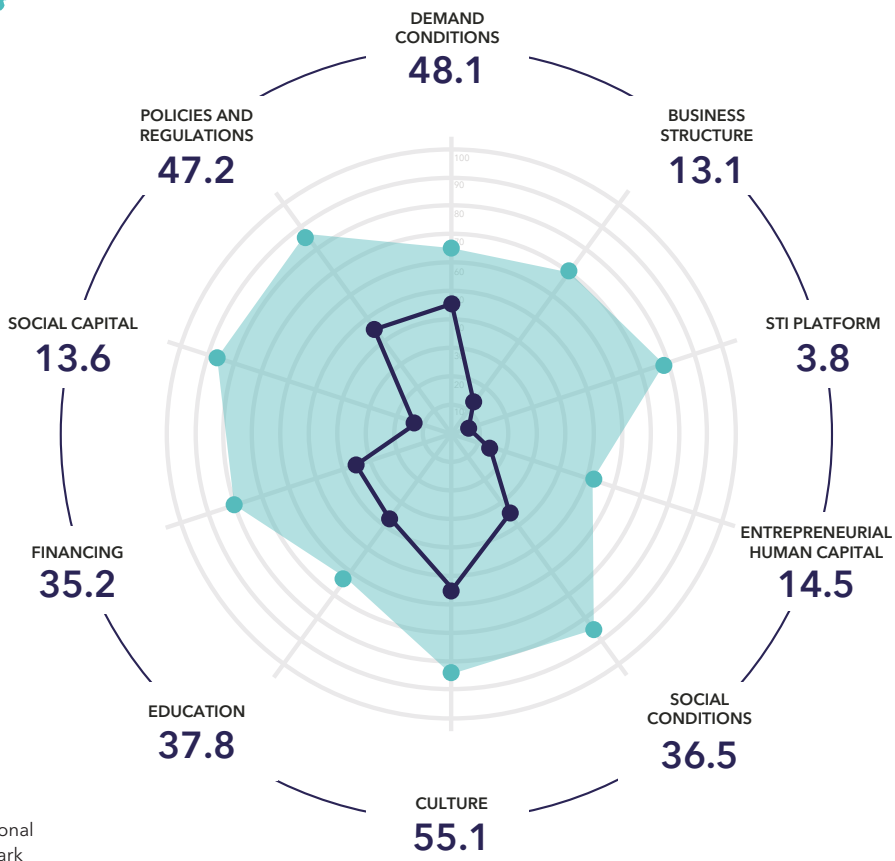
**34 M**

GDP per capita  
(USD)

**6,643**

GDP growth rate

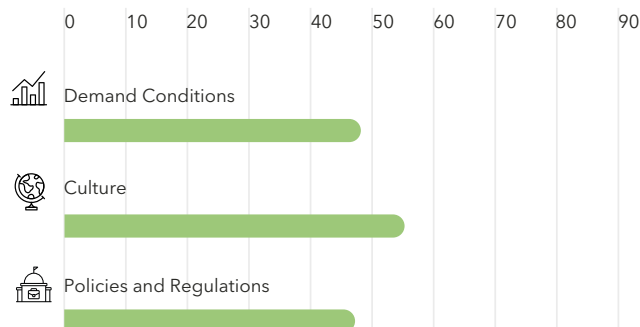
**13.3%**



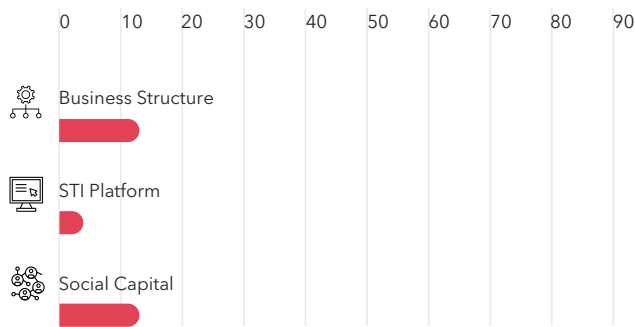
□ Peru  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Poland



IDE ranking

**20**

IDE value

**41.12**

Population  
(Million habitants)

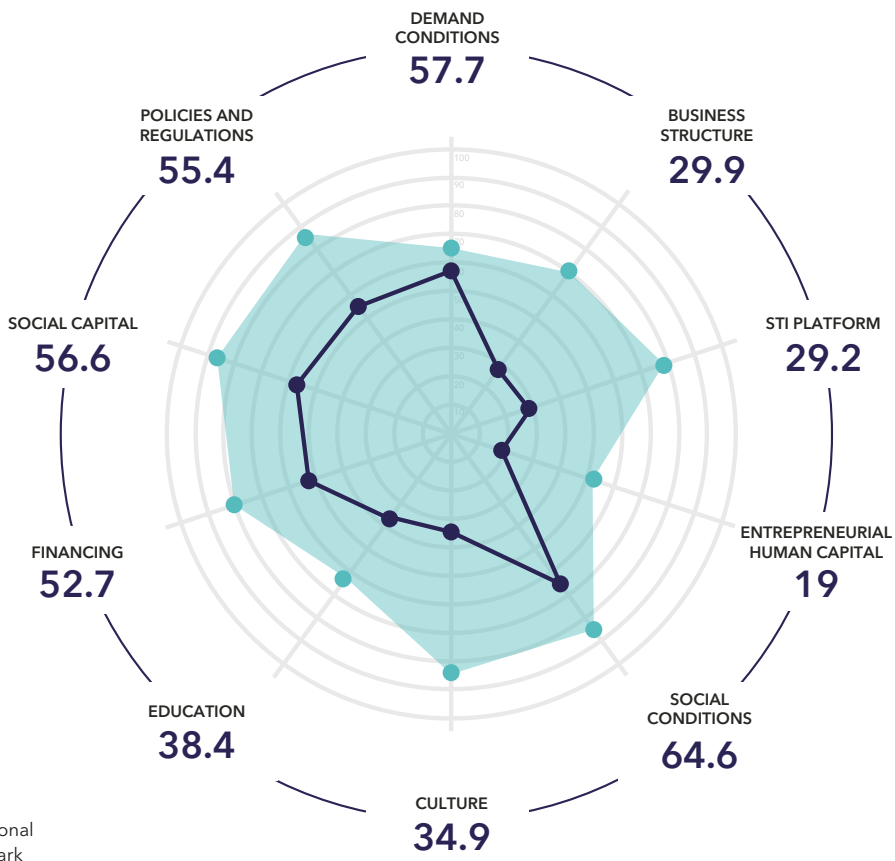
**38 M**

GDP per capita  
(USD)

**17,815**

GDP growth rate

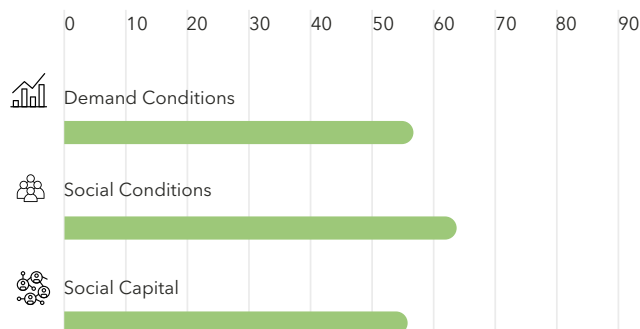
**5.7%**



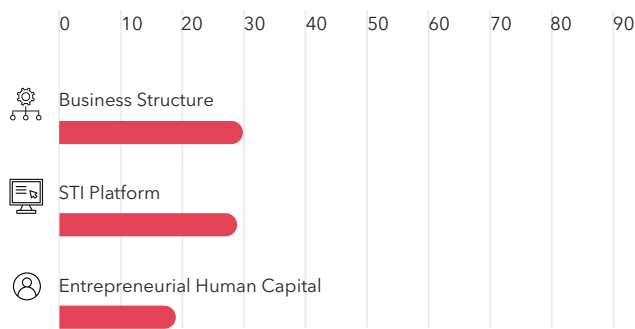
□ Poland  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Qatar



IDE ranking

**25**

IDE value

**38.38**

Population  
(Million habitants)

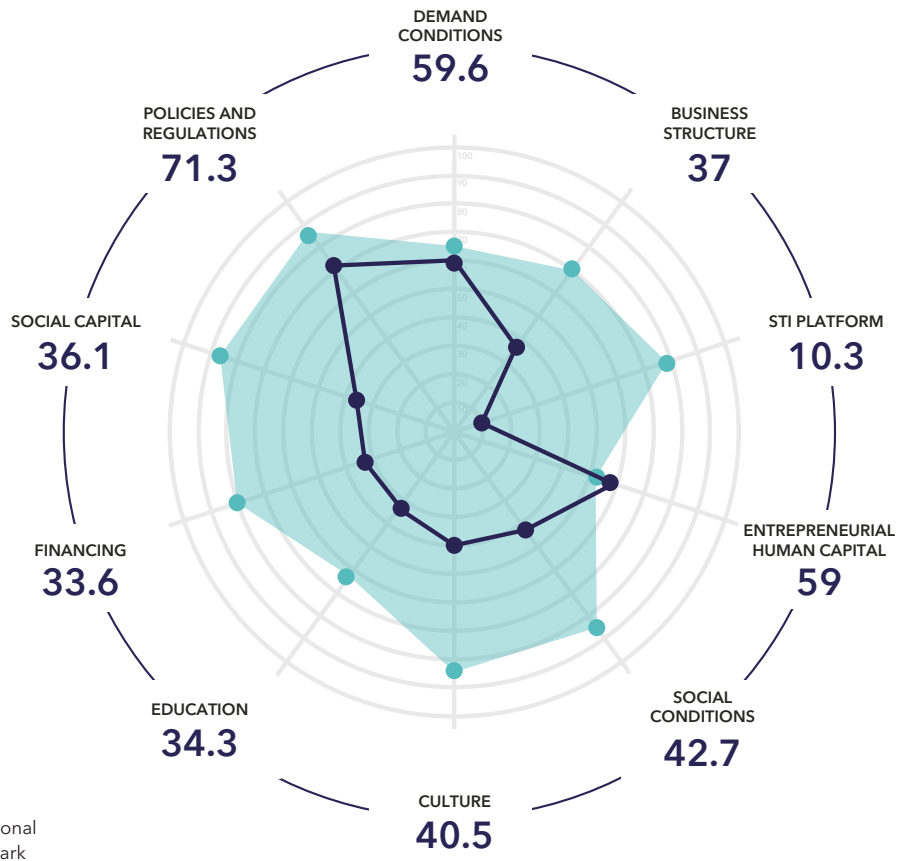
**3 M**

GDP per capita  
(USD)

**68,581**

GDP growth rate

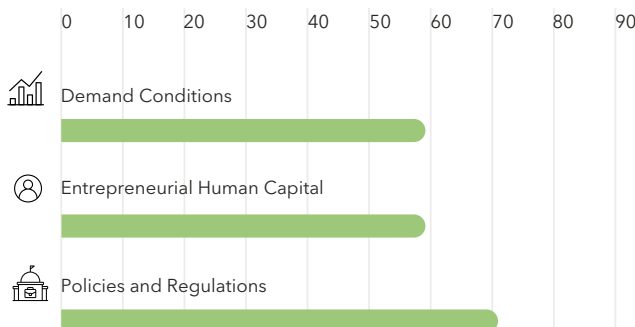
**1.5%**



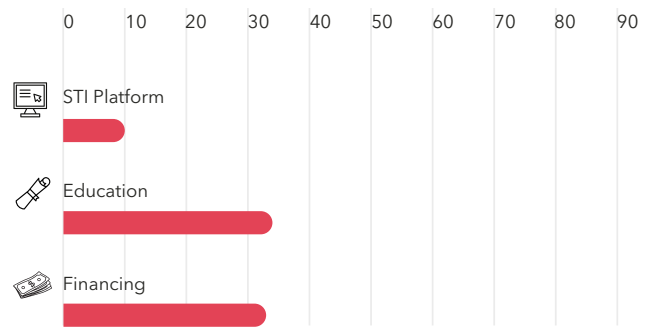
□ Qatar  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

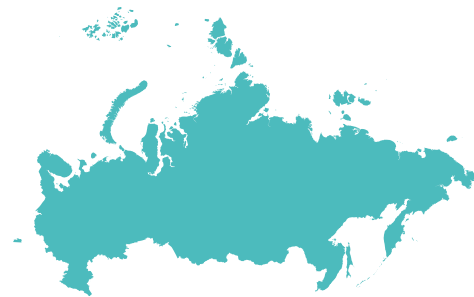
## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Russian Federation



IDE ranking

**24**

IDE value

**39.62**

Population  
(Million habitants)

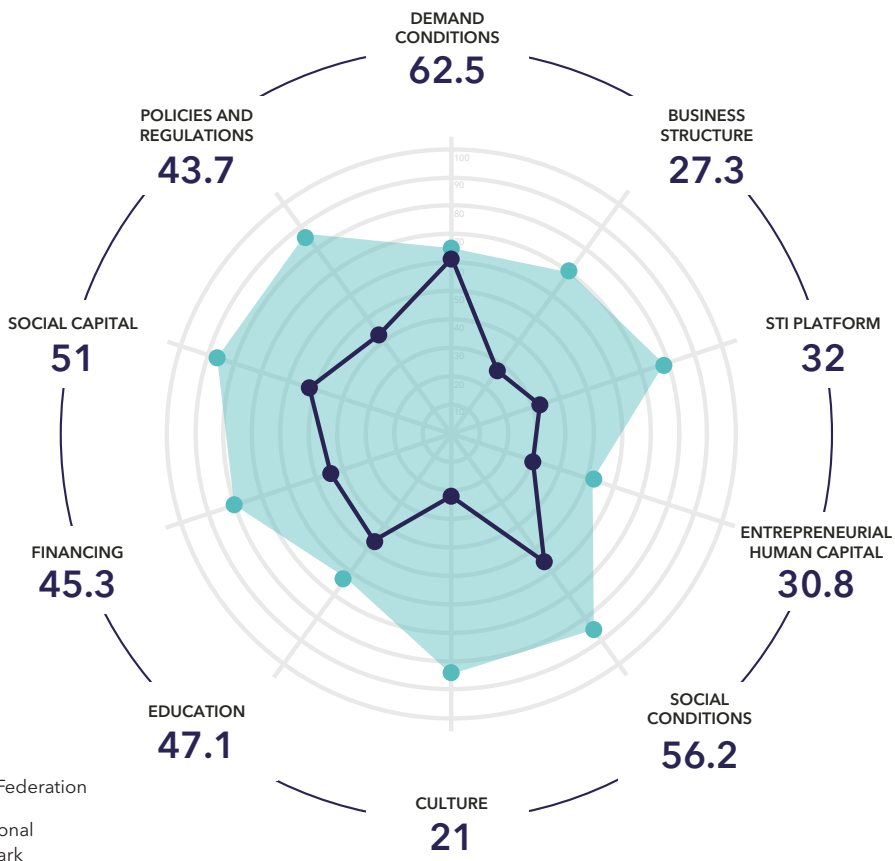
**145 M**

GDP per capita  
(USD)

**12,198**

GDP growth rate

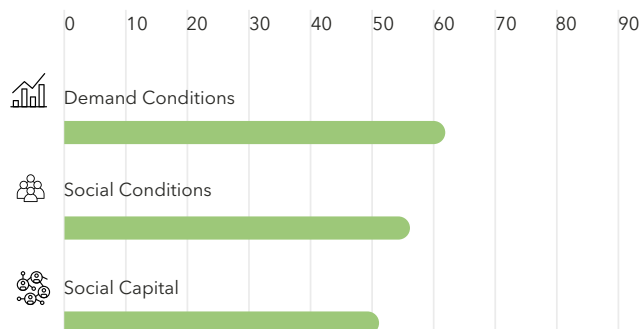
**4.7%**



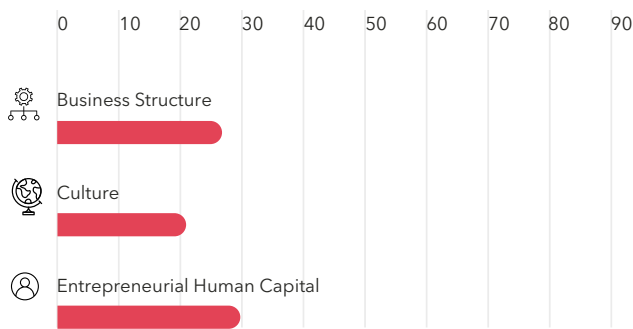
□ Russian Federation  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions





# IDE 2022 Saudi Arabia



IDE ranking

**17**

IDE value

**45.69**

Population  
(Million habitants)

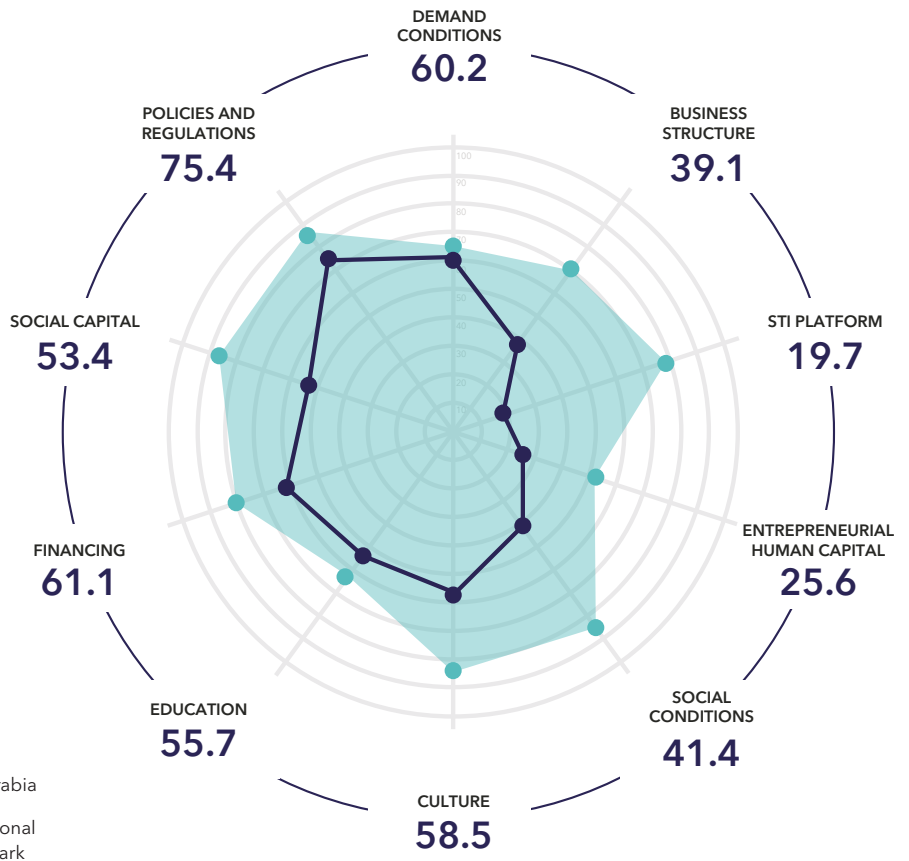
**36 M**

GDP per capita  
(USD)

**23,507**

GDP growth rate

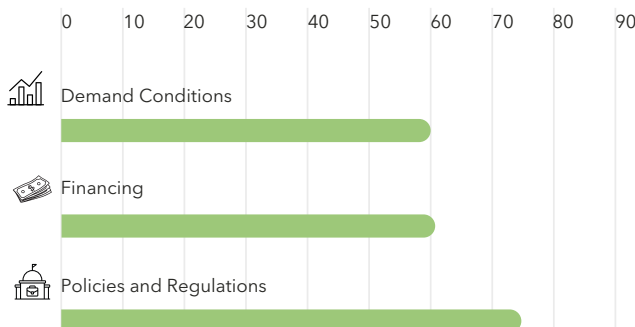
**3.2%**



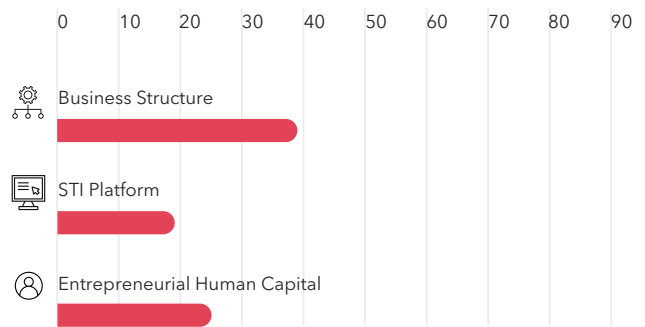
□ Saudi Arabia  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Slovak Republic



IDE ranking

**35**

IDE value

**28.58**

Population  
(Million habitants)

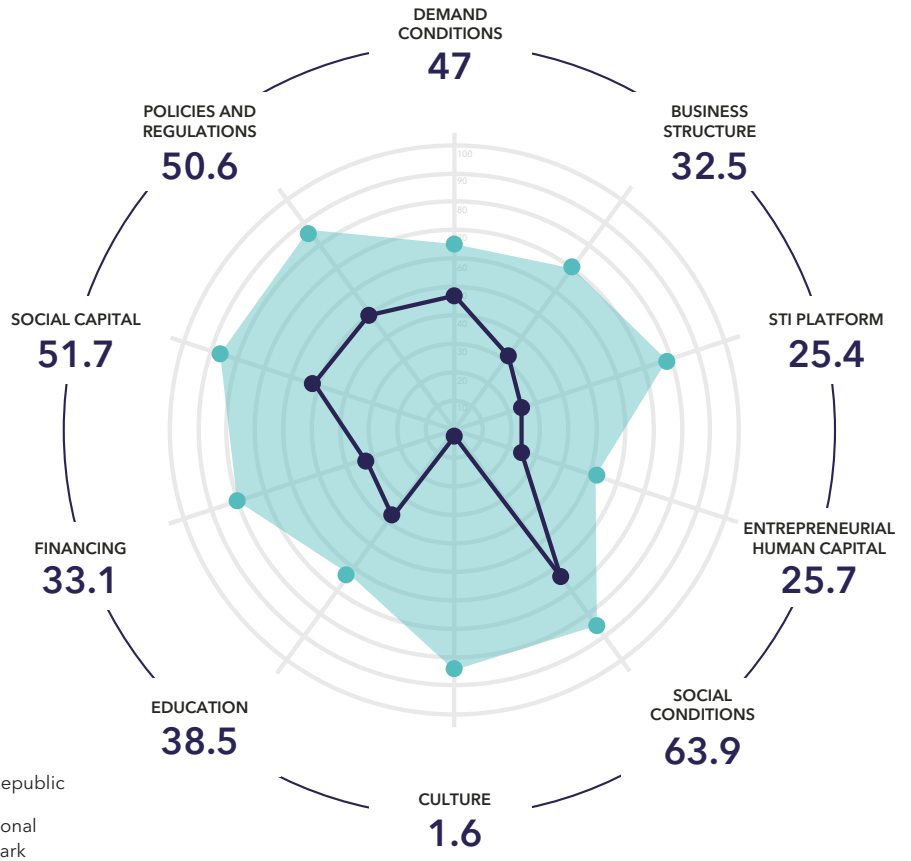
**5 M**

GDP per capita  
(USD)

**21,053**

GDP growth rate

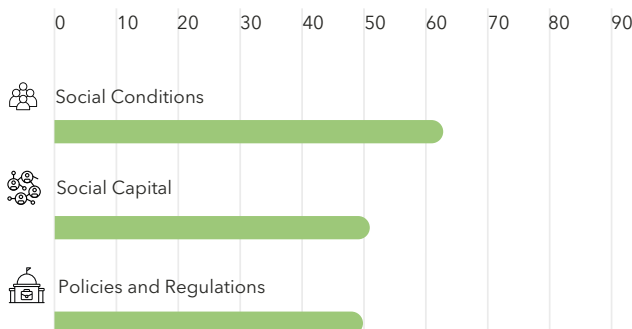
**3%**



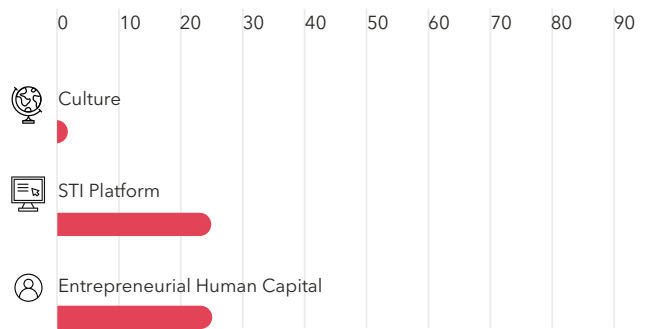
□ Slovak Republic  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Slovenia



IDE ranking

**19**

IDE value

**41.55**

Population  
(Million habitants)

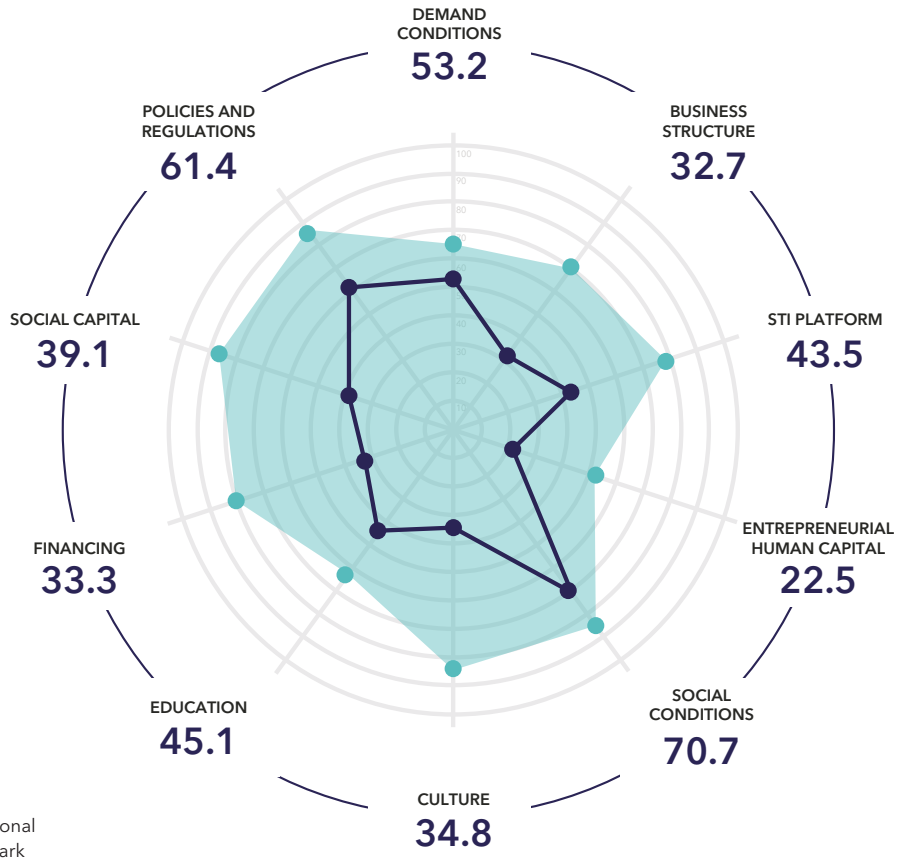
**2 M**

GDP per capita  
(USD)

**29,193**

GDP growth rate

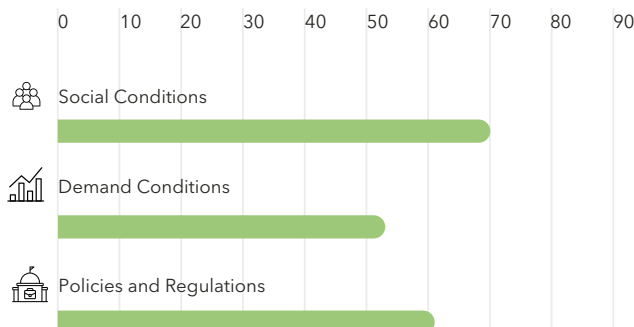
**8.1%**



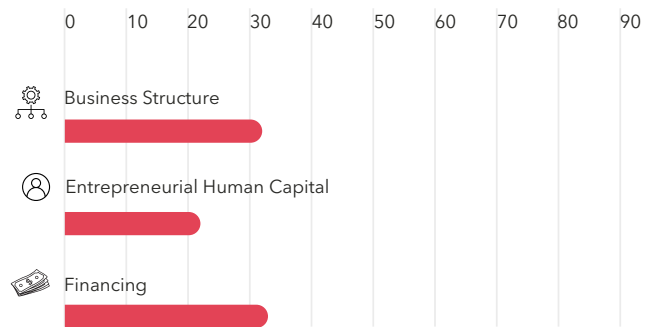
□ Slovenia  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 South Africa



IDE ranking

**43**

IDE value

**20.28**

Population  
(Million habitants)

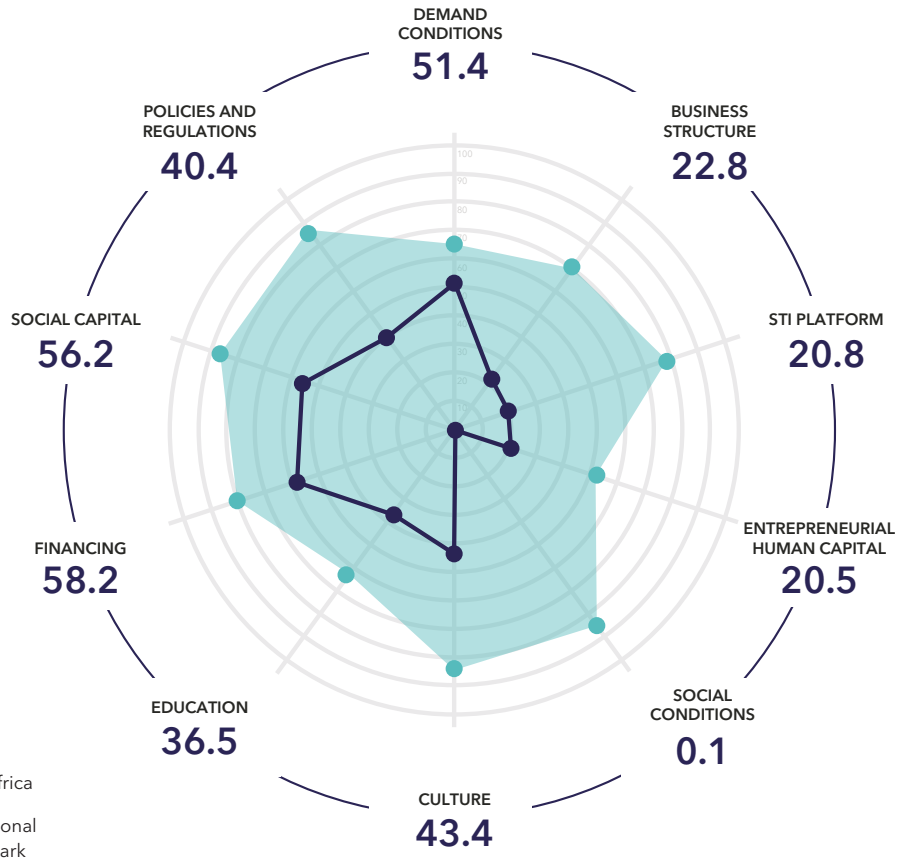
**61 M**

GDP per capita  
(USD)

**6,950**

GDP growth rate

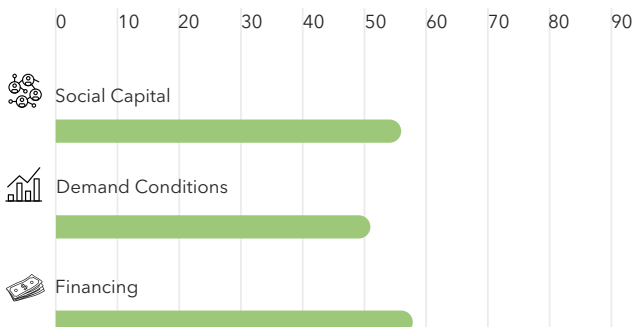
**4.9%**



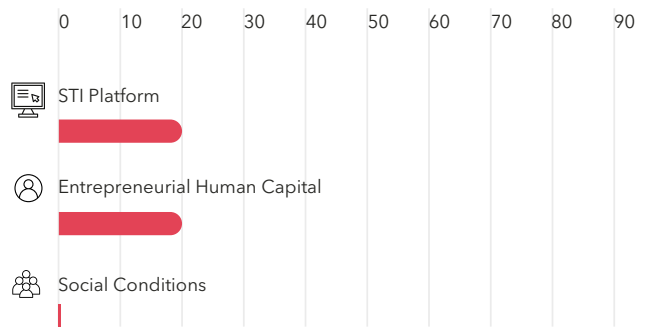
□ South Africa  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Spain



IDE ranking

**18**

IDE value

**42.32**

Population  
(Million habitants)

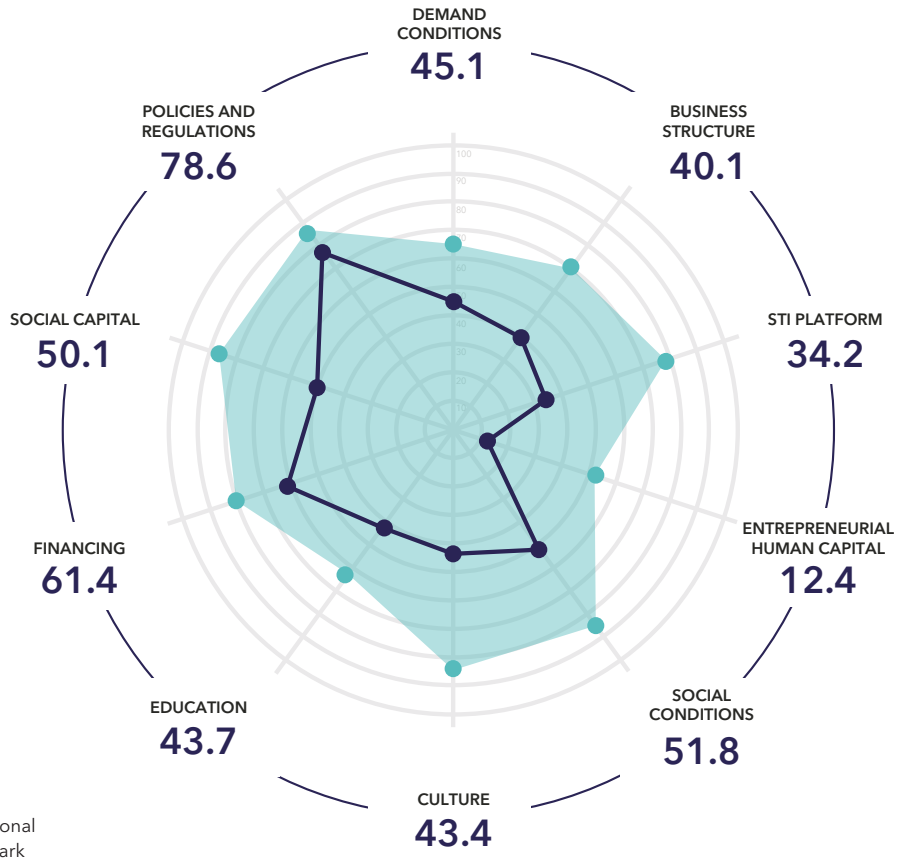
**48 M**

GDP per capita  
(USD)

**30,090**

GDP growth rate

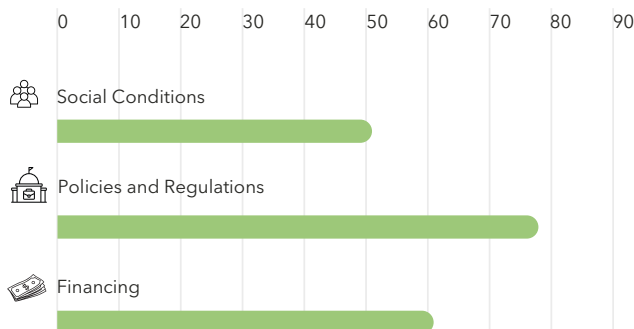
**5.1%**



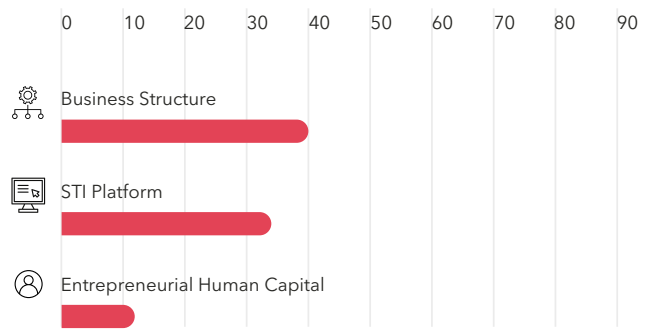
□ Spain  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Sweden



IDE ranking

**5**

IDE value

**60.27**

Population  
(Million habitants)

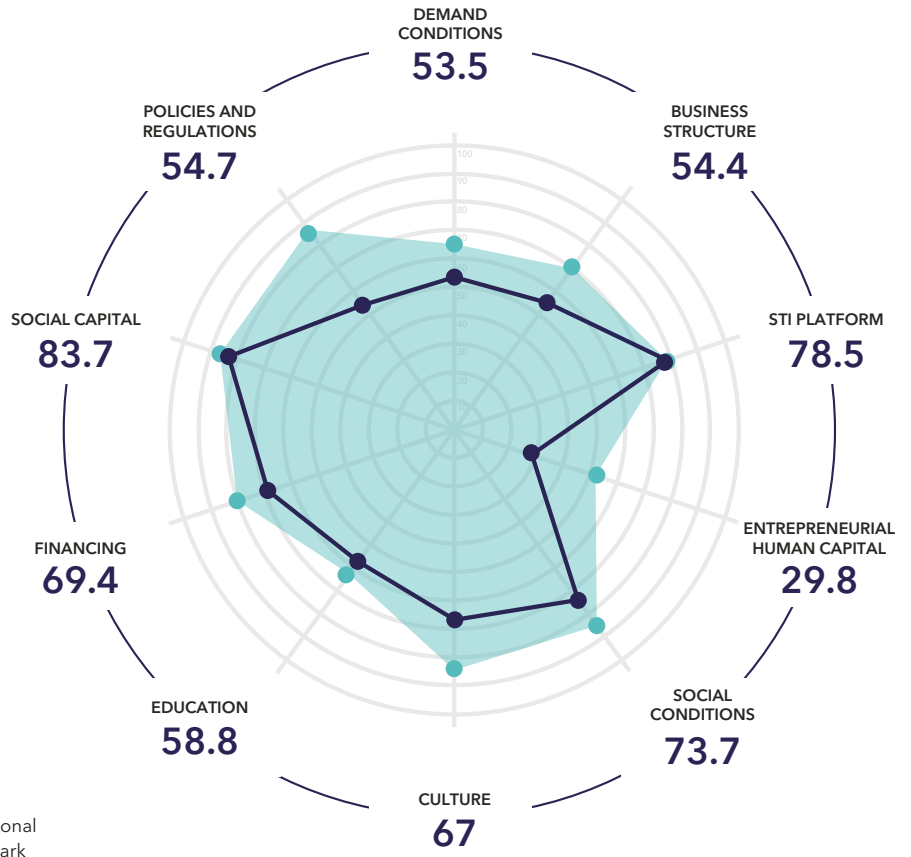
**11 M**

GDP per capita  
(USD)

**60,029**

GDP growth rate

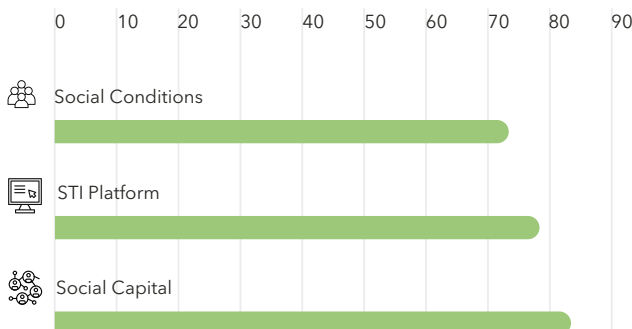
**4.8%**



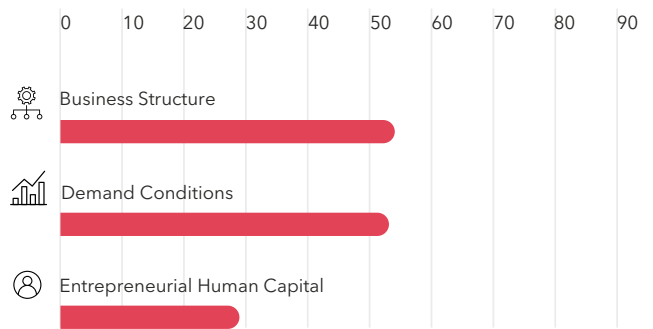
□ Sweden  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Switzerland



IDE ranking

**12**

IDE value

**53.79**

Population  
(Million habitants)

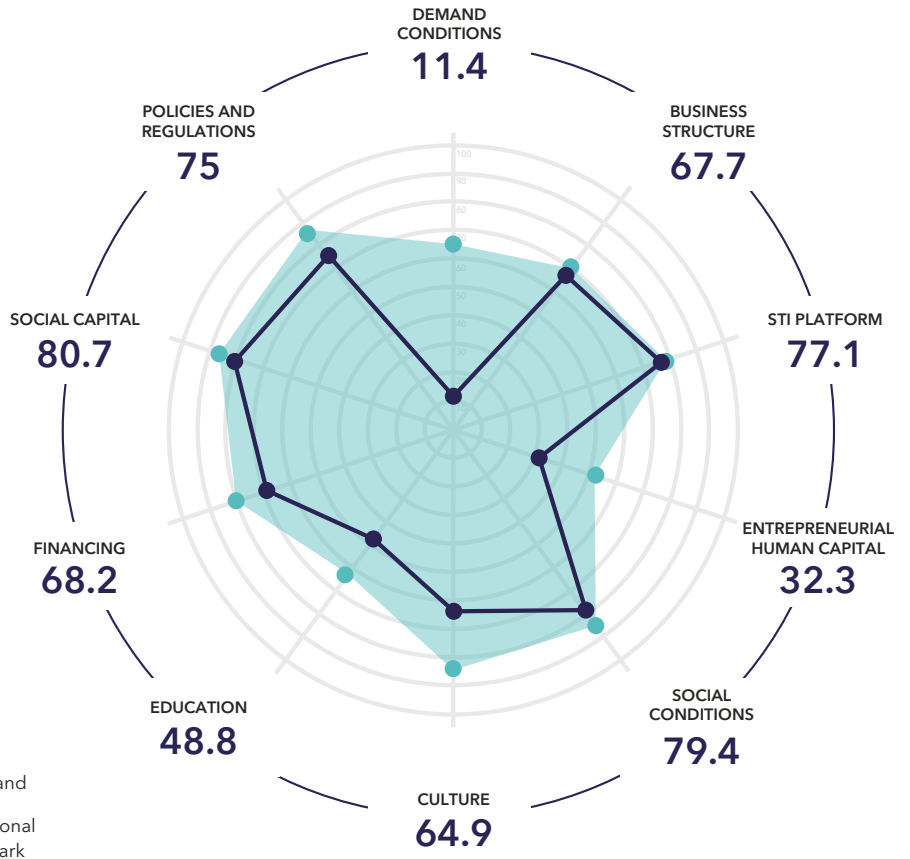
**9 M**

GDP per capita  
(USD)

**93,720**

GDP growth rate

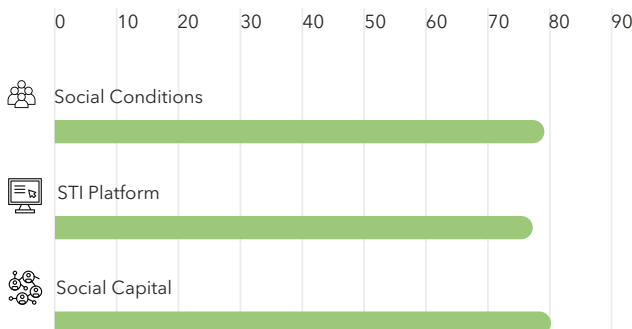
**3.7%**



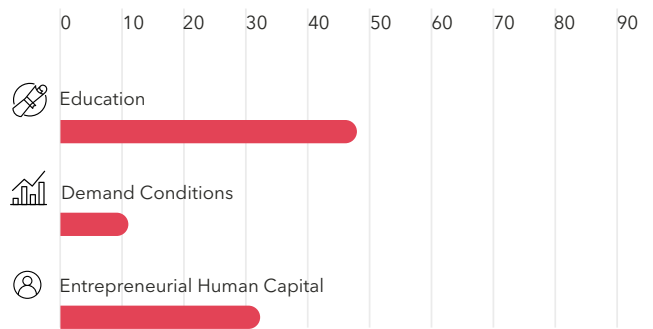
■ Switzerland  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Turkey



IDE ranking

**23**

IDE value

**40.10**

Population  
(Million habitants)

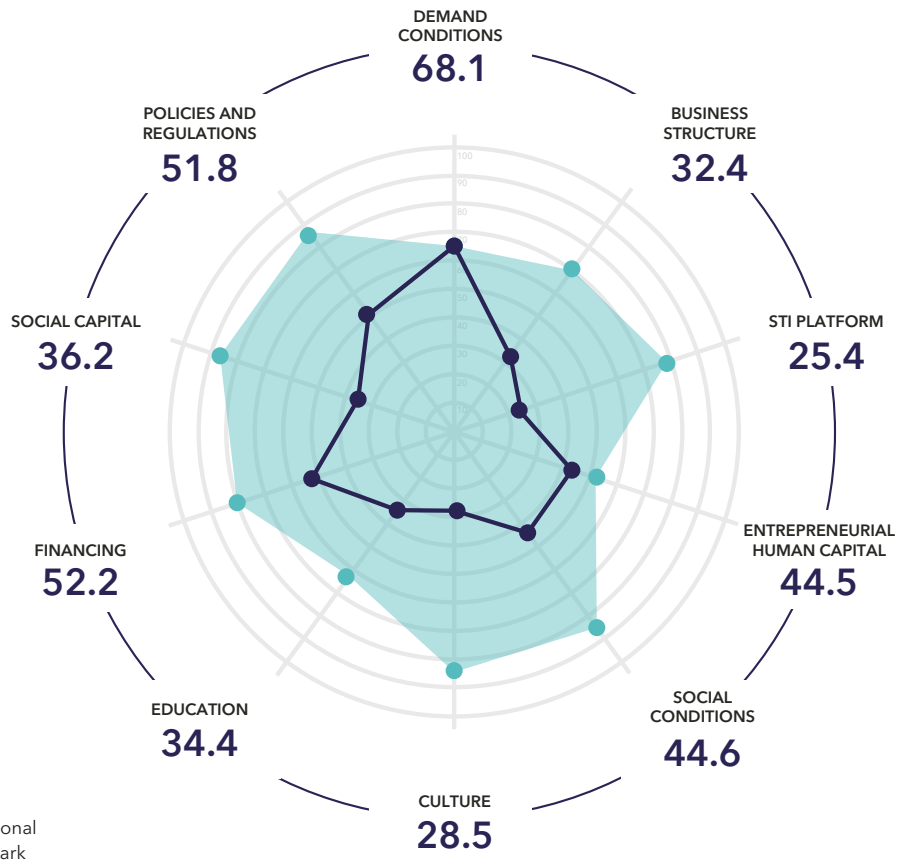
**86 M**

GDP per capita  
(USD)

**9,528**

GDP growth rate

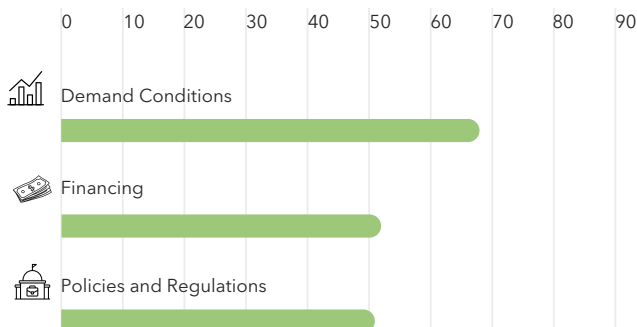
**11%**



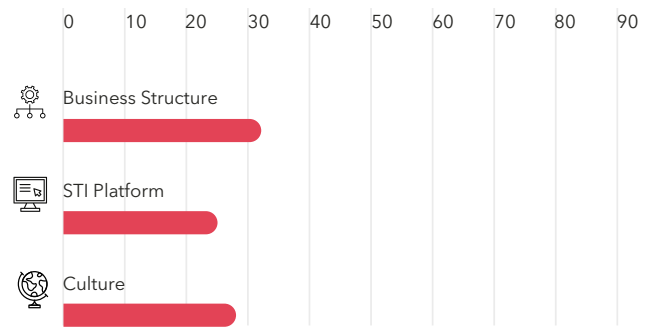
□ Turkey  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions





# IDE 2022 United Arab Emirates



IDE ranking

**16**

IDE value

**49.15**

Population  
(Million habitants)

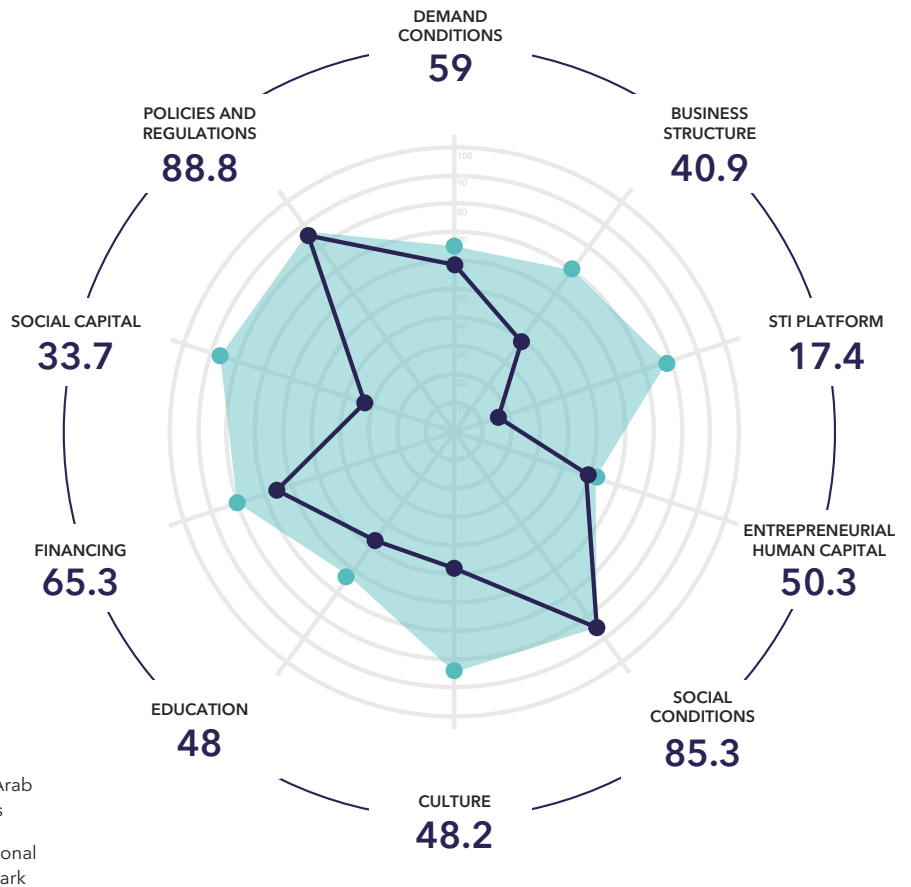
**10 M**

GDP per capita  
(USD)

**42,884**

GDP growth rate

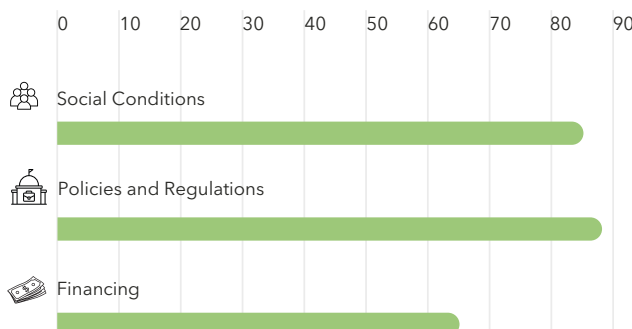
**2.3%**



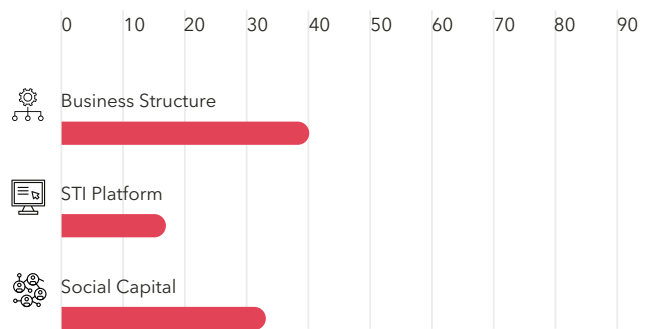
United Arab Emirates  
 International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 United Kingdom



IDE ranking

**10**

IDE value

**54.94**

Population  
(Million habitants)

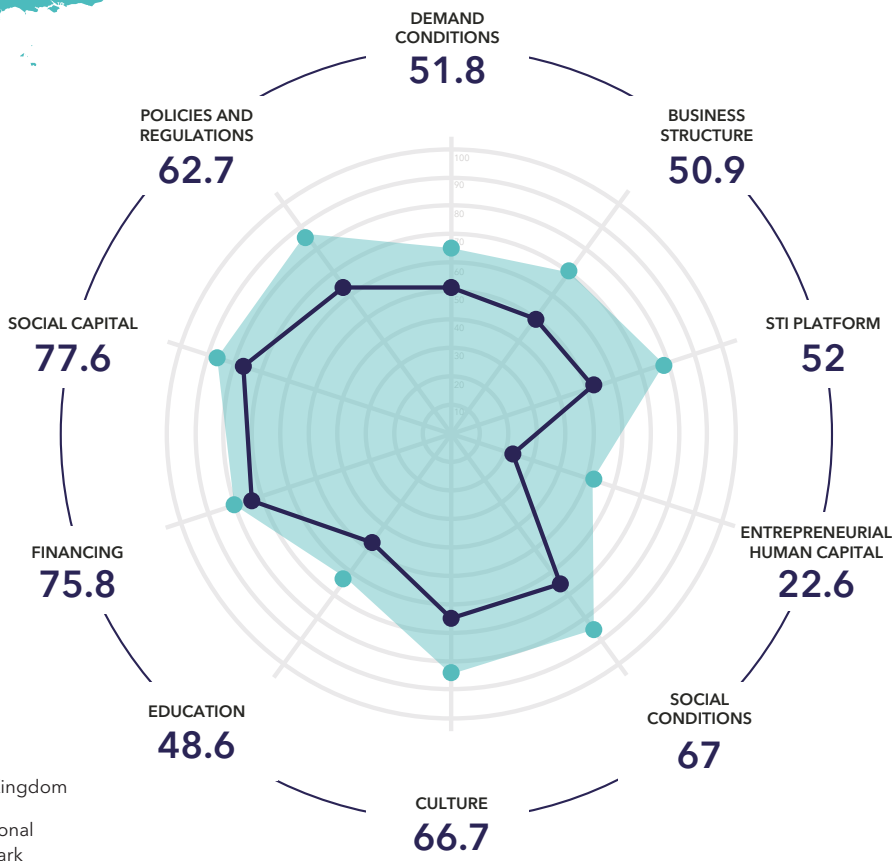
**68 M**

GDP per capita  
(USD)

**47,203**

GDP growth rate

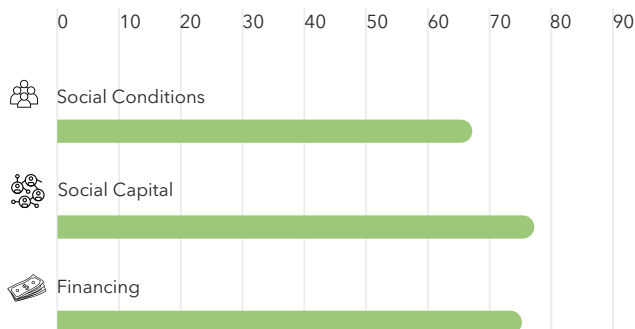
**7.4%**



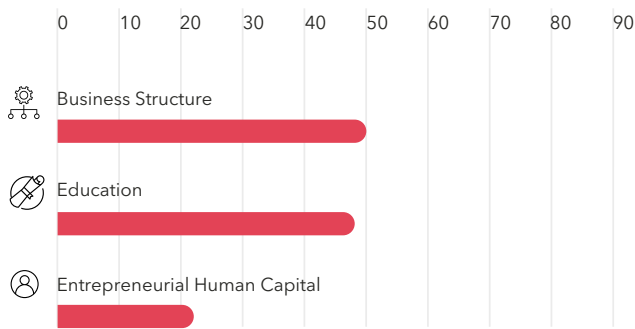
United Kingdom  
 International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

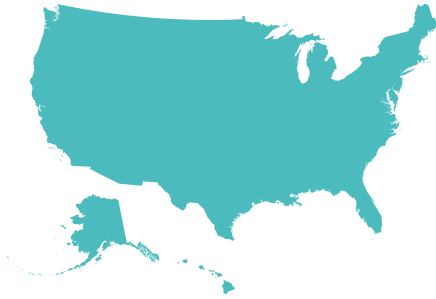
## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 United States



IDE ranking

**2**

IDE value

**63.87**

Population  
(Million habitants)

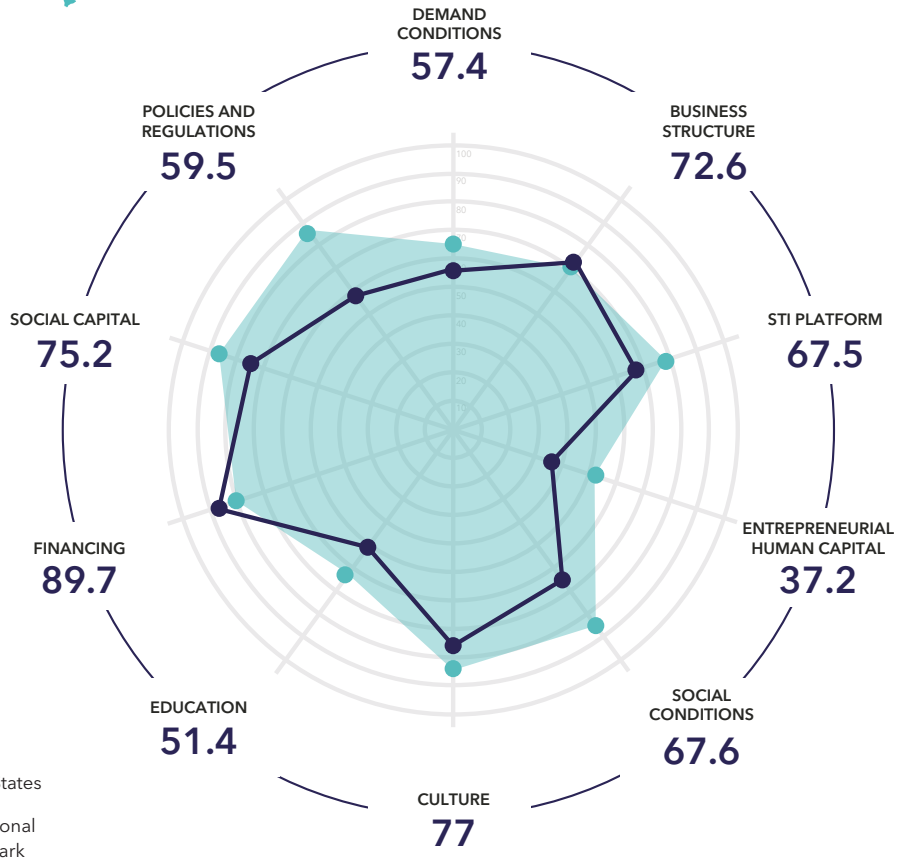
**333 M**

GDP per capita  
(USD)

**69,231**

GDP growth rate

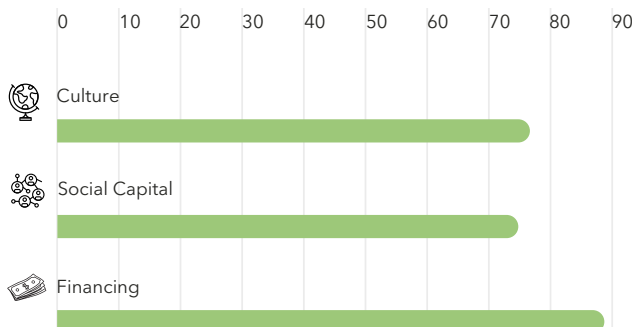
**5.7%**



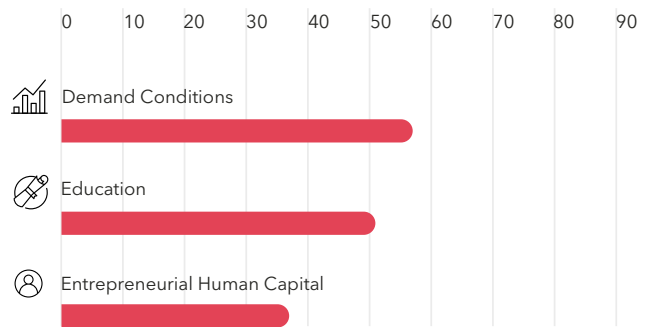
□ United States  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions



# IDE 2022 Uruguay



IDE ranking

**34**

IDE value

**30.51**

Population  
(Million habitants)

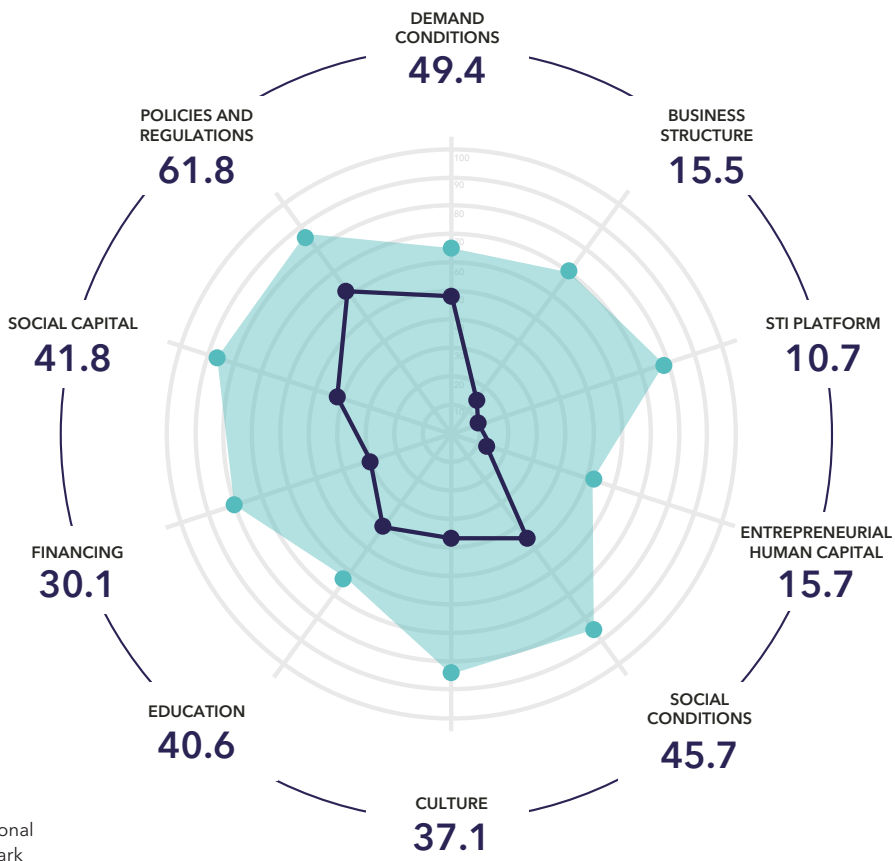
**3.5 M**

GDP per capita  
(USD)

**16,756**

GDP growth rate

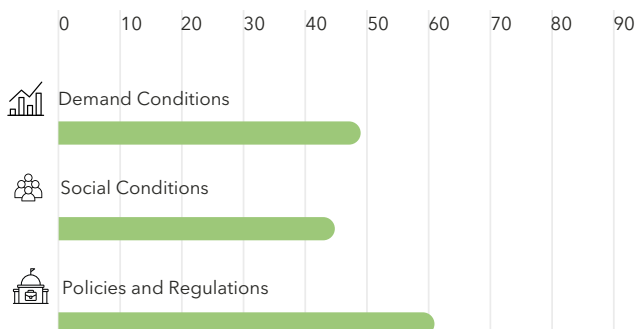
**4.4%**



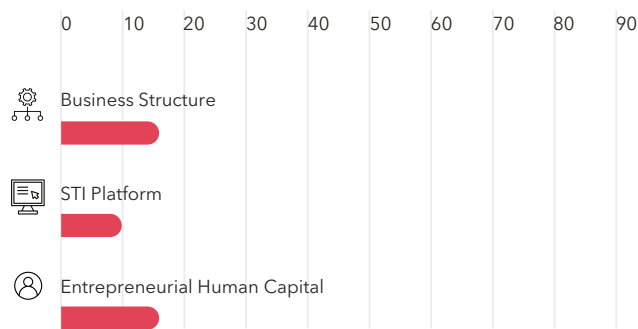
□ Uruguay  
■ International benchmark

The international benchmark reflects the average value of the top 3 countries for each dimension.

## Highest Scoring Dimensions



## Lowest Scoring Dimensions




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