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# STATE OF THE STARTUP AND INNOVATION ENVIRONMENT IN THE CZECH REPUBLIC

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## Summary

Central Eastern Europe (CEE) is a quickly developing business region with many potentials in the startup world. According to relevant data on the scaleup performance, the Czech Republic has a promising startup ecosystem. Assessing it is vital since startups promote the country's and the private sector's economic growth and innovation.

## Key points

- The Czech Republic has an advantageous innovation and economic situation among the CEE countries; however, it still lags globally.
- Access to talent, venture capital, and accelerator programs contribute to the upscaling of startup companies.

## Introduction

Startups are innovative business entities with high growth potential. Startup founders develop a unique product or a service, and they have the most significant role in the company's initial phase. For further growth, support to scale up is needed from venture capitalists, angel investors, crowdfunding platforms by investing in the company. It should be noted that startups are not restricted to only digital technologies and are distinguished from just any newly formed businesses (Staszkievicz & Havlíková, 2016, p. 10).

This paper captures the current economic and entrepreneurial situation in the Czech Republic, in addition to a comparison to Slovakia, Hungary, and Poland, also known as the Visegrad Four (V4). The V4 plays an influential role in the European Union (EU), and they also have high prospects of development. The levels of innovation and productivity significantly differ in these states, and this study explores their activities and performance in a broader context.

Various factors must be considered when determining the reasons behind upscaling in the region. Firstly, access to talent, educational and academic background of the entrepreneurs are among the main factors. Secondly, access to venture capital facilitates the performance of startups. Lastly, incubators and accelerator programs significantly contribute to the growth of companies.

This paper aims to discover the economic state and startup ecosystem in the Central Eastern European region, identify gaps and explore the Czech Republic's startup scaling potential. Regarding the research methods, it relies on both primary and secondary sources by conducting an interview with Jan Roose, CEO and co-founder of Fireball Inc., a brief discussion with Marek Sacha, past CEO and co-founder of Rohlik.cz, and examining the relevant literature and data available. To validate the observations, case studies of current companies serve as examples from the Czech Republic.

## Economic and Innovation Environment in Central Eastern Europe (CEE)

The Czech Republic had been experiencing continued economic growth since joining the EU in 2004. It has already caught up with the EU's average economic level (European Commission, 2019, p. 3). Nevertheless, this pattern of growth might have slowed down. Previously, the Czech Republic's economy had always been concentrated on industry, and trade openness and foreign investments have supported its ambitions. Besides attracting investment to the country, the ability to increase productivity and added value of services and products determine the future economic trends in the Czech Republic (European Commission, 2020, p. 3).

Despite being a leader among the CEE countries in the European and Regional Innovation Scoreboard<sup>1</sup> in 2021, there is still room for a fully viable innovation ecosystem in the Czech Republic. The reason behind the country's lag on a global scale might be the limited public investment in research and development cooperation between academia and the private sector (European Commission, 2020, p. 5). While there are exceptional cases of business-academia cooperation, the trend of collaboration

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<sup>1</sup> "The European innovation scoreboard provides a comparative analysis of innovation performance in EU countries, other European countries, and regional neighbors. It assesses the relative strengths and weaknesses of national innovation systems and helps countries identify areas they need to address" (European Commission, 2021).

is not systematic. This lack of initiative is an obstacle to technology diffusion in the country (European Commission, 2019, p. 36).

Startups are the most in need of funding in the initial stages. However, the Czech Republic is among the countries in the EU with the lowest funds raised through venture capital. Moreover, later development stages receive less investment interest (European Commission, 2020, p. 32). Venture capital, business angel activity, and revolving funding are finite in the country, making investment-dependent areas (such as startups, SMEs, social entrepreneurship) vulnerable (European Commission, 2019, p. 34). Despite venture capital and equity capital limitations, profitable and innovative enterprises have been introduced to the market (European Commission, 2020, p. 5).

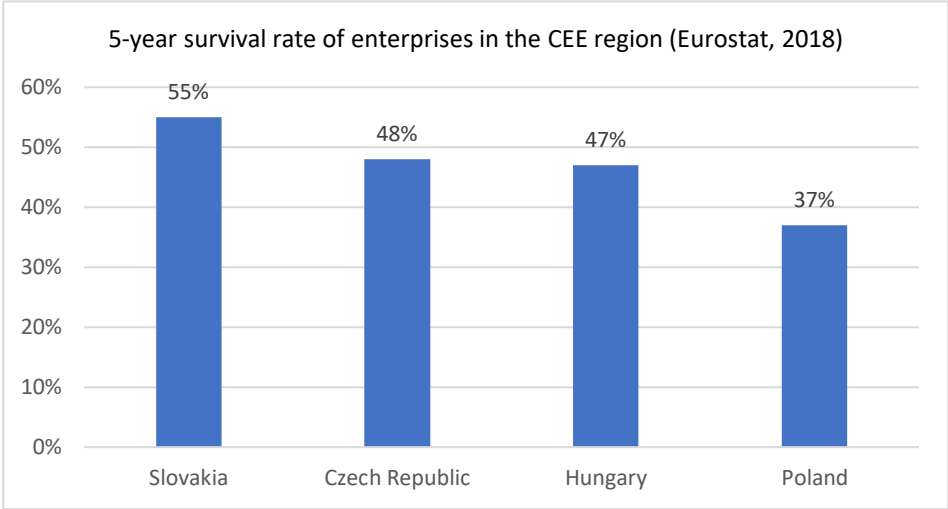


Table 1: The Czech Republic is ranked second in the 5-year enterprise survival rate among the CEE countries. Almost half of Czech young enterprises continue to operate after the significant 5-year turning point.

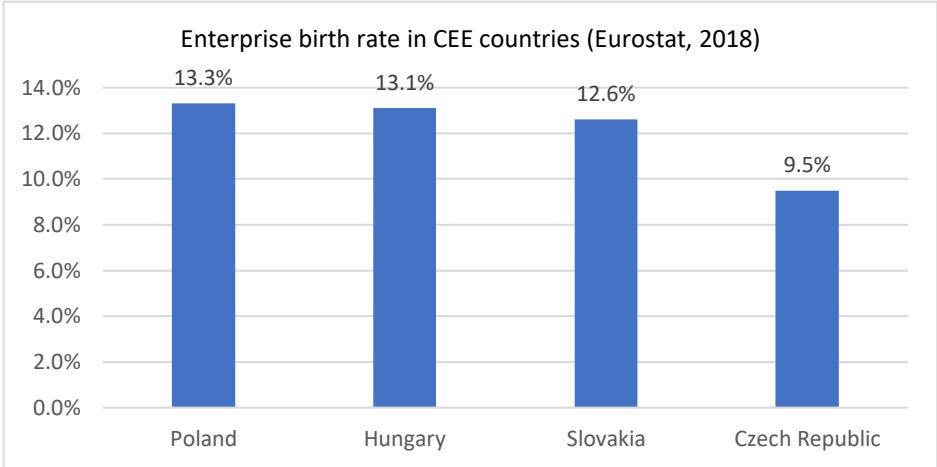


Table 2: Czech Republic has the lowest enterprise birth rate among the CEE countries.

The primary focus remains on low value-added activities, such as manufacturing. Nevertheless, Czech companies are widely integrated into value chains regionally and globally. Innovative firms with higher value-added products and services require more financial support, improving Czech economic efficiency (European Commission, 2020, p. 5).

Domestic firms' productivity falls behind large foreign corporations' dominance. Total factor productivity<sup>2</sup> is steady in the country, similar to Hungary and Slovakia but lagging behind Poland (European Commission, 2019, p. 5). Innovative domestic small and medium-sized enterprises (SMEs) receive limited support to enhance their technologies and innovation performance. Although foreign investment boosts the country's economic growth, support for domestic firms is inadequate. Entrepreneurship support is also generally inadequate in the Czech Republic, which blocks the growth of productivity (European Commission, 2020, p. 5).

The Czech Republic is among the leading countries in European e-commerce, ranking 5<sup>th</sup> in total e-commerce sales (Eurostat, 2020). However, advanced digital technologies are required since there is limited investment in artificial intelligence (AI), machine learning, and blockchain technology. By lacking these, Czech firms have less chance to upgrade in the global value chains. Digitalization is essential to boost SMEs' innovation, productivity, competitiveness, and internationalization (European Commission, 2019, p. 37).

There are relatively few successful Czech startups, and they are centralized in specific locations (Prague and Brno) and sectors (information and communication technology). There is a lack of structured data to quantify the current entrepreneurial level of the country. Information about entrepreneurs, education of the founders, and industry-academia linkages are insufficient. Academic-business cooperation is very limited in the country (World Bank Group, 2018, p. 3).

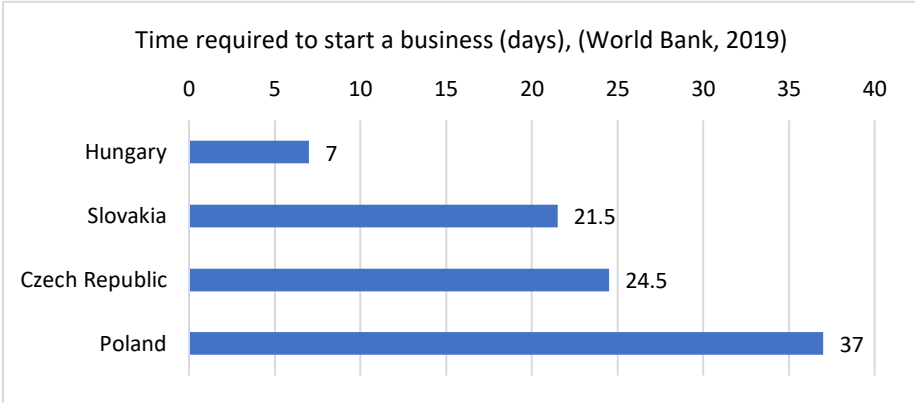


Table 3: It takes the least in the CEE region, 7 days to start a business in Hungary. In the Czech Republic it takes 24.5 days.



Table 4: Doing business was the easiest in Poland and Czech Republic in the CEE region in 2019.

<sup>2</sup> Total Factor Productivity (TFP) indicates how efficiently capital, and labor are being used in an economy. It is also referred to as the Solow Residual (Investopedia, 2021).

Despite the intensification of Czech research and development activities, there is modest innovation performance in the Czech Republic compared to European and global results. In the European context, the country's performance has remained the same over the years. The country is successful in using information technologies, sales impacts, and environmental sustainability relative to the EU. Its share of product innovators and total entrepreneurial activity (TEA) are above the European average (European Innovation Scoreboard, European Commission, 2021).

In contrast to the European results, the Czech Republic performed outstandingly well in the Global Innovation Index (GII).<sup>3</sup> The Czech Republic was ranked 24<sup>th</sup>, making it to the top global 25 innovation leaders, and it has the highest score among the Visegrad countries (GII, 2021, p. 22). The business demography plays a vital role in a country's economic growth. Policymakers consider the births, deaths, and survival rates of enterprises to determine the economy's growth strategy. The Czech Republic's competitive ranking was 32<sup>nd</sup> out of 141 countries in the Global Competitiveness Index<sup>4</sup> in 2019, and it is in the best position among the Central Eastern European countries.

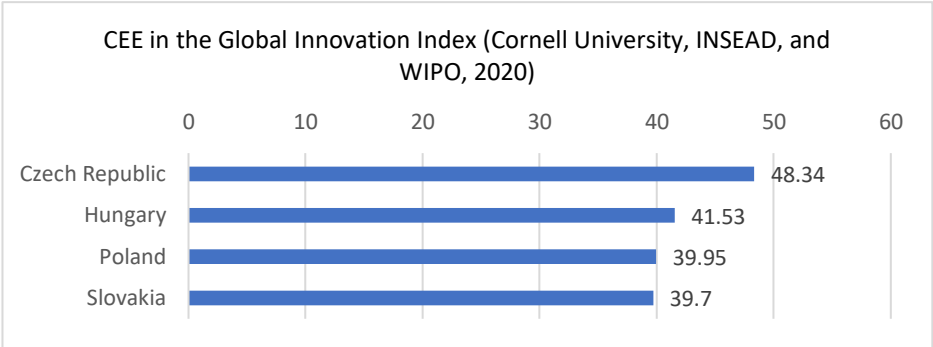


Table 5: Global Innovation Index 2020. Czech Republic is an innovation leader in the CEE

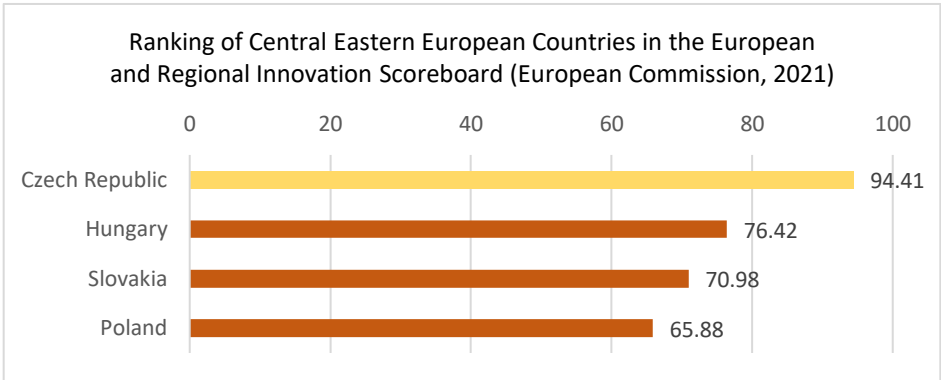


Table 6: European and Regional Innovation Scoreboard 2021. Only the Czech Republic is a moderate innovator among the Central Eastern European countries, while Hungary, Slovakia, and Poland are emerging innovators.

<sup>3</sup> “The GII is composed of three indices: the overall GII, the Innovation Input Sub-Index, and the Innovation Output Subindex. The overall GII score is the average of the scores of the Input and Output Sub-Indices” (Global Innovation Index, 2020).

<sup>4</sup> “Covering 141 economies, the Global Competitiveness Index 4.0 measures national competitiveness — defined as the set of institutions, policies and factors that determine the level of productivity” (World Economic Forum, 2019).

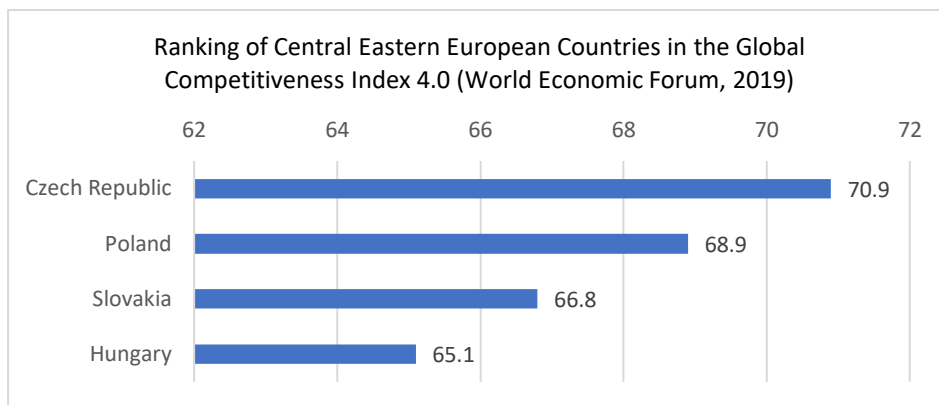


Table 7: Global Competitiveness Index 4.0 2019. The Czech Republic is in the most favorable position among the Central Eastern European countries.

## Case Studies of Czech Startup Companies

The main strengths of the Czech Republic are the entertainment or gaming industry, artificial intelligence (AI), and e-commerce, which have a strong presence in Central Eastern Europe. Several successful companies operate in these industries, and they make the Czech Republic unique in the region.

### Rohlik.cz

Rohlik is an innovative online supermarket in the Czech Republic and leader of online grocery shopping in Central Europe, founded by Marek Sacha and Tomáš Čupr (Rohlik.group, 2021). The venture capital fund brought Marek Sacha, past CEO and co-founder of the company, into the project in the early stages. They used no accelerator or incubator programs at Rohlik.cz (M. Sacha, personal communication, June 30, 2021).

Since its launch in 2014, it has changed shopping traditions, first in the Czech Republic, and later in the CEE region. The company is based in Olomouc and owning other fulfillment centers in the Czech Republic (Rohlik.cz), Hungary (Kifli.hu), and Austria (Gurkerl.at). VC, Partech, Index Venture, European Bank for Reconstruction and Development (EBRD), Quadrille Capital, R2G, and J&T Bank are the investors in the company. Total funding is €220 million, and Rohlik Group is owned by venture capital and valued at €600 million (Dealroom.co, 2021). In 2021, the Czech online grocery startup raised €100 million and reached unicorn status.<sup>5</sup> The Rohlik model will be launched all over Europe, including Germany, Italy, Spain, and France (Lewin, 2021).

### Socialbakers

Socialbakers is a marketing platform taking advantage of machine learning, which helps brands to make better decisions and more innovative investments on social media. Socialbakers was founded by Jan Rezab and Jiri Voves in 2008. The subsidiary, Prague-based company, is owned by venture capital and was acquired by Astute, an American company, in 2020 ("Socialbakers Company - About Us", n.d.). The firm is valued at €200 million with the investments of Earlybird Venture Capital, Index Ventures, Astute, and Draper Esprit. The total funding of the company is €30.9 million (Dealroom.co, 2021). They have over 2,500 clients in 100 different countries, which makes it an industry leader

<sup>5</sup> "Unicorn is the term used in the venture capital industry to describe a startup company with a value of over \$1 billion" (Investopedia, 2021).

in social media marketing. Based on revenue growth, the company is also mentioned among the 5,000 fastest-growing European private companies (World Bank Group, 2018, p. 41).

## Kiwi.com

Kiwi.com is an online search tool for finding cheap hidden flights and exploring new travel destinations. The Brno-based company was founded by Jozef Képesi and Oliver Dlouhý in 2012. In 2019, Kiwi.com was valued at €750 million. Ondrej Tomek, General Atlantic, and Impulse Ventures invested in the company, and the type of ownership is subsidiary, angel, and venture capital (Dealroom.co, 2021). Kiwi.com achieved a turnover of €700 million in 2017 and is among the European top 5 online air ticket sellers (World Bank Group, 2018, p. 41). Deloitte ranked Kiwi.com 5<sup>th</sup> in the Technology Fast 500 EMEA list<sup>6</sup> in 2018 (Deloitte, 2019), which is extraordinary in the Czech Republic.

## Fireball Inc.

Fireball Inc. is a mobile gaming platform founded in 2019 by young designer Jan Roose. Before starting the company, he worked for various AI startups and freelance as a digital product designer (J. Roose, personal communication, July 9, 2021). Fireball Inc. aims to make role-playing more entertaining and widely accessible for the market. Angel investors from Central Eastern Europe, such as Jiří Hlavenka, an investor in Kiwi.com, and Oliver Dlouhý, CEO and co-founder of Kiwi.com, invested \$350,000 in Fireball between 2019 and 2020 and provided mentoring for Roose. In April 2020, the mobile application became the 5<sup>th</sup> most-backed mobile game on Kickstarter, a crowdfunding platform, which gave a boost in the early phases of the company. The crowdfunding campaign also proved that there is a product-market fit and demand for the Fireball app. According to Roose, the gaming industry is growing rapidly, at around 10% per year globally (2021).

# Factors Behind the Upscaling of Startups

## Access to Talent

Entrepreneurial education in the Czech Republic is considered weak compared to Europe. Training and mentoring are provided by different programs, such as CzechStarter, which target technological startups. Additionally, generational change and business transfers support are inadequate for family businesses (OECD, 2016).

The Czech Republic has young professionals with excellent technical skills, however, there is a gap in soft skills due to the inefficiency of management schools (European Commission, 2020, p. 31). According to Jan Roose, the Czech Republic has good technical talent comparable to other European countries. Nevertheless, the lack of soft skills is apparent when it comes to market the products. Entrepreneurs in Western Europe or the United States communicate their products and market their prototypes better than those in Central and Eastern Europe. This is one of the reasons why many Czech projects remain local.

Periodical and regular events could attract more talent in the entrepreneurial world. Startup Weekends and various hackathons in Prague encourage university students and young professionals

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<sup>6</sup> Technology Fast 500™ Europe, Middle East & Africa (EMEA): “The Deloitte Technology Fast 500™ EMEA program is an objective industry ranking that recognizes the fastest-growing technology companies in Europe, the Middle East, and Africa (EMEA) during the past four years” (Deloitte, 2019).

to get involved in the world of entrepreneurship. Besides networking opportunities with other founders, these programs provide practical knowledge, which is lacking in the Czech Republic.

One of the main challenges of Czech startups, however, is not the access to financing, but the lack of cooperation between businesses, academia, and research institutes (World Bank Group, 2018, p. 41). In the Global Competitiveness Index 2017-2018, the Czech Republic was ranked 41<sup>st</sup> globally in university-industry collaboration in research and development (World Economic Forum, 2018, p. 103). Overall, there is a strong correlation between industry and academia – when there is a shortcoming, startups are at risk (World Bank Group, 2018, p. 3).

## Access to Venture Capital

The investment community in the Czech Republic is still in its early stages. The number of investors and the amount invested in companies are small. According to the World Bank, business angel investment activities, typically found in European markets, are limited. There is also a general lack of investment syndication.<sup>7</sup> Prague is the central hub for investments, most activities are concentrated there, and the most frequently supported sector is information, communication, and technology (ICT). All these factors risk making the Czech market fragile (World Bank Group, 2018, p. 2).

Czech companies are most commonly funded by banks through leases or loans (World Bank Group, 2018, p. 8). Access to venture capital is limited compared to other countries in the CEE region. Despite the growing number of venture capital funds in the country, there is still a deficit in the initial phase of companies (World Bank Group, 2018, p. 29).

State support for entrepreneurial activities is also low in the Czech Republic. There is no state aid to promote risk finance investments available in other European countries for startup and seed funding (Staszkievicz & Havlíková, 2016, p. 29).

## Incubators and Accelerator Programs

Startups in the Czech Republic receive different levels of support from intermediaries, such as incubators or accelerators. These intermediaries are responsible for connecting businesses with universities and creating academic spinoffs. They provide networking opportunities, access to investors and funding, and mentoring for early-stage startups (World Bank Group, 2018, p. 3). An ecosystem of innovation hubs and accelerators has been set up, and different programs support entrepreneurs (Staszkievicz & Havlíková, 2016, p. 33). StartupYard, UP21, Founder Institute Prague, CzechAccelerator, and ESA Business Incubation Center are some of the Czech Republic's most active accelerators and incubators.

The legal environment in the country also makes it hard for entrepreneurs to start their companies. The current red tape in the country can discourage top talent from starting their companies here, and there is a possibility that talent will go abroad where more opportunities are available (Roose, 2021).

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<sup>7</sup> There is more than one investor in a company to mitigate risk (World Bank Group, 2018).



## Conclusion

The Czech Republic has an emerging startup ecosystem with several successful companies. They are integral parts of the Czech economy as they indicate the innovation level and dynamism of the country. Regarding the entrepreneurial situation, the Czech Republic has appealing prospects in the Central Eastern European region, but improvements must be made compared to the global scale. Since education influences future career paths, a more practical emphasis should be placed on entrepreneurial preparation. Due to limited cooperation between the public sector and academia, more partnerships should be launched to attract talent. Active angel investor communities, along with state support, could give a boost to the startup ecosystem. Diversification and productivity improvement are essential and will determine the economic trends of the Czech economy in the future.

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