

**INTERNATIONAL JOURNAL OF LAW**  
**MANAGEMENT & HUMANITIES**

**[ISSN 2581-5369]**

---

**Volume 4 | Issue 6**

---

**2021**

© 2021 *International Journal of Law Management & Humanities*

Follow this and additional works at: <https://www.ijlmh.com/>

Under the aegis of VidhiAagaz – Inking Your Brain (<https://www.vidhiaagaz.com/>)

---

This Article is brought to you for “free” and “open access” by the International Journal of Law Management & Humanities at VidhiAagaz. It has been accepted for inclusion in International Journal of Law Management & Humanities after due review.

In case of **any suggestion or complaint**, please contact [Gyan@vidhiaagaz.com](mailto:Gyan@vidhiaagaz.com).

---

**To submit your Manuscript** for Publication at **International Journal of Law Management & Humanities**, kindly email your Manuscript at [submission@ijlmh.com](mailto:submission@ijlmh.com).

---

# Describing the Knowledge Economy Level in the Slovak Republic

---

LUKAS VARTIAK<sup>1</sup>

## ABSTRACT

*Over the past decades, the concept of the knowledge economy has become increasingly important worldwide due to being seen as a source of economic growth and competitiveness. This topic is being discussed in the Slovak Republic, as well. This short research paper aims to describe the knowledge economy level in the Slovak Republic. As a result, the 2018 EBRD knowledge economy index of the Slovak Republic was analyzed. We concluded that the Slovak Republic gained a score of 5.40, which placed it at the eighth position. Thanks to its development throughout the years, it was also placed in the stand out economy group. To analyze the results closely, future research should be aimed at the detailed analysis of the knowledge economy drivers of the Slovak Republic.*

**Keywords:** Knowledge economy, EBRD, index, level.

## I. INTRODUCTION

New trends, such as the internet of things or digitalization, are examples of key elements of the transition to the knowledge economy. For the purpose of this paper, knowledge economy is a concept of economic development in which innovation and access to information drive productivity growth (European Bank for Reconstruction and Development, 2019).

In the knowledge economy, new types of organizations and work manage the world of business, demanding the rapid development of skills, solid knowledge and greater responsibility, which means rather an abundance instead of scarcity as it used to be in the traditional economy (Hadad, 2017).

What this ideal means is evidenced first at the narrow level of management, coordination, and production, and the world described not as it exists now but as it would exist once disseminated and radicalized (Unger, 2019). On the other hand, Khatun & Salian (2020) and Upadhyay (2021) state that traditions significantly influence the knowledge economy level.

The knowledge economy describes trends in which knowledge creation is increasingly important because it is used as an input in the production process. As a result, prosperity and

---

<sup>1</sup> Author is a Researcher at Comenius University, Slovakia.

competitiveness are achieved. This term is mainly used in advanced economies (Hogan, 2011). "The knowledge economy is the accumulation of capital, technology, technology-relevant capabilities, and science in the conduct of the productive activity. "Its characteristic ideal is represented by permanent innovation in procedures and methods, as well as in products and technologies. The knowledge economy does not just focus on another way of producing goods and services with distinctive technological equipment. Thus, it aims to be a paradigm of production that keeps reinventing itself (Unger, 2019).

The knowledge economy is an economy that is able of knowledge production, dissemination and use, while knowledge is a key factor in growth, wealth creation and employment. In the knowledge economy, human capital is the driver of creativity, innovation and generation of new ideas, with reliance on information and communication technology (Ministry of Economy and Planning, 2017).

## **II. MATERIALS AND METHODS**

This short research paper aims to describe the knowledge economy level in the Slovak Republic. The 2019 publication Introducing the EBRD knowledge economy index served as the fundamental source of secondary research.

The primary motivation for this paper is based on the first results of the project titled research of key competencies for the knowledge society in the context of historical, social and economic specialists of the Slovak Republic, which aims to identify a set of key competencies necessary for the effective implementation of knowledge processes and at the same time examine key competencies in the context of historical and cultural specifics of the Slovak Republic and focus on current and future factors determining society in the near future and find the most appropriate ways society (Katuscakova & Jaseckova, 2019).

Other research papers that provided the stable basis for the paper development were conducted by the scientific teams from the University of Zilina (Rostasova, Chrenkova & Mockova, 2010; Corejova, Madudova & Mockova, 2011; Corejova, Holla Bachanova & Mockova, 2014) from 2010 to 2014. They were mainly focused on the knowledge economy in the region of Zilina in the Slovak Republic.

The last group of researchers presented exciting results concerning the worldwide insight into the knowledge economy (Vochozka et al., 2018; Hardingham et al., 2018; Ashander et al., 2019), which resulted in the identification of big data, technology-driven automation and artificial intelligence as main drivers of the knowledge economy.

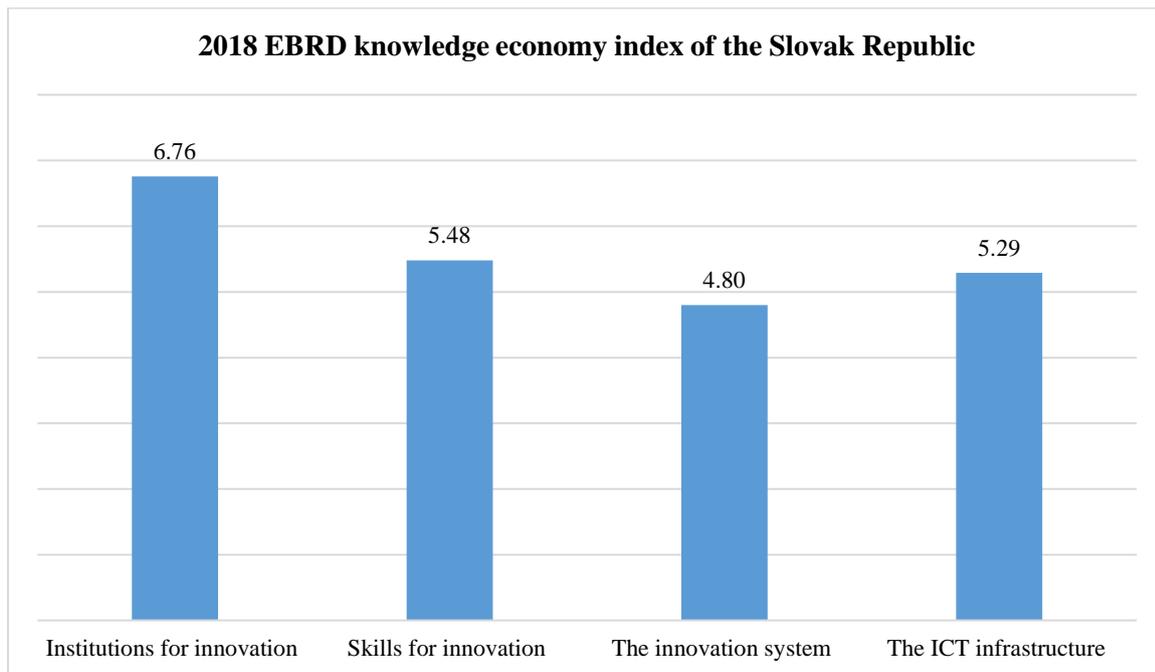
### **III. DATA ANALYSIS**

To measure knowledge economy development, the European Bank for Reconstruction and Development (EBRD) has constructed the EBRD knowledge economy index, spanning 46 economies that contains 38 indicators divided into four pillars (European Bank for Reconstruction and Development, 2019):

- institutions for innovation divided into dimensions: economic openness, business environment, governance,
- skills for innovation divided into dimensions: general skills, specialized skills,
- the innovation system divided into dimensions: inputs, outputs, linkages,
- the ICT infrastructure divided into dimensions: ICT availability, ICT sophistication.

To compute the EBRD knowledge economy index, first, the 38 indicators were aggregated ten dimensions, then into four pillars. For each indicator and year, the distance to frontier (DTF), with values on a 1 (theoretical minimum/worst) to 10 (theoretical maximum/best) scale, was computed. Subsequently, each of the four pillars of the EBRD knowledge economy index has two or three dimensions (there are ten dimensions in total, organized into four pillars). For each of these dimensions, the average DTF scores of indicators belonging to that dimension were calculated (European Bank for Reconstruction and Development, 2019).

As a result of the 2018 EBRD knowledge economy index, Estonia scored as the best country with a score of 6.82, and Turkmenistan placed as the last country with a score of 2.26. The Slovak Republic gained a score of 5.40, which put it at the eighth position (European Bank for Reconstruction and Development, 2019).

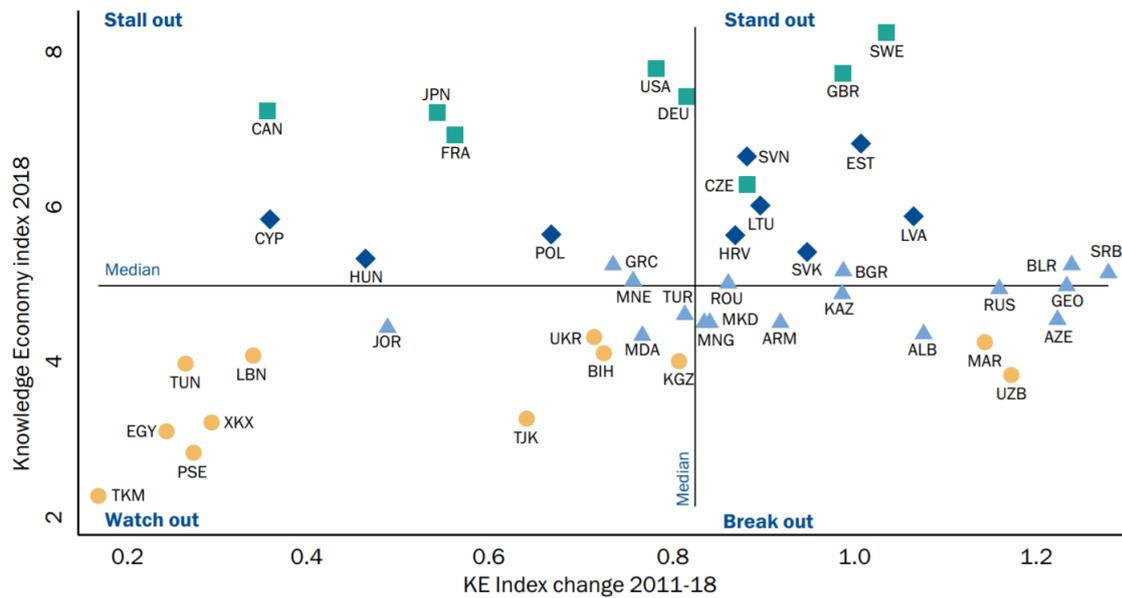


**Figure 1. 2018 EBRD knowledge economy index of the Slovak Republic**

As can be seen in Figure 1 above, the Slovak Republic scored the best in institutions for innovation dimension, followed by skills for innovation, the ICT infrastructure and the innovation system (European Bank for Reconstruction and Development, 2019).

When comparing the 2018 EBRD knowledge economy index with the results from 2011, there were considerable differences from economy to the economy (Figure 2). According to the change between 2011 and 2018, countries were divided into four groups (European Bank for Reconstruction and Development, 2019):

- Stand out economies are relatively developed knowledge economies that exhibit high momentum. They are leaders in driving innovation, building on their existing advantages.
- Stall out economies enjoy a relatively high state of knowledge economy advancement but show slowing momentum due to the challenges of sustaining knowledge economy growth.
- Break out economies are low scorers in terms of their current state of knowledge economy development but are evolving rapidly.
- Watch out economies face significant challenges, with a low level of knowledge economy development and low momentum.



**Figure 2. 2018 EBRD knowledge economy index versus the change in index (2011-2018)**

According to Figure 2 above, the Slovak Republic became the stand out economy thanks to its EBRD knowledge economy index development based on stronger institutions and skills, together with a stronger innovation-enhancing component (European Bank for Reconstruction and Development, 2019).

#### IV. CONCLUSION

In this short research paper, the EBRD knowledge economy index was introduced as the primary tool for analyzing the knowledge economy level in the Slovak Republic. As a result, institutions for innovation is the key pillar of knowledge economy development, but other pillars also need to be strengthened. Improvement in institutions and skills and innovation-enhancing components helped the Slovak Republic be placed in the stand out economy group. The paper's aim was fulfilled and provided the space for further research aimed at the detailed analysis of the knowledge economy drivers of the Slovak Republic.

\*\*\*\*\*

**V. REFERENCES**

- ASHANDER, L. et al. The decision-making logic of big data algorithmic analytics. *Contemporary Readings in Law and Social Justice*, 11(1), 57-62. (2019).
- COREJOVA, T., HOLLA BACHANOVA, P. & MOCKOVA, M. Industry and business study of architecture in terms of the Zilina Region. 5th Central European conference in regional science (Technical university of Košice 2015).
- COREJOVA, T., MADUDOVA, E. & MOCKOVA, M. Sektor IKT v Žilinskom regióne z pohľadu znalostných trajektórií. *Regionálne dimenzie poznatkovej ekonomiky* (Ekonom 2011).
- EUROPEAN BANK FOR RECONSTRUCTION AND DEVELOPMENT. *Introducing the EBRD knowledge economy index* (EBRD 2019).
- HADAD, S. Knowledge Economy: Characteristics and Dimensions. *Management Dynamics in the Knowledge Economy*, 5(2), 203-225. (2017).
- HARDINGHAM, E. et al. Will cognitive technology-driven automation lead to economic growth? *Journal of Self-Governance and Management Economics*, 6(4), 13-18. (2019).
- HOGAN, T. An overview of the knowledge economy, with a focus on Arizona: A Report from the Productivity and Prosperity Project (P3), Supported by the Office of the University Economist (W. P. Carey School of Business 2011).
- KATUSCAKOVA, M. & JASECKOVA, G. Diffusion of KM education in LIS schools. *Journal of education for library and information science*, 60(1), 83-100. (2019).
- KHATUN, S. & SALIAN, D. R. Traditional Knowledge and its Efficacy in Economic Growth. *International Journal of Law Management & Humanities*, 3(5), 659-671. (2020).
- MINISTRY OF ECONOMY AND PLANNING. Ninth Development Plan. <https://www.mep.gov.sa/en/Knowledge-Center/Knowledge-Base-Details?FolderID=48&FolderName=Ninth%20Development%20Plan#top> (last visited Nov. 5, 2021)
- ROSTASOVA, M., CHRENKOVA, A. & MOCKOVA, M. Dynamika znalostí v sektore dopravy a logistiky v Žilinskom samosprávnom kraji na pozadí jeho historického vývoja. *National and regional economics VIII* (Technical University of Košice 2010).
- UNGER, R. M. *The Knowledge Economy* (Verso 2019).

- UPADHYAY, V. Indian Knowledge Tradition and Environment. *International Journal of Law Management & Humanities*, 4(5), 106-117. (2021).
- VOCHOZKA, M. et al. Participating in a highly automated society: How artificial intelligence disrupts the job market. *Economics, Management, and Financial Markets*, 13(4), 57-62. (2018).

\*\*\*\*\*

### **Acknowledgement**

This paper was supported by the research grant APVV-18-0479.

\*\*\*\*\*