

## *The Atlas of Economic Complexity*

The researchers of the American Harvard and MIT universities concluded a study on economic complexity last year.

The atlas analyzes the foreign trade of 128 countries and sets up an economic growth ranking which is based on the so-called Economic Complexity Index (ECI). The basis for the analysis is the quantity and complexity of exported goods and the frequency of exports. Consequently, services and non-export goods were not included in the study.

### Economic complexity

Economic complexity actually resembles *Scrabble* where letters symbolize a specific knowledge and raw materials and players are the countries. The more letters that is the more knowledge and raw materials a country possesses the more complex goods it can produce. Naturally, there can be some less frequent letters which stand for rare raw materials such as for example diamond which can increase the competitive advantage of a country. **The networks of industries, the mutual utilization and development of their products as well as increasing their complexity can substantially contribute to social welfare.** Therefore, knowledge and the utilization of common knowledge are crucial in a society.

The authors call as a new term the knowledge of an individual (more precisely the tacit knowledge, the source of growth and development which is easy to put to productive use but hard to transmit or acquire) a *personbyte* or a byte per person. In order to produce complex products several personbytes are required, as such procedures are based on differentiated knowledge. Even the relatively simple T-shirt production requires, among others, a designer, a tailor, a dressmaker, a packer and a salesperson, an accountant and someone who coordinates the entire procedure. Thus the authors of the survey prove that **the complexity of a society is related to the multiplicity of useful knowledge embedded in it.**

The authors characterize complexity by two factors: its **diversity (more precisely variety) and omnipresence.**

### Rankings

1. Ranking according to economic complexity

ECI rank	Country
1	Japan
2	Germany
3	Switzerland
4	Sweden
5	Austria
6	Finnland
7	Singapour
8	Czech Republic
9	United Kingdom
10	Slovenia
11	France
12	Republic of Korea
13	USA
14	Hungary
15	Slovakia
16	Italy
17	Denmark
18	Ireland
19	Israel
20	Mexico

According to the index of economic complexity, products which require the most complex knowledge are exported by Japan, Germany, Switzerland and Sweden. In regard to exporting complex products, Hungary is ranked as the illustrious 14<sup>th</sup>. In the Eastern-European and Central Asian region we are the third best performers after the Czech Republic and Slovenia.

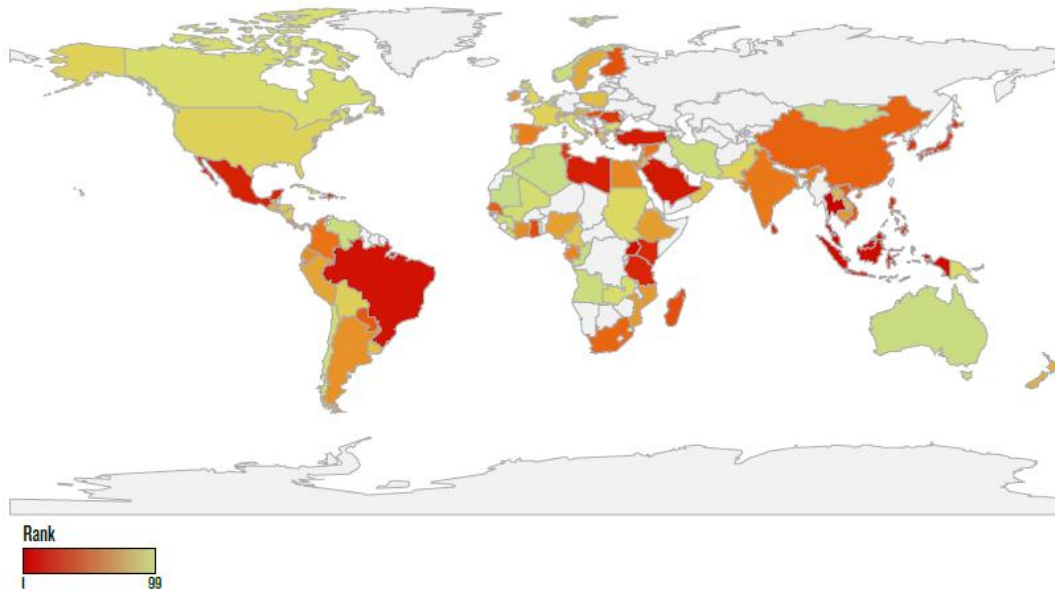
As far as regions are concerned, Western Europe has the most complex economy followed by Eastern Europe and Central Asia. Out of the 27 countries of the latter region eight was ranked among the first 30.

## 2. Economic complexity trends 1964-2008

The survey analyzes changes in economic complexity as well (due to lack of data, only in regard to 101 countries). In the surveyed period, the greatest growth was delivered by Mauritius, Thailand and Malaysia, and development was also substantial in Singapore, Indonesia, the Dominican Republic and Turkey.

Regionally, development was the most remarkable in East-Asia and the Pacific region as the below picture illustrates:

► Illustrates the spatial distribution of these changes.



Hungary was the 15th in 1964 and by 2008 we were ranked as 9th in regard to the change of complexity.

### The ECI index of Hungary

All things considered, Hungary has scored surprisingly well in rankings. The ECI index score of the country was **1 430 (in 2008) which put us 18th globally**. We were directly preceded by the United States of America (with an ECI index score of 1 447) and followed by Slovakia, Italy and Denmark. **In the regions of Eastern Europe and Central Asia Hungary achieved the prestigious third place.** In the region only the Czech Republic and Slovenia were ranked higher than Hungary.

### Conclusion

The survey has proven that the more complex knowledge a country possesses the more its economy thrives. Complex, multi-layered knowledge opens the door for the export of complex products which in turn boosts economic growth. Consequently, according to the authors, besides raw materials the competitiveness of a country depends more on the complexity of human knowledge than other factors such as the quality of governance, the level of education or certain economic indicators.

The entire survey is available at the below link:

[http://atlas.media.mit.edu/media/atlas/pdf/HarvardMIT\\_AtlasOfEconomicComplexity\\_Part\\_I.pdf](http://atlas.media.mit.edu/media/atlas/pdf/HarvardMIT_AtlasOfEconomicComplexity_Part_I.pdf)