

THE GLOBAL EDUNOMIC INDEX (GEI)



3/1

3/1 Global Research

The GEI acts a collaborative resource for private investors and other stakeholders in the area of education, technology and knowledge industries. This Index assesses a country's educational outcomes and its impact on economic growth, productivity, and the conditions for foreign investment in knowledge industries.

The Index was created and is maintained by 3/1 Global Research. More information on GEI can be found at www.threeoneglobal.com

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1. WHY THE GEI?

Education has long been the engine of economic growth, sustainability and inclusion. By 2020, the estimated annual market value of education products and services is projected to reach US\$8.2 trillion, with US\$252 billion from education technology alone.¹ Yet there are still an estimated 250 million children in the world who cannot read, write and count, and 57 million who don't go to school.

From a commercial perspective, the ability of Emerging and Frontier Markets to shift toward value-added, sustainable economic growth through higher educational attainment is a critical factor to consider for global investors, corporations, educational institutions and start-ups. This trend toward “Edunomics” not only impacts a country's economic growth and innovation potential but also its ability to fight inequality, maintain a competitive advantage, employ its youth, attract and sustain FDI inflows, care for its people and to ensure social stability. Recent years have witnessed an investor backlash against “resource cursed” countries in parts of Africa, Latin America and Asia that happily rode a wave of economic growth but neglected to adequately educate their populations. Without education investment, the future may deliver even harsher verdicts.

The Global Edunomic Index (GEI) is an initiative launched by 3/1 Global Research to measure and assess the intersection between education, economics and investment.² Our research is specifically directed toward the global education and investment communities to help make sense of the world's rapid development of human capital and to measure how countries rise and fall based on a selection of critical performance measures.

The purpose is to answer the following questions:

- How do educational achievement and skills impact an individual country's economic growth trajectory, the quality and sustainability of its companies, its competitive positioning, risk profile and the potential returns to investors?
- Which countries offer the most and least attractive environment for investment into human capital, education and related technology industries, and how is this changing over time?
- Where should stakeholders look for the next set of emerging opportunities?

The GEI is premised on the idea that private sector investment and innovation have a central role to play in the development of human capital in Emerging and Frontier Markets, both as a partner with the public sector and as an independent source of disruption and development. It is our hope that a deeper and continuous analysis of country-specific data will help inform the world's

¹ “2016 Edtech Trends: A Map for the Future of Education.” Report by Edtech Global Limited and Presentation by IBIS Capital Ltd

² Education research on emerging markets was largely inspired by our associated blog, *Edunomic Returns*. See www.edunomicreturns.com

education stakeholders, providers and investors as they seek to meet the needs of students and learners everywhere.

2. SCOPE AND METHODOLOGY

The GEI utilizes quantitative and qualitative research data to score countries emphasizing the current status of their educational system, correlations with economic growth and sustainability, and the operating environment for education investors and stakeholders.

GEI inputs are updated on a periodic basis, as and when new information is available. Countries are stack-ranked based on a broad selection of data inputs across three dimensions of economics, education and operating environment (see Section 3).

Geographically, the GEI is specifically focused on Emerging and Frontier Markets in the regions of Asia, Africa and Middle East, and Latin America. Participating countries have been selected with reference to two well-known and reputable classifications: the MSCI Emerging Markets Index, which for several decades has been among the leading measures of emerging market status, and another leading indicator, the FTSE-Russell Frontier Index.³

Figure 1 lists the 49 countries included in the GEI.

³ Information on the MSCI Emerging Markets Index can be found at <https://www.msci.com/emerging-markets>. See <http://www.ftse.com/products/indices/Russell-Frontier> for information on the FTSE.

Figure 1. Participating Countries in the Global Edunomic Index (GEI)

	Americas	Europe, M East Africa	Asia
<u>EMERGING MARKETS</u> (n=22)	Brazil Chile Colombia Mexico Peru	Czech Republic Egypt Greece Hungary Poland Qatar Russia South Africa Turkey UAE	China India Indonesia Korea Malaysia Philippines Thailand
<u>FRONTIER MARKETS</u> (n=27)	Argentina	Bulgaria Botswana Bahrain Cote d'Ivoire Croatia Cyprus Estonia Ghana Jordan Kenya Latvia Lithuania Malta Mauritius Morocco Nigeria Oman Romaina Serbia Slovakia Slovenia Tunisia	Bangladesh Pakistan Sri Lanka Vietnam

Source: 3/1 Global Research; classifications from MSCI, FTSE (2016)

The GEI includes a broad cross-section of country data and correlations across three key dimensions: Economic Growth and Sustainability, Educational Attainment, and Operating Environments.

Data is selected with an eye to what can enhance or detract from education and economic performance at the country level, and correlations are drawn from our proprietary database. For the purposes of constructing an index that applies broadly across our wide country selection, we have used a neutral weighting across the three dimensions.

Figure 2 sets out the range of inputs and measures used for the Index.

Figure 2. GEI Input and Measures in Three Dimensions



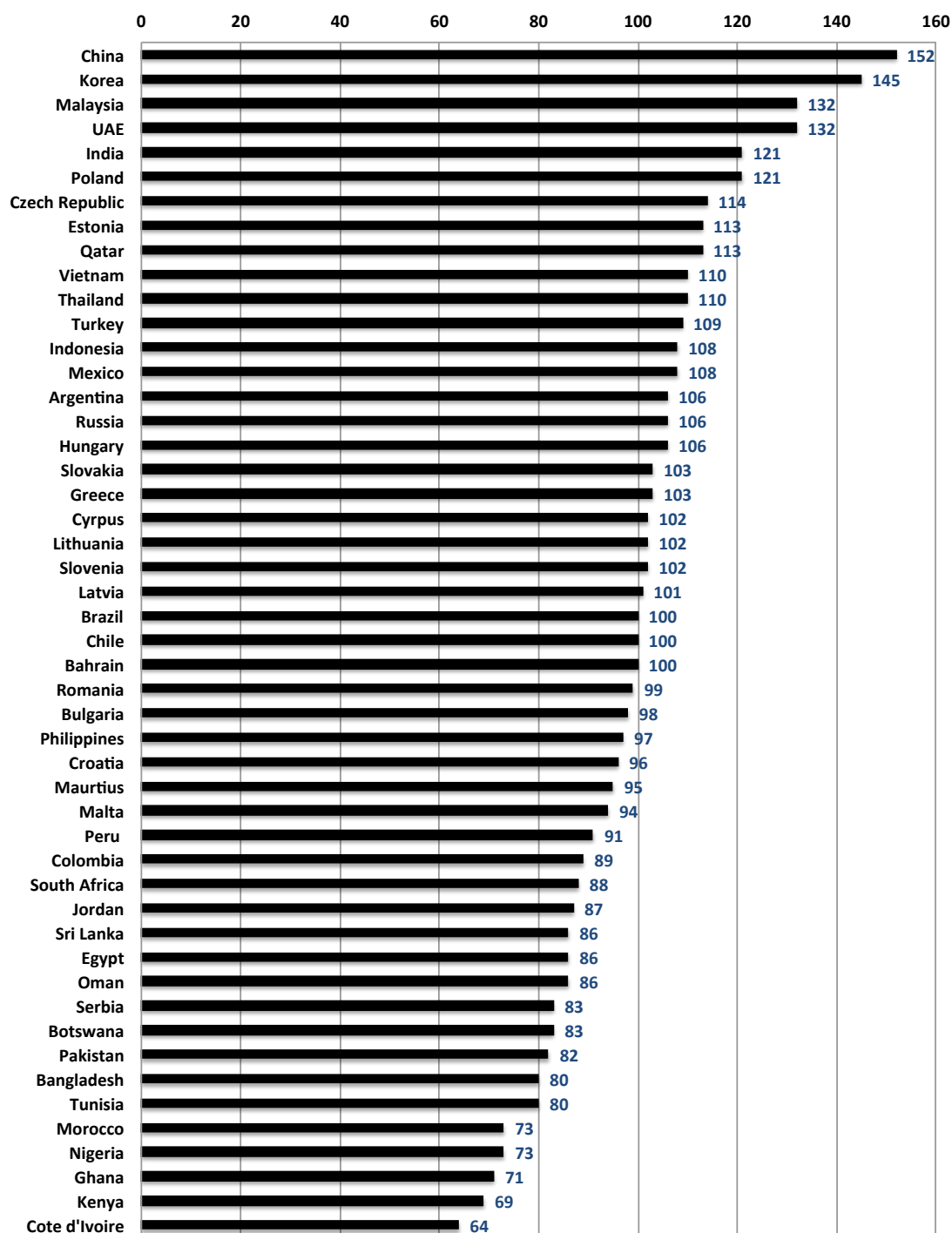
The GEI is designed for investors and education stakeholders as they assess and track emerging countries for a combination of economic productivity improvements, education outcomes and operating environments for education and related knowledge industry investment. It is a forward-looking index in the sense that it emphasizes future opportunities based on factors such as market size, youth populations, productivity, affordability and private education spend.

In terms of interpreting the data, GEI rankings not only reveal top-tier countries in terms of their “edunomic” performance but also identify lagging countries most in need of educational improvement—many of which are underinvested in learning, lack technology solutions, and face severe public funding gaps. In this sense, the various levels in the GEI pecking order will correspond to different types of opportunities and risk profiles. Our future research will examine these themes in greater detail.

3. 2016 GEI RANKINGS AND RESULTS

With its combination large populations, economic growth and high educational outcomes Asia dominates the top ranks with China, Korea, India and Vietnam scoring in the top ten slots across the 49 countries including in the GEI. The balance is represented by leaders in Emerging Europe—Czech Republic and Poland—and Qatar and UAE, each with strong fundamentals and higher developed investment environments for transnational education. See Figure 3.

Figure 3. 2016 Global Edunomic Index by Country Rank



Source: 3/1 Global Research methodology based on various data inputs.

If we use a more narrow aggregation, a number of initial insights are revealed both across and within specific regions:

Americas

The Americas were led by Mexico (14) and Argentina (15), and further down the list, Brazil (24) and Chile (25). The contrast between Mexico and Brazil is instructive: each with large populations but a different set of education profiles and increasingly divergent economic paths in light of Brazil's deepening recession. Separately, Argentina emerges as a relatively strong investment case within the Americas after a long period in the wilderness. Peru (33) and Colombia (34) rank in the middle of the GEI.

Africa

With the exception of South Africa (35), African countries scored at the lowest levels across economic inclusion and education attainment measures and thus were largely at the bottom of the rankings. This includes leading regional countries such as Nigeria (46), Ghana (47) and Kenya (48), a fact that becomes urgent considering that Nigeria and Kenya have among the highest percentage of youths under-14 years of age in their populations. Experienced observers of Africa should not be surprised by these results: a combination of poor performance in productivity, insufficient education access, and operating environments plagued by governance issues has marred sustainable, value-added growth opportunities across the continent, despite some success with private education and training investment.

Northern Africa, represented by Egypt (38), scored higher than most of African counterparts but still remained in the bottom quartile of the rankings. However both countries have more developed educational systems and the potential for gains in the years ahead.

Emerging Europe

In many respects Emerging Europe is a different comparative class to other countries in the GEI despite their inclusion as Emerging Market representatives. Several countries have small populations, strong educational achievement, an advanced EU-formulated operating environment, and highly productive economies. Yet rankings differ widely. Notably: Turkey (12) ranks high next to Czech Republic and Estonia and followed by Russia (16), while Southern European countries such as Greece (19), Romania (27) and Bulgaria (28) less so.

Asia

Asia's lead rankings from China (1), Korea (2), Malaysia (3), India (5) and Vietnam (10)—and respectable showing from Thailand (11) and Indonesia (13)—contrast sharply with other regional participants further down the pecking order such as Philippines (29), Sri Lanka (37), Pakistan (42) and Bangladesh (43). These three laggards have one thing in common: youthful populations and increasing pressure on employment, but also an opportunity to move ahead if productivity and education intensity rises.

Middle East

Apart from the unique profile of Gulf countries UAE (4) and Qatar (9) mentioned previously, and to a lesser extent Bahrain (26), Middle East countries such as Jordan (36) and Oman (39) faced more acute economic challenges and generally lagged in terms of educational outcomes and productivity.

Figure 4 provides a summary of rankings and scoring for the clustered regions of Asia, the Americas and Europe, Middle East and Africa (EMEAF).

Figure 4. GEI Rankings by Country and Region

EMEAF			ASIA		
Rank	Country	Score	Rank	Country	Score
1	UAE	132	1	China	152
2	Poland	121	2	Korea	145
3	Czech Republic	114	3	Malaysia	132
4	Estonia	113	4	India	121
5	Qatar	113	5	Vietnam	110
6	Turkey	109	6	Thailand	110
7	Russia	106	7	Indonesia	108
8	Hungary	106	8	Philippines	97
9	Slovakia	103	9	Sri Lanka	86
10	Greece	103	10	Pakistan	82
11	Cyprus	102	11	Bangladesh	80
12	Lithuania	102			
13	Slovenia	102			
14	Latvia	101			
15	Bahrain	100			
16	Romania	99			
17	Bulgaria	98			
18	Croatia	96			
19	Mauritius	95			
20	Malta	94			
21	South Africa	88			
22	Jordan	87			
23	Egypt	86			
24	Oman	86			
25	Serbia	83			
26	Botswana	83			
27	Tunisia	80			
28	Morocco	73			
29	Nigeria	73			
30	Ghana	71			
31	Kenya	69			
32	Cote d'Ivoire	64			

AMERICAS		
Rank	Country	Score
1	Mexico	108
2	Argentina	106
3	Brazil	100
4	Chile	100
5	Peru	91
6	Colombia	89

Source: 3/1 Global Research

4. FURTHER INFORMATION

To learn more about the Global Edunomic Index (GEI), periodic updates, its technical design, and what is behind our research, check our website at www.threeoneglobal.com, or write us at info@threeoneglobal.com.