

**The Global Competitiveness of BRIC Nations:
Performance, Issues and Implications for Policy**

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— *Review of* —
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— *Research* —

ABSTRACT

In 2001, Brazil, Russia, India and China were heralded as the emerging growth nations that would save the world from economic collapse. They were expected to supersede the G7 economies but by 2010, the BRIC accounted for only 25% of the world's gross national income. This paper analyzes the global competitiveness of the BRIC nations over 15 years based on data provided by the World Economic Forum and the Institute of Management and Development. The study identifies the key issues facing each nation and highlights the implications for policy. China is the only country with stable growth but faces hurdles with Technological Readiness and Government Efficiency. Russia stumbles over Financial Market Sophistication and Business Efficiency. Brazil is set back by Goods Market Efficiency and Government Efficiency. India struggles to provide basic Health and Primary Education and Infrastructure. This paper proposes three factors that may have influenced the results: democracy, colonialism and religion, and concludes with limitations and future research directions.

JEL Classification: O10, O57

Keywords: BRIC, global competitiveness, World Economic Forum, Institute of Management and Development

1. INTRODUCTION

In 2001, Brazil, Russia, India and China entered the new millennium heralded as the emerging nations that would provide the impetus for growth and save the world from financial collapse. Owning 25% of the earth's land and 40% of population, the BRIC were expected to accelerate industrialization and supersede the G7 economies. For a decade, the BRIC became crucial profit drivers for exporters, such as the global car industry as car ownership surged with a new middle class with higher income and access to credit. By the end of the decade, the BRIC nations were slowing their momentum and losing their charm. By 2010, the Big Four accounted for only 25% of

the world's gross national income and except for China, the rest were fluctuating in global competitiveness performance.

In recent years, some analysts argued to drop the B and R (Bushra, 2013) while others observed that China is driving the BRIC train (Mishra, 2014) and still others proposed a new list of nations to replace the BRIC as engines of growth (Boesler, 2013). Indeed the BRIC “engines” have become over-heated. The booming car market and the rapid industrialization to meet domestic and export demand resulted in worsening traffic congestion and pollution levels (BRIC nations’ promise as saviours of car industry wavers, December 15, 2013). The consequences of a decade of poorly managed growth (Colombo, 2015) are pointing to a lack of attention to sound fundamentals to sustain growth (When Giants Slow Down, July 27, 2013). What then are the measurable fundamentals for the BRIC to remain competitive and attractive to investors?

2. JUSTIFICATION FOR STUDY

The BRIC nations are frequently discussed in the news and academic circles. The initial discussions focused on their success in reducing poverty and investment attractiveness as low cost production centres and huge markets for foreign goods. When the BRIC showed signs of slowing and increasing regulations, the discussions shifted to questioning their ability to become super powers and attractiveness for foreign direct investment. More recently, the discussions moved to the recent formation of the New Development Bank in Shanghai to counter the “failed reform within the International Monetary Fund” (BRICS New Development Bank Threatens Hegemony of U.S. Dollar, December 22, 2014).

Most studies focus on the latest economic performance of the BRIC nations. While data on global competitiveness from the World Economic Forum and Institute of Management and Development are available each year, national governments, business communities and academic circles tended to compare current data against previous year's to assess extent of progress. Few examined the historical trends that analyzed the past, evaluated the present and forecasted the future incline or decline in competitiveness.

A time-series study over 15 years is rare but important to investors to evaluate the potential returns on their investment based on the growth or decline of each nation as a market, and respective governments to analyze their ability to sustain growth in the next

decade. This is of critical significance to domestic and foreign investors who value stability and transparency of government policymaking to seed and grow their ventures. Other concerns include infrastructure for business and tourism as well as the reliable police services to provide safety and fight organized crime. For example, Singapore and Hong Kong have successfully enforced needed business infrastructure since the 1980s which increased their competitiveness attracting tourists, expatriates and foreign direct investment.

Like the five-year financial reviews of corporate firms, dividing the 15 years into three-five year periods will test a nation's consistency in progress over every five years. This helps determine the government's ability to raise the standard of living, important for investor confidence and global recognition.

The time-series study will also reveal the strengths and weaknesses of the pillars of competitiveness and the critical success factors that need attention providing the implications for policy making. Literature on the performance, issues and implications for policy based on a period of one and a half decade are rare but wanting and important for the nations, their citizens and business operators as well as foreign investors.

3. RESEARCH OBJECTIVE

This study focuses on the BRIC and not to be mistaken with the BRICS. In 2001, Jim O'Neill from investment bank Goldman Sachs coined the acronym BRIC as he expected the combined economies of Brazil, Russian, India and China could eclipse the current richest countries of the world by 2050. Goldman Sachs did not suggest that the BRIC would become an economic bloc but in 2009, the leaders of the BRIC countries held their first summit.

By December 2010, the BRIC became BRICS with the successful application of South Africa after an invitation headed by China. Some analysts argued that South Africa did not fit the BRIC model as the population is a third, and the economy a quarter, of the size of Russia's, the least economically powerful BRIC nation. However, most analysts believed that although South Africa made little commercial sense, it gave the BRIC, especially China, a foothold in Africa. Further, South Africa's inclusion in BRICS may translate to greater South African support for China.

This paper focuses on the BRIC nations as originally coined by Goldman Sachs in 2001. *The objective of this paper is to analyze the BRIC's performance in global competitiveness, identify the key issues that may hinder their growth and discuss the implications for policy to help each nation achieve sustainable growth.*

Thus, to achieve the objective, the first step is to define global competitiveness and second, identify the measurements for global competitiveness to apply to each BRIC nation to determine the performance in global competitiveness. The measurements will help identify the issues that affect their competitiveness and in turn, suggest implications for policy.

The subsequent literature will discuss the definition and measurement.

4. LITERATURE REVIEW

The two most authoritative sources on global competitiveness are the World Economic Forum's (WEF) Global Competitiveness Report (GCR) and the Institute of Management Development's (IMD) World Competitiveness Yearbook (WCY). The WEF released its first report on global competitiveness in 1979 and the IMD in 1988.

4.1. Defining Global Competitiveness

The WEF and IMD are based in Switzerland and both use macro and microeconomic concepts to study the efficiency of governments and private sectors as well as infrastructure that shape a nation's competitiveness. The difference lies in their approaches via their definition and hence, their measurement of global competitiveness (Phiromswad, Srivannaboon, Fujioka and Hoontrakul, 2010). Their approaches are influenced by the nature of their organization. The WEF is a political forum for heads of nations while the IMD is a management education and development institution that stresses academic growth for professional managerial excellence.

The WEF defines national economic competitiveness as “the set of institutions, policies and factors that determine the level of productivity of a country”, which affect the rate of return on investment and rate of output growth (Aridas and Magno, 2011). The WEF

determines the sustainable current and medium term levels of economic prosperity of each nation through 12 pillars of global competitiveness (Garelli, 2011). The WEF's Global Competitiveness Report (GCR) releases the annual Global Competitiveness Index (GCI) that awards a rank to each of the 12 pillars and culminating in the rank of the nation.

The IMD defines national economic competitiveness as "how a nation manages the totality of its resources and competencies to increase the prosperity of its people" (Aridas and Magno, 2011). The IMD analyzes national policies that create and maintain an environment that sustains more value creation and long-term sustainability for its enterprises and thus, promote more prosperity for its people (Garelli, 2011). The IMD's World Competitiveness Yearbook (WCY) releases the annual rankings of nations based on four key measurements.

The difference can be further clarified from the objectives explained by the leaders from both organizations.

WEF defines competitiveness as the set of institutions, policies, and factors that determine the level of productivity of a country (Dr. Jennifer Blanke, GCR 2014/15). The WEF GCI provides a sense why some *countries* have been better at providing high and rising living standard to their citizens than others. The IMD focuses on how *nations and enterprises* manage the totality of their competitiveness to achieve long-term prosperity (Dr. Suzanne Rosselet, WCY 2014). This implies that the WEF emphasizes the government's role in providing a rising living standard for their citizens reflective in the 12 pillars, while the IMD seeks to determine the extent of collaboration between governments and enterprises to manage resources to achieve sustainable progress.

4.2. Identifying Measurement: Differences between WEF and IMD

The key differences in measurement between the two research organizations can be summarized in Table 1 below based on the WEF's Global Competitiveness Report 2011/2012 and IMD's World Competitiveness Yearbook 2011.

Table 1: Comparing Global Competitiveness Methodology between WEF and IMD

Item	WEF 2014/15	IMD 2014
Primary Data: Executive Opinion Surveys (EOS)	Over 14,000 business leaders Median 98 per country	4,300 local and expatriate business leaders
	150 Partner Institutes* Surveyed 148 countries (144 included)	54 Partner Institutes* Surveyed 60 countries
Secondary Data (SD)	UNESCO, IMF & WHO**	Various public literature sources
Measurements	12 Pillars: 114 Indicators	5 Factors: 338 Criteria
Data Analysis	2/3 EOS & 1/3 SD	1/3 EOS & 2/3 SD
Strength	Up-to-date perceptions and forward-looking indicators that reflect voices of opinion leaders in business and other stakeholders	More emphasis on indicators from varying independent sources, so it manages to reveal more about objective past performance

Source: Adapted from Loo (2012). *Recognized economic departments of national universities, independent research institutes or business organizations. **UNESCO: United Nations Educational, Scientific and Cultural Organization; IMF: International Monetary Fund; WHO: World Health Organization.

Table 1 shows the differences in the survey approaches:

- WEF surveys about 150 countries each year, about 2.5 times IMD's 60 countries
- WEF surveys over 15,000 management executives, three times over IMD's 5,000.
- WEF collaborates with 150 partner institutions, about 3.5 times over IMD's 60.
- IMD uses 338 criteria, nearly three times more than IMD's 114 indicators.

The key difference in reaching their respective objective lies in the ratio between primary and secondary data. The WEF findings are based on two-thirds of primary and one-third secondary data, while the IMD's findings are reversed at one-third and two-thirds secondary data. The strength of the WEF's methodology is current perceptions and forward-looking indicators that reflect the voices of business leaders, while the IMD emphasizes independent sources that show more objectively past performance.

The WEF measures 114 indicators that form 12 pillars while the IMD evaluates 338 criteria categorized in four factors as shown in Table 2.

Table 2: Differences in Competitiveness Measurement between WEF and IMD

WEF 12 pillars	Indicators	IMD's Four Factors	Criteria
1. Institutions	21	1. Economic Performance	83
2. Infrastructure	9		
3. Macroeconomic Environment	5		
4. Health and primary education	10	2. Government Efficiency	70
5. Higher education and training	8		
6. Goods and market efficiency	16		
7. Labour market efficiency	10	3. Business Efficiency	71
8. Financial market development	8		
9. Technological readiness	7		
10. Market size	4	4. Infrastructure	114
11. Business sophistication	9		
12. Innovation	7		
Total	114	Total	338

Source: Global Competitiveness Report 2014/15 and World Competitiveness Yearbook 2014

The WEF evaluates economies by the 12 pillars that constitute a weighted Global Competitive Index that determines global ranks. The 12 pillars of competitiveness relate to three stages of economic development (Sala-I-Martin, 2011) as shown in Figure 1.

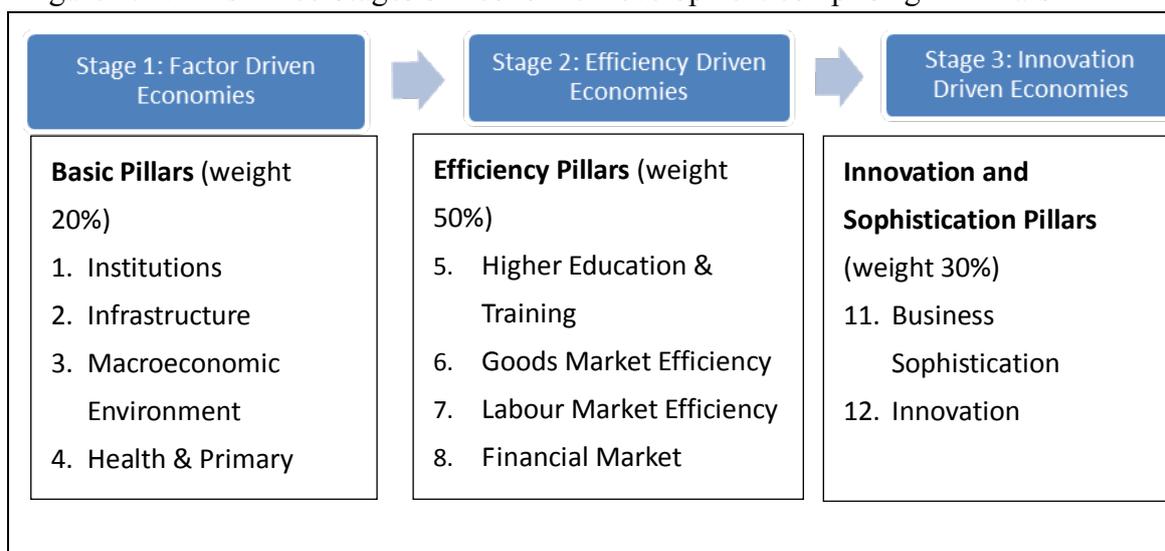
Pillars 1 to 4 are weighted 20%. They form the first stage of economic development with basic requirements comprising factor endowments, such as human and physical capital, natural resources and trade location to produce labour intensive products that compete on price. Competitiveness hinges on well-functioning public and private institutions, developed infrastructure, stable macroeconomic environment and healthy workforce with at least primary education.

Pillars 5 to 10 are efficiency enhancers, weighted 50%. Economies move into the efficiency-driven stage when they market capital intensive products and compete internationally on price and quality. Competitiveness is increasingly driven by higher

education and training, efficient goods market, well-functioning labour markets, developed financial markets, advance technology and expanding market size.

Pillars 11 to 12 mirror the innovation and sophistication stage of development, weighted 30%. Economies enter the innovation driven stage when they pay high wages and provide a high standard of living. Their businesses compete by developing new and unique products using and investing in sophisticated production processes.

Figure 1: WEF’s Three Stages of Economic Development comprising 12 Pillars



Source: Global Competitiveness Report 2014/15

The 12 pillars of competitiveness are described briefly as follow (Grammy, 2011):

1. Institutions: Legal and administrative framework within which individuals, firms, and governments interact to generate wealth.
2. Infrastructure: Effective modes of transportation and communication, including quality roads, railroad, ports, airports, utility supplies and telecommunication networks.
3. Macroeconomic Environment: Stability and predictability in economic activity based on optimal levels of regulation and taxation for private firms to create employment, manage production and make profit.

4. Health and Primary Education: A healthy, literate and cultured workforce supporting production of goods and services in an efficient manner.
5. Higher Education and Training: A pool of well-educated and skilled workers who are able to adapt rapidly to a changing environment and evolving needs of the production system.
6. Goods Market Efficiency: Market competition, both domestic and foreign, to facilitate a proper balance between demand and supply with minimal public regulations.
7. Labour Markets Efficiency: Efficiency of labour markets to allocate workers to their optimal employment positions and provide them with incentives to give their best effort.
8. Financial Markets Development: Efficiency of financial markets to allocate domestic and foreign savings to provide entrepreneurial and investment projects based on expected rates of return rather than political connections.
9. Technological Readiness: Agility with which an economy adopts existing technologies to enhance productivity, with full capacity to leverage information and communication technologies in production processes for increased efficiency and competitiveness.
10. Market Size: Expanding market size allows firms to exploit economies of scale with regional and international markets complementing domestic markets.
11. Business Sophistication: Sophisticated business practices conducive to efficiency, quality of overall business networks, and sustained profitability.
12. Innovation: Invention and innovation made possible by substantial investment in research and development to create new products and offer better methods of production and distribution.

The IMD measures four factors of competitiveness and each factor comprises five sub-factors as seen in Figure 2.

Figure 2: IMD’s Four Factors of Competitiveness

<p>Economic Performance</p> <ol style="list-style-type: none"> 1. Domestic Economy 2. International Trade 3. International Investment 4. Employment 5. Prices 	<p>Business Efficiency</p> <ol style="list-style-type: none"> 1. Productivity and Efficiency 2. Labour Market 3. Finance 4. Management Practices 5. Attitudes and Values
<p>Government Efficiency</p> <ol style="list-style-type: none"> 1. Public Finance 2. Fiscal Policy 3. Institutional Framework 4. Business Legislation 5. Societal Framework 	<p>Infrastructure</p> <ol style="list-style-type: none"> 1. Basic Infrastructure 2. Technological Infrastructure 3. Scientific Infrastructure 4. Health & Environment 5. Education

Source: World Competitiveness Yearbook 2014

The 20 sub-factors comprise a total of 338 criteria to calculate the overall competitiveness ranking. These criteria emphasize the market’s support for entrepreneurship and ability to attract investment.

4.3 Which measurement is better?

In 2010, IMD ranked Thailand 26th among 59 countries, unchanged from previous year and WEF ranked it 38th among 139 countries, a drop from 36th the year before. The Thai government would be happier with the IMD rank, especially in the aftermath of a period of domestic political instability (Limsamarnphun, 2010).

The situation becomes more controversial when a significant difference exists between the two measurements. Thailand fell from 28th in 2006 to 38th in 2010 in the WEF reports while it advanced from 33rd in 2007 to 26th in 2010 in the IMD findings

(Sujjapongse, 2011). The Thai government may be criticized for failing by WEF's standards but it may counter that it had been progressing by IMD's measurements since 2007. On further analysis, the WEF places Thailand in a more positive and competitive position in the top 27% compared to further down the scale at 44% by IMD's measurements.

So which measurement should governments, business managers and scholars use? The methodology of this paper takes into account the difference in global competitiveness ranking approaches.

5 METHODOLOGY

The soundness of the fundamentals of a nation is tested in the nation's ability to compete globally, especially when they lose preferential tax and tariff status. The global competitiveness of a nation may fluctuate over time and for some nations, from year to year. True performance has to be assessed over a reasonable duration to evaluate its consistency in progress or decline in competitiveness, much like the financial review of businesses to determine their worth. The assessment will also reveal issues that need address and implications for policy.

This study will use both the WEF and IMD measurements to evaluate the performance in global competitiveness of BRIC nations.

5.1 Determining BRIC's Performance in Global Competitiveness

Country rank over 15 years: An analysis over the last 15 years to determine growth or decline in competitiveness of each BRIC nation. The WEF data is deemed a better measurement tool at this stage as it is more reflective of a global assessment among nearly 150 nations compared to 60 nations in the IMD study.

Country rank over three 5-year periods: A comparison over three 5-year periods will test the degree of sustainability in economic progress over the three intervals for each BRIC nation. The average performance of each 5-year period will be calculated to provide a meaningful basis of comparison.

Global competitiveness rank of 12 pillars and four factors of each nation in the last five years: The IMD assessment will be included as it provides the sub-factors that help reveal strengths and weaknesses of each BRIC nation.

5.2 Identifying Issues in BRIC's Global Competitiveness

The analysis of the performance of the 12 pillars of the WEF and four factors of the IMD studies in the last five years will serve as the best predictor of BRIC's competitiveness in the next five years. As mentioned earlier, the objective is not to forecast the future ranks but to identify the weak areas, forming the issues that need address.

5.3 Highlighting Implications for Policy

The issues will be investigated in greater depth to identify the specific indicators that erode global competitiveness. These weak indicators suggest cracks in the foundations of global competitiveness and they need to be addressed, leading to implications for policy.

5.4 Scope of Analysis and Statistical Method

The WEF and IMD release annual ranks in global competitiveness of nations which do not take into account the typical seasonal effects in a time series analysis. The "seasonal effect" on ranks is largely influenced by political factors and they account for the annual fluctuations in the number of countries surveyed, especially with the WEF, as in some years data may not be collected in some nations undergoing war or nations with closed-door policy to foreign researchers.

This paper focuses on analyzing the implications of the data provided by WEF and IMD, authorities that have executed research under stringent criteria and processes. As the performance in ranks may fluctuate annually, averages are employed to determine the average rank over a period of years to enable comparison among the BRIC nations. The simple moving averages and seasonal effects are deemed less suitable as the objective is not concerned with forecasting future ranks but identifying indicators that explain the current ranks.

6 FINDINGS: PERFORMANCE IN GLOBAL COMPETITIVENESS

6.1. Country Rank over 15 Years from 2000 to 2014/15

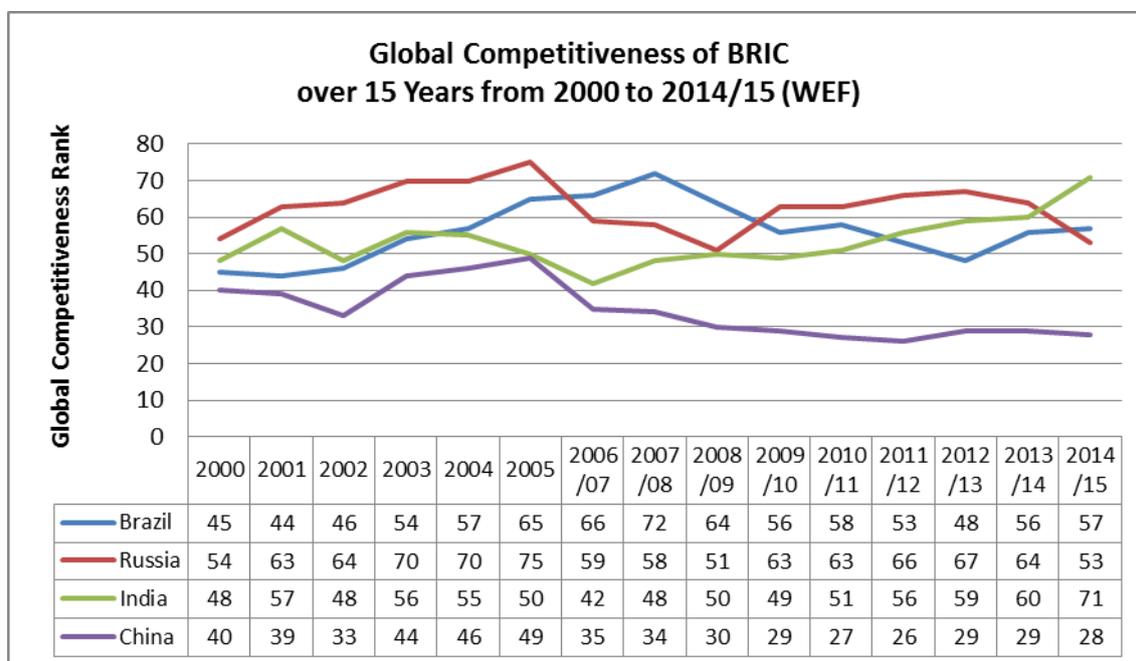
Table 3 shows the WEF country rank over 15 years from 2000 to 2014/15 with the last column showing the average rank. China leads with the highest average rank at 35 (rounded to nearest figure) followed by India at 53, Brazil 56 and Russia 63. China is the only BRIC nation to have ranks in the last five years higher than its 15-year average.

Table 3: Global Competitiveness Rank over 15 Years from 2000 to 2014/15 (WEF)

Country	2000	2001	2002	2003	2004	2005	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	Average
Brazil	45	44	46	54	57	65	66	72	64	56	58	53	48	56	57	56.1
Russia	54	63	64	70	70	75	59	58	51	63	63	66	67	64	53	62.7
India	48	57	48	56	55	50	42	48	50	49	51	56	59	60	71	53.3
China	40	39	33	44	46	49	35	34	30	29	27	26	29	29	28	34.5

Source: Global Competitiveness Reports from 2000 to 2014/15, World Economic Forum

Figure 3: Global Competitiveness Rank of BRIC from 2000 to 2014/15



Source: Global Competitiveness Reports from 2000 to 2014/15, World Economic Forum

Figure 3 shows the fluctuations in rank over the 15 years and yields several observations:

- India has been declining since 2006/2007 falling by 29 places from 42 to 71 in 2014/15. India's best performance was between 2006/07 and 2009/10 within the Top 50.
- Russia fluctuated in performance but managed to return to a rank within the 50's at 53 in 2014/15, close to its highest rank in 2008/2009 at 51. Russia's best performance was in the Top 60.
- Brazil declined from 2001 to 2007/2008 but improved thereafter and managed to stay within the Top 60. Brazil's highest rank was 44 in 2001.
- China fluctuated between Top 40 and 50 ranks but progressed to Top 30 in the last five years since 2009/2010. China's highest rank was 26 in 2011/12.

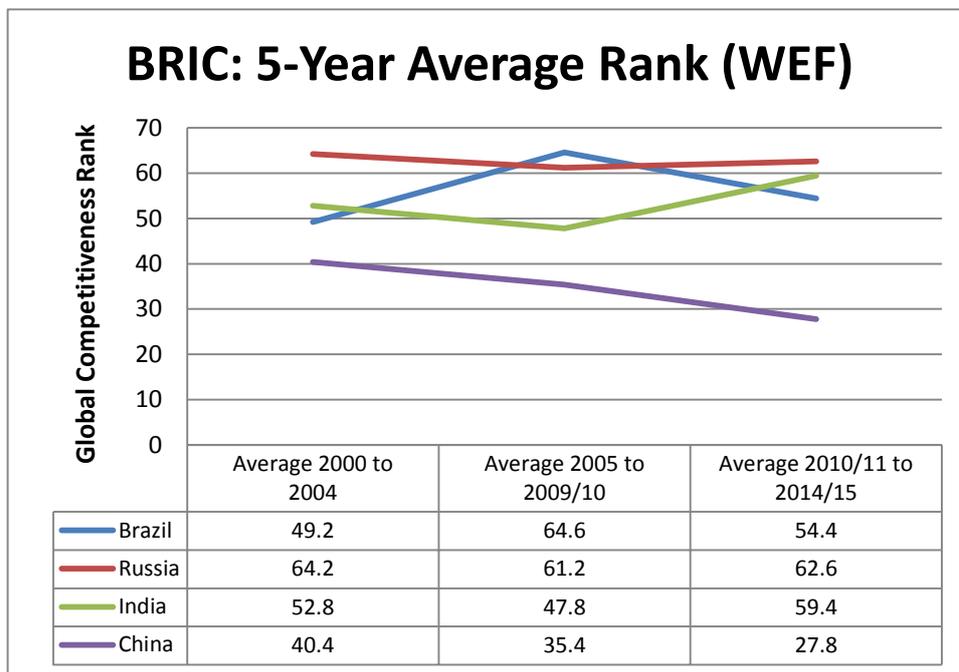
Throughout the 15 years from 2000 to 2014/15, China has maintained the best ranks in global competitiveness among the BRIC nations. India was a close second in 2003 but declined each year thereafter and by 2010/11, Brazil outperformed India. By 2014/15, India became the weakest in global competitiveness. Russia fluctuated but edged out Brazil and India in rank by 2014/15. However, Russia's economy is suffering from international sanctions for its role in the Ukraine civil war.

This section has reviewed the struggles of the BRIC through their fluctuating performance in global competitiveness. Like corporate businesses that review performance over five year periods, the BRIC's performance will be tested over three consecutive 5-year periods.

6.2. Average Ranks over Three 5-Year Periods from 2000 to 2014/15

Figure 4 shows the average rank for three 5-year intervals from 2000 to 2004, 2005 to 2009/10 and 2010/11 to 2014/15.

Figure 4: Global Competitiveness Rank over Three 5-Year Periods from 2000 to 2014/15



India and Russia performed better between 2005 and 2009/10. The same period was Brazil’s worst performance but Brazil reversed the decline and improved the average rank between 2010/11 and 2014/14. China has progressed from strength to strength over the three 5-year periods.

China is the only country that has shown improvement over the three five-year periods from rank 40 to 35 to 28. The second best performer is Brazil, slipping from 49 to 65 and reversing the slide in the last five years to 54. Although Russia fluctuated annually, the average rank over the five-year periods showed little movement from 64 to 61 to 63. India became the worst performer by 2014/15 although it had been progressing from 53 to 48 but slipped to a 5-year average rank of 59.

The attention now turns to analyzing and comparing the BRIC nations’ pillars of competitiveness by the three economic development stages.

6.3 BRIC's 12 Pillars and Four Factors: WEF and IMD Ranks

6.3.1 The WEF 12 Pillars of Global Competitiveness

Table 4 shows the WEF's rankings of the 12 pillars of competitiveness of each BRIC nation. While their market size (Pillar 10) places them among the Top 10, their stages of development differ. WEF classifies India as a Factor-Driven economy and China, an Efficiency-Driven economy while Brazil and Russia are in transition from Efficiency to Innovation-Driven economy.

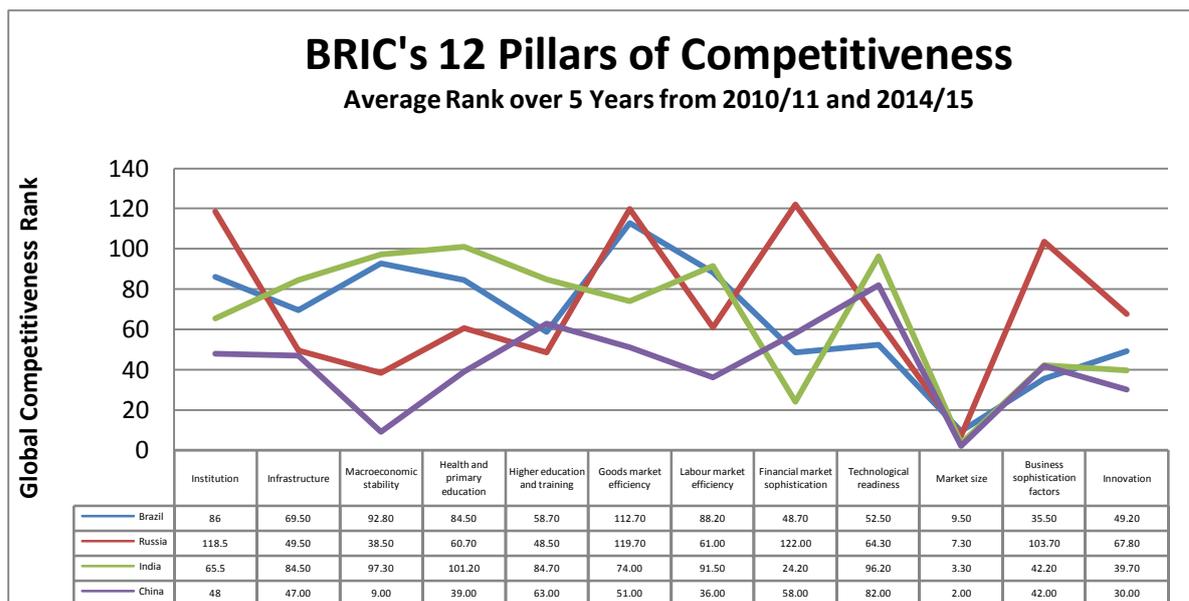
Table 4: 5-Year Average Ranks of 12 Pillars of Competitiveness (2010/11 to 2014/15)

Country	Institution	Infrastructure	Macroeconomic Environment	Health and primary education	Higher education and training	Goods market efficiency	Labour market efficiency	Financial market sophistication	Technological readiness	Market size	Business sophistication	Innovation
Brazil	84.4	68.2	94.4	86.0	62.2	110.6	84.0	47.8	51.4	9.6	33.2	46.6
Russia	122.8	51.6	40.0	61.6	50.4	123.8	64.2	124.4	65.4	7.4	107.2	68.4
India	64.6	84.0	96.6	101.8	83.0	69.8	87.4	18.8	91.2	3.4	39.2	37.8
China	48.40	47.20	8.60	37.80	62.20	50.00	36.20	58.80	81.40	2.00	41.20	29.20

Source: Global Competitiveness Reports from 2000 to 2014/15, World Economic Forum

Brazil leads in Business Sophistication and Technological Readiness and Russia in Higher Education and Training. India excels in Financial Market Sophistication. China leads in the remaining eight pillars: Institution, Infrastructure, Macroeconomic Environment, Health and Primary Education, Goods Market Efficiency, Labour Market Efficiency, Market Size and Innovation.

Figure 5: Average Performance in 12 Pillars of Competitiveness from 2010/11 to 2014/15



Source: Global Competitiveness Reports from 2000 to 2014/15, World Economic Forum

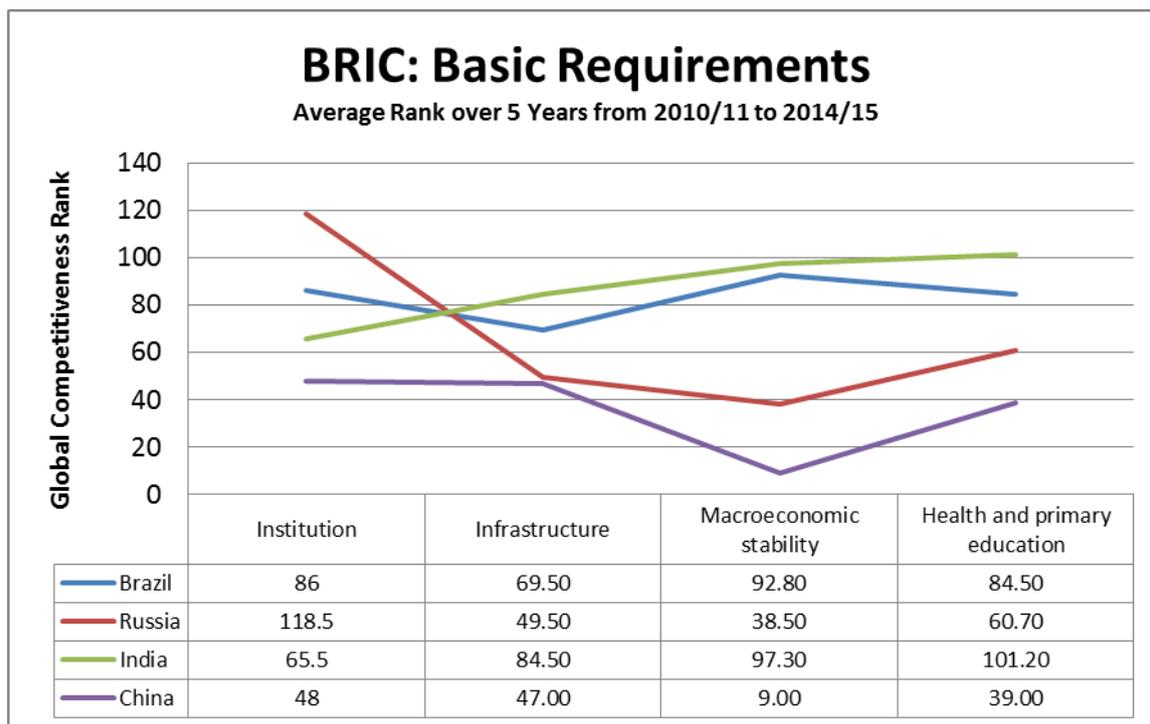
First Economic Stage: Factor-Driven (20%)

Figure 6 shows the first four pillars of competitiveness, weighted 20% for basic requirements that form the Factor-Driven economy, the first stage of economic development. On the average, each pillar is worth 5% weight.

China leads in each of the four pillars:

- Pillar 1 Institutions: Although China is criticized for human rights, China’s rank at 48 is far ahead with the nearest compatriot, India at 66.
- Pillar 2 Infrastructure: China leads at 47 with Russia a close second at 50.
- Pillar 3 Macroeconomic Environment: At 9, China has been among the world’s Top 10 in the last five years, with Russia a distant second at 39.
- Pillar 4 Health and Primary Education: China leads at 39 with Russia, second at 61.

Figure 6: BRIC’s Pillars of Competitiveness for Factor-Driven Economy



Source: Global Competitiveness Reports from 2000 to 2014/15, World Economic Forum

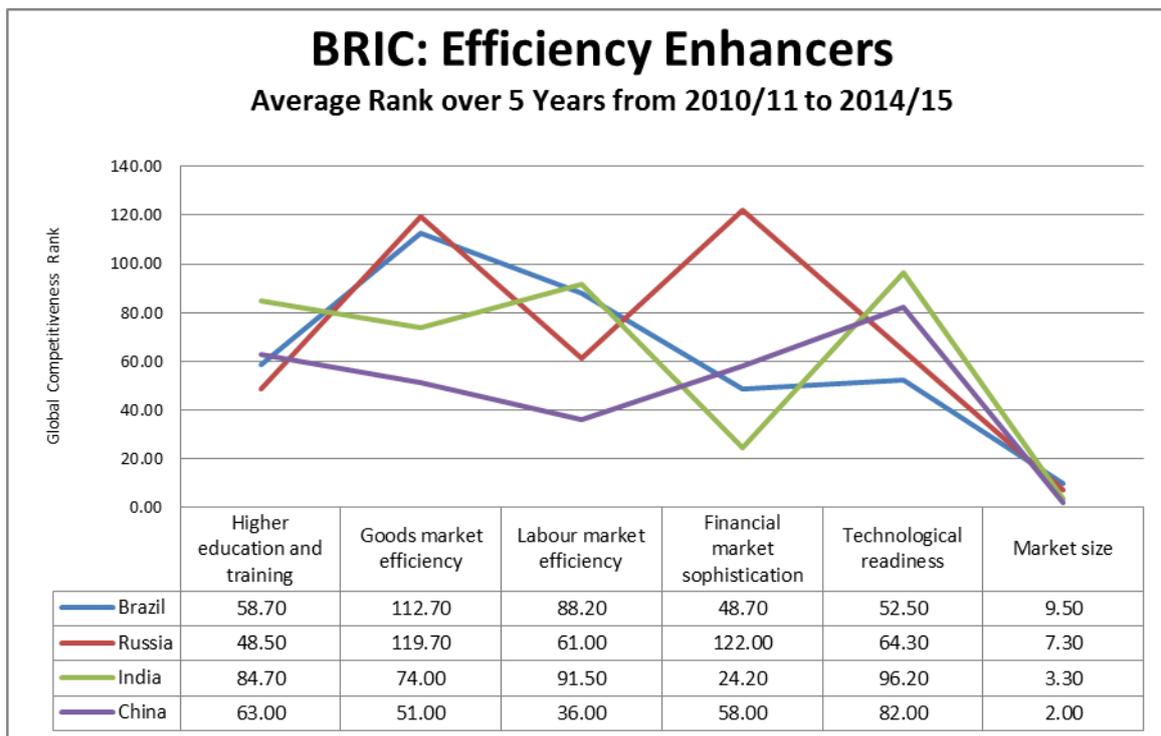
Second Economic Stage: Efficiency-Driven (50%)

Figure 7 shows the six pillars of competitiveness critical to the second stage of economic development, Efficiency-Driven. Weighted 50%, each pillar has an average weight of 8.3%.

Russia, India and Brazil each leads in one pillar of competitiveness:

- Pillar 5 Higher Education and Training: Russia leads at 49.
- Pillar 8 Financial Market Sophistication: India leads at 24.
- Pillar 9 Technological Readiness: Brazil leads at 53.
- China leads in three pillars of competitiveness: Pillar 6 Goods Market Efficiency at 51, Pillar 7 Labour Market Efficiency at 36 and Pillar 10 Market Size at 2.

Figure 7: BRIC’s Pillars of Competitiveness for Efficiency-Driven Economy



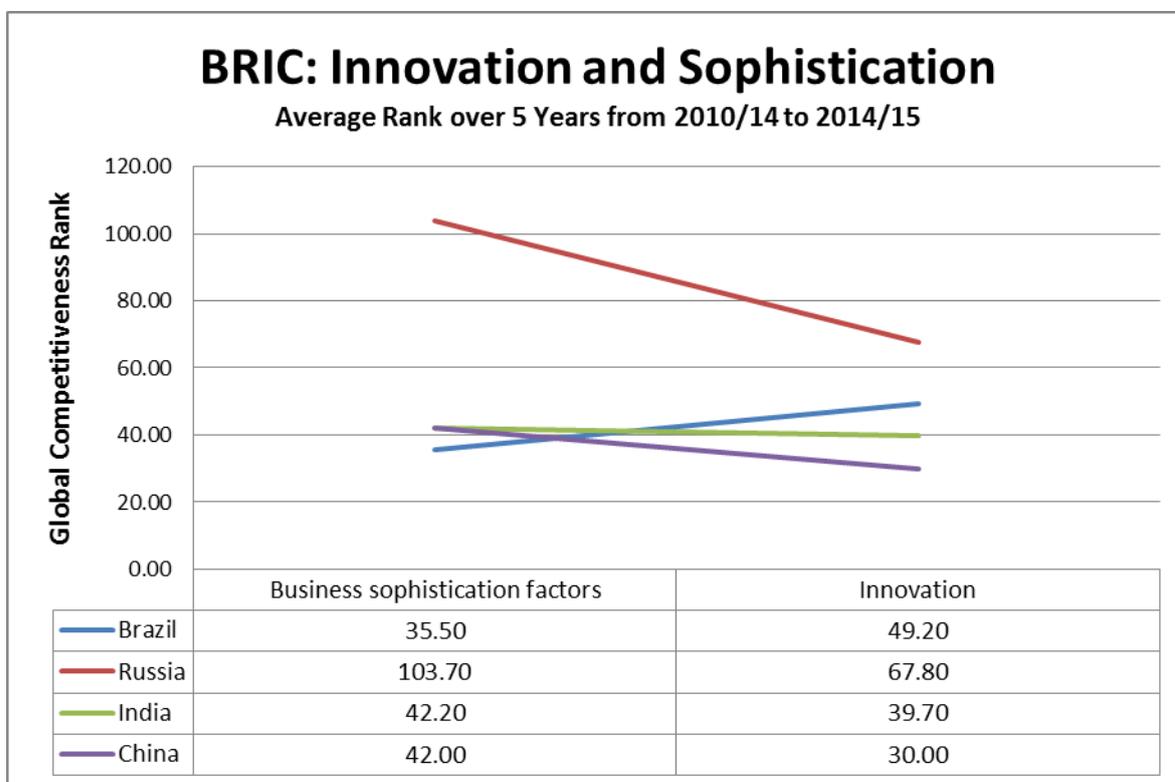
Source: Global Competitiveness Reports from 2000 to 2014/15, World Economic Forum

Third Economic Stage: Innovation-Driven (30%)

Figure 8 shows the last two pillars of competitiveness, weighted 30% that enable nations to move into the third stage of economic development, Innovation-Driven Economy. In this stage, each pillar has the average weight of 15%, highest than the other 10 pillars.

- Pillar 11 Business Sophistication: Brazil leads at 36th but both India and China are catching up at 42nd rank, while Russia lags behind at 104th.
- Pillar 12 Innovation: China leads at 30th followed by India at 40th, Brazil at 49th and Russia at 68th.

Figure 8: BRIC’s Pillars of Competitiveness for Innovation-Driven Economy



Source: Global Competitiveness Reports from 2000 to 2014/15, World Economic Forum

As a summary, the findings on the 12 pillars of competitiveness show that China dominates in global competitiveness over Brazil, Russia and India in:

- The first four pillars that form the foundation for the first stage of economic development, the Factor-Driven economy.
- Three of the six “efficiency enhancer” pillars vital to the second stage of economic development known as Efficiency-Driven.
- One of the two pillars in the Innovation-Driven economy, the third stage of economic development.

The discussion has thus far centred on the WEF findings. Next, the findings of another authoritative source, the IMD will be discussed.

6.3.2 The IMD Four Factors of Global Competitiveness

Table 5 shows the average performance of the BRIC in the four factors of global

competitiveness measured by the IMD.

Table 5: BRIC’s Average Rank in Four Factors of Competitiveness 2010 to 2014

Country	5Y Ave. (2010-2014)	Rank	Economic Performance	Government Efficiency	Business Efficiency	Infrastructure
Brazil	46.6		39.8	55.6	32.6	49.4
Russia	45.6		42.2	42.2	53.2	37.6
India	36.4		21.4	38.8	25.8	53.6
China	20.8		3.4	33.4	27.6	28

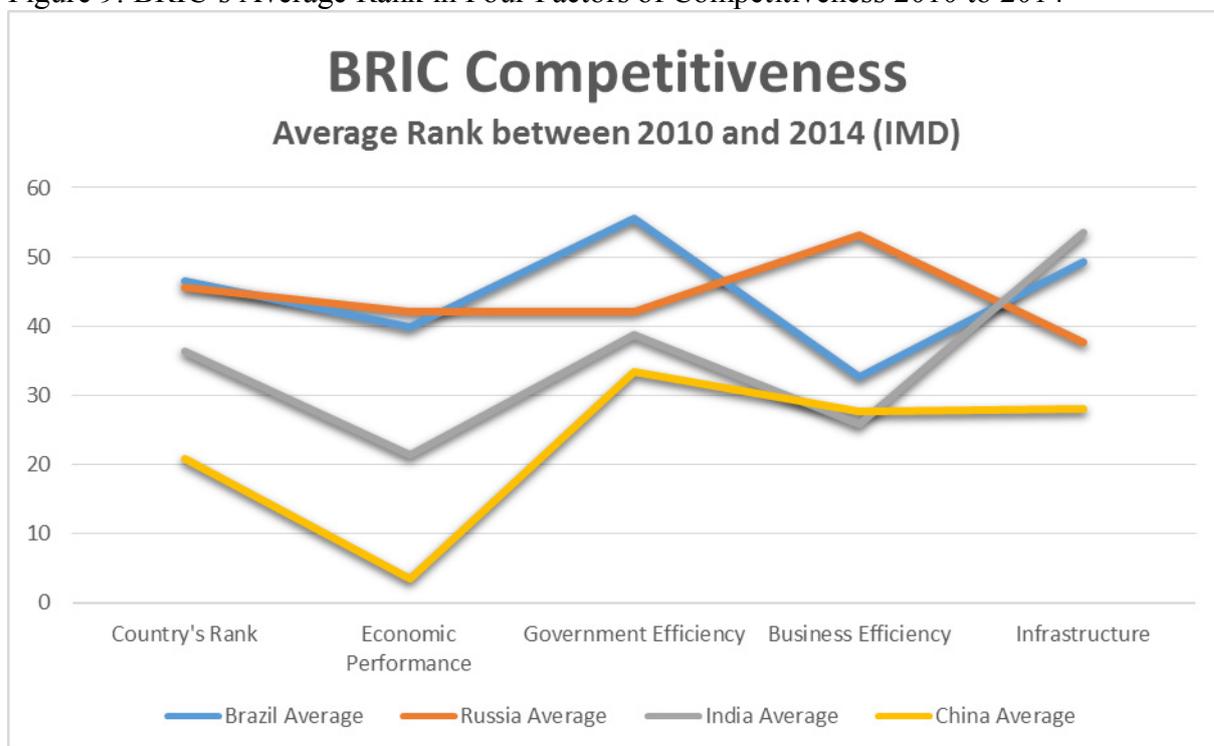
Source: World Competitiveness Yearbook from 2010 to 2014, Institute of Management and Development

Table 5 also shows the four factors of competitiveness of each BRIC nation:

- Brazil is weakest in average 5-year rank (47) and Government Efficiency (57).
- Russia is weakest in Business Efficiency (53) and Economic Performance (42).
- India is weakest in Infrastructure (54).

Figure 9 provides a visual perspective of the competitive performance among the BRIC compatriots.

Figure 9: BRIC’s Average Rank in Four Factors of Competitiveness 2010 to 2014



Source: World Competitiveness Yearbook from 2010 to 2014, Institute of Management and Development

Figure 9 shows China ahead in three of the four factors of competitiveness:

- Economic Performance: At 3, China is far ahead of India, second at 21.
- Government Efficiency: China ranks 33 followed by India, 39.
- Infrastructure: China ranks 28 followed by Russia, 38.

India leads in Business Efficiency at 26 but China, 28, may overtake India in future.

6.3.3 Summary of WEF and IMD Findings

Both the WEF and IMD findings concur that China is leading by 75% of the factors assessed: eight of 12 pillars of competitiveness in WEF and three of four factors of competitiveness in IMD. With the comparison of the average performance of the BRIC nations in the last five years completed, the investigation shifts to identifying the issues that affect the BRIC's global competitiveness.

7. IDENTIFYING ISSUES IN BRIC'S GLOBAL COMPETITIVENESS

Table 6 shows in priority order the 12 pillars in each BRIC nation that need support from weakest to strongest. The first column shows the 12 pillars with those indicated in red being the three weakest and black as three strongest. The second column shows the average global competitiveness rank of each pillar over five years from 2010/11 to 2014/15. The third column shows the number of times the pillar's rank is lower or higher than the country's rank, for example in Brazil's case, Pillar 7 Labour Market Efficiency ranked 115 is 2.12 times lower than the country's rank at 54, while Pillar 11 Business Sophistication Factors ranked 36 is 0.7 times higher.

The last column shows the priority for attention, subjective to each nation's situation. For example, although China has the best country rank at 28, Pillar 9 Technological Readiness ranked 82 is nearly three times lower than the country's rank. In contrast, Russia's P8 Financial Market Sophistication ranked 123 is among the bottom 20% of nations surveyed but yet is only twice lower than the country's rank as Russia's country rank is twice lower than China. In reality, Russia's Pillar 8 ranked 123 has a higher critical need for reform compared to China's Pillar 9 ranked 82.

As Table 6 shows, the three weakest pillars of each nation:

- Brazil: Labour Market Efficiency, Financial Market Sophistication, Macroeconomic Environment
- Russia: Financial Market Sophistication, Goods Market Efficiency, Institutions
- India: Health and Primary Education, Technological Readiness, Macroeconomic Environment
- China: Technological Readiness, Higher Education and Training, Financial Market Sophistication

Table 6: Prioritizing Pillars that Need Support (WEF 2010/11-2014/15)

BRAZIL				RUSSIA			
5-Year Average Rank	Pillar Rank: Times Lower or Higher	Priority	5-Year Average Rank	Pillar Rank: Times Lower or Higher	Priority		
54.4			62.6				
P7 Labour market efficiency	115.4	2.12	1	P8 Financial market sophistication	122.6	1.96	1
P8 Financial market sophistication	89.8	1.65	2	P6 Goods market efficiency	122	1.95	1
P3 Macroeconomic Environment	89.6	1.65	2	P1 Institution	119.4	1.91	1
P5 Higher education and training	85.6	1.57	2	P11 Business sophistication factors	105.4	1.68	1
P1 Institution	84.6	1.56	2	P12 Innovation	71.2	1.14	2
P2 Infrastructure	68.6	1.26	3	P7 Labour market efficiency	64.6	1.03	2
P6 Goods market efficiency	58.8	1.08	3	P4 Health and primary education	62.6	1	3
P9 Technological readiness	53.8	0.99	4	P9 Technological readiness	62.4	1	3
P12 Innovation	50.4	0.93	4	P5 Higher education and training	48	0.77	4
P4 Health and primary education	38	0.7	4	P2 Infrastructure	45.2	0.72	4
P11 Business sophistication factors	36.2	0.67	4	P3 Macroeconomic Environment	39	0.62	4
P10 Market size	9.4	0.17	4	P10 Market size	7.4	0.12	4

INDIA				CHINA			
5-Year Average Rank	Pillar Rank: Times Lower or Higher	Priority	5-Year Average Rank	Pillar Rank: Times Lower or Higher	Priority		
59.4			27.8				
P4 Health and primary education	101.2	1.7	1	P9 Technological readiness	82.2	2.96	1
P9 Technological readiness	98.8	1.7	1	P5 Higher education and training	63	2.27	1
P3 Macroeconomic Environment	97.6	1.6	1	P8 Financial market sophistication	53.4	1.92	2
P7 Labour market efficiency	93.2	1.6	1	P6 Goods market efficiency	52.8	1.9	2
P5 Higher education and training	88.4	1.5	2	P1 Institution	48.2	1.73	2
P2 Infrastructure	86.2	1.5	2	P2 Infrastructure	47.2	1.7	2
P6 Goods market efficiency	79.2	1.3	2	P11 Business sophistication factors	42.2	1.52	2
P1 Institution	67.8	1.1	2	P4 Health and primary education	38	1.37	3
P11 Business sophistication factors	45.2	0.8	4	P7 Labour market efficiency	37.2	1.34	3
P12 Innovation	41.6	0.7	4	P12 Innovation	30.4	1.09	3

P8 Financial market sophistication	25.8	0.4	4	P3 Macroeconomic Environment	9	0.32	4
P10 Market size	3.2	0.1	4	P10 Market size	2	0.07	4

Source: Global Competitiveness Reports, World Economic Forum, from 2010/11 to 2014/15

Having prioritized the 12 pillars, the IMD four factors will be next analyzed. Table 7 shows the weakest factor of each nation.

- Brazil: Weakest in Infrastructure
- Russia: Weakest in Business Efficiency
- India: Weakest in Economic Performance
- China: Weakest in Government Efficiency

Table 7: Prioritizing Factors that Need Attention (IMD 2010-2014)

BRAZIL	5-Year Average Rank	Factor	Rank: Times Lower or Higher	Priority	INDIA	5-Year Average Rank	Factor	Rank: Times Lower or Higher	Priority
Government Efficiency	55.6	1.19	1	1	Infrastructure	53.6	1.47	1	1
Infrastructure	49.4	1.06	1	1	Government Efficiency	38.8	1.07	1	1
Economic Performance	39.8	0.85	2	2	Business Efficiency	25.8	0.71	2	2
Business Efficiency	32.6	0.70	2	2	Government Efficiency	21.4	0.59	2	2

RUSSIA	5-Year Average Rank	Factor	Rank: Times Lower or Higher	Priority	CHINA	5-Year Average Rank	Factor	Rank: Times Lower or Higher	Priority
Business Efficiency	53.2	1.17	1	1	Government Efficiency	33.4	1.61	1	1
Government Efficiency	42.2	0.93	2	2	Infrastructure	28	1.35	1	1
Infrastructure	42.2	0.93	2	2	Business Efficiency	27.6	1.33	1	1
Economic Performance	37.6	0.82	2	2	Economic Performance	3.4	0.16	2	2

Source: World Competitiveness Yearbook, Institute of Management and Development, from 2010-2014

8. IMPLICATIONS FOR POLICY

The preceding findings identified the pillars and factors that need attention and these pillars have indicators and sub-factors with criteria provided in the country profiles and factor breakdown in the respective WEF Global Competitiveness Reports and IMD

World Competitiveness Yearbooks. The implications for policy will be based on the weak indicators and criteria that are below the country's rank and hover around the rank 100 for critical attention. All ranks discussed will be the average of the combined last five years unless specified. Numbers in parenthesis will indicate the rank, and "P" will denote "Pillar."

8.1. Brazil

There are four key policy implications for Brazil: goods market efficiency, labour market efficiency, macroeconomic environment and government efficiency – the first three identified by WEF and the last by IMD.

P6 Goods Market Efficiency: The 5-year average rank is 115 while the current 2014/15 rank has slipped to 123. Of the 15 indicators, 14 are below the country's rank.⁵⁴ The alarming indicators are the effect of taxation on incentives to invest (139) and total tax rate as a percentage of profits (136). Tax reforms are much needed to incentivise entrepreneurs and investors.

P7 Labour Market Efficiency (WEF): In 2014/15, this pillar slipped 19 places below the average 5-year average rank at 90 to 109. All 15 indicators are below the country's rank and five needs immediate attention. Effective of taxation on incentives to work is ranked 139 followed by hiring and firing practice 135, flexibility of wage determination 125, cooperation in labour-employee relations 123 and pay and productivity 117. All these are big cracks in the pillar – employees could lose their job easily, reward and compensation method is vague and the high taxes demotivate workers.

P3 Macroeconomic Environment: Although the 2014/15 rank at 85 is higher than the average 90, four of the five indicators are below country's rank. Annual inflation is ranked 110, general government debt 109 and government budget balance 81.

Government Efficiency: This factor's average rank 56 is lower than the country average 47. It has been declining from 29 in 2011 to 47 in 2014. The institutional framework ranks 59, and business legislation and societal framework both 58. Bureaucracy (58) is crippling the creation of firms (59) with long start-up days (59) and ease of doing business (58).

8.2. Russia

The three weakest pillars are financial market development, goods market efficiency, institutions and the weakest factor is business efficiency. Although there is some cheer that there is improvement in the current rank of the three pillars compared to the 5-year average, all indicators are below the average country rank 63.

P8 Financial Market Development: The average 5-year rank 123 has improved to 110 in 2014/15 but three of the eight indicators need attention as they dampen investor confidence: soundness of banks 118, legal rights index 113 and regulation of securities of exchanges 91.

P6 Goods Market Efficiency: The average 5-year rank 122 has improved to 99 in 2014/15. There are two types of barriers: imports and foreign direct investment. Imports as a percentage of GDP is ranked 133, prevalence of trade barriers 111, trade tariffs 102 and burden of customs procedures 95. Business impact of rules on FDI is 118 and prevalence of foreign ownership 124. Over-protecting local products and businesses could backfire. For example, Canada has withdrawn the General Preferential Tariff status from nations that have a share of world exports equal to or greater than one percent (Canada set to implement changes to Preferential Tariff Treatment, n.d.).

P1 Institutions: The 5-year average 119 has advanced to 97 in 2014/15. However, citizens and investors continue to face security risks with property rights ranked 120, protection of minority shareholders' interest 118 and reliability of police forces 114.

Business Efficiency: Management practices rank 54 of 60 countries in the IMD 2014 survey, productivity and efficiency 53. Communism has yet to succeed in developing managers with a balanced orientation towards customers and employees. There is a lack of international experience (58) to facilitate global business expansion and a lack of ability to attract or retain talents (56) resulting in brain drain (55). Worker motivation (54) is low affecting workforce productivity (54). There are health, safety and environmental concerns (55) as there is a lack of social responsibility (54) and regulatory compliance (53).

8.3. India

India is still classified as a first stage Factor-Driven economy despite an impressive GDP growth of over 6 percent annually. As discussed earlier, India has been declining

in global competitiveness since 2006/07. India has at least three shaky pillars – health and primary education, technological readiness – and one weak factor, infrastructure.

P4 Health and Primary Education: All 10 indicators are below country's average rank. The business impact of tuberculosis ranks 135 and the number of tuberculosis cases per 100,000 people at 113, followed by the business impact of HIV/AIDS at 132 and infant mortality, 115. The primary education enrolment ranks 78 but the quality of education is even lower at 88. Deaths, diseases, poor quality education and low primary education enrolment all affect the productivity of a nation.

P9 Technological Readiness: All seven indicators are below country's average rank. There are two key concerns. First, the lack of internet usage and facilities: individuals using internet ranks 115, mobile broadband subscriptions 114, international internet bandwidth 107 and fixed broadband internet subscriptions 103. The second issue concerns the availability of latest technologies which ranks 110 and the ability for firm-level technology absorption 102.

P3 Macroeconomic Environment: In 2014/15, the pillar slipped to 101 lower than the average 98. Four of the five factors are below the country's rank. Inflation ranks at 133, government budget balance 129 and general government debt 110.

Infrastructure: The sub-factors Health and Environment and Education sank to rock bottom 60. While scientific infrastructure ranks 30, the technological is 31 and the basic infrastructure is 53. There are three types of infrastructure that need critical attention. First, the internet related infrastructure as internet users, mobile telephone subscribers and computers per capita share a rank at 60, and broadband subscribers at 59. Second, education related infrastructure with pupil-teacher ratio for primary education at 60 and secondary education, 59. Finally, infrastructure to support daily life is sorely needed as the human development index and life expectancy at birth are both at a discouraging rank at 59.

8.4. China

Among the BRIC nations, China is in a league of its own. However, when compared to the rest of the world, China has a lot to catch up.

P9 Technological Readiness: How could the number one personal computer manufacturer not be technologically ready? What is not ready is the infrastructure that supports internet and telecommunication with all seven indicators below the country rank 28. Even the best performing indicator is at a dismal 51 for fixed broadband internet subscription and the “worst” at 120 for international internet bandwidth. China has a need to step up technology absorption and promote internet usage. There should be incentives for foreign direct investors to effect technology transfer (81), make available latest technologies (97) and train firm-level technology absorptions, and policies that promote internet usage (75) and mobile broadband subscriptions (78). Technological Readiness is heavily dependent on Education and Training to provide manpower skilled in operating and innovating technology.

P5 Higher Education and Training: The youth determines the future of the nation but secondary enrollment is ranked 72 and tertiary education enrollment, 85. If there were a perception that China has excellent math and science education, the rank 56 dismisses it. The quality of education system at 52 probably accounts for the poor rank in math and science education which in turn affects the quality of management school, 85. With these dismal rankings, China has an urgent need to increase enrolment at secondary and tertiary levels, vital to a productive workforce. The Organization for Economic Cooperation and Development (OECD) recommends Level 3 as the internationally accepted level of literacy, roughly the equivalent of successful high school completion and college entry (Reading the Future, n.d.) to enable workers to utilize new technologies, adapt to new responsibilities and absorb training effectively (Murray, McCracken, Willms, Jones, Shillington and Stucker, 2009).

China aims to attract half a million students by 2020 in the quest to become the largest education hub in Asia for international students. China is offering international subsidies worth US\$11,000 for undergraduates, US\$13,000 for Master’s and US\$16,000 for PhD candidates (Chi, 2015). Unless China plans to retain the foreign students as future workforce, China is depriving local talent a place in the university while draining resources on students who will not be contributing to its economy after graduation.

P8 Financial Market Sophistication: Six of eight indicators are below country’s rank. Legal rights index is ranked 85 and related to the collateral and bankruptcy laws which protect the rights of borrowers and lenders are the soundness of banks at 63 and regulation of securities exchanges at 58. Financial services are not readily available (63)

or affordable (50) and financing through local equity market (34) could be improved. Although ease of access to loans (21) and venture capital availability (13) are performing better than the country's rank, China needs continue to make available and affordable financial services as access to financing is the number one most problematic factor for doing business (Global Competitiveness Report 2014/14 p. 154).

Government Efficiency: There are three key types of inefficiency. First, there is poor social security contribution rate from employer (59) and employee (58), indicating employees are not valued and resulting in low worker morale since little monetary support for retirement or disablement from a workplace accident can be expected. Second, start-up procedures (56) and start-up days (56) are too many and too long to motivate entrepreneurship. The assurance of adequate financial support at retirement or disablement would enhance loyalty and promote creativity leading to higher productivity. The faster businesses can start and make a profit the stronger the economy. Third, market inefficiencies with capital markets ranked 56, state ownership of enterprises 54, foreign investors 53, tariff barriers 52, redundancy costs 51 and cost of capital 51. China needs to reduce business operation costs and strive towards an optimal number of skilled employees to lower redundancy costs. Further, China needs to implement policies that overcome the fear of state ownership among investors and entrepreneurs.

8.5. Commonalities

The commonalities among the BRIC nations are largely the result of their huge domestic markets which can generate internal demand and at the same time, produce exports with lower cost. Thus, these nations seek to lower imports and increase trade tariffs under the protection of developing nation status. As discussed earlier, countries such as Canada are withdrawing the General Preferential Tariff status from nations with a share world exports equal to or greater than one percent.

Horn, Singer and Woetzel (2010) found that countries such as China are able to escape the 2008-2009 global downturns without a major economic slowdown. They suggest that internal growth played an important role. Although analysts observed that nations with large population can sustain their economy with a domestic market without a strong need for exports, long-term growth ultimately depends on driving demand for exports (Holland, 2013).

Infrastructure and Technological Readiness are the common challenges with the BRIC who collectively occupy 25% of the earth's land space and 40% of the world population. The common challenge is internet and telecommunication services and facilities. In countries such as China and India, common utilities such as electricity can be lacking.

Finally, Bureaucracy is one of the top barriers to developing entrepreneurs and attracting investors. Access to true information is often difficult as the government prefer to paint a more positive image of their achievements and developments. For example, some analysts suggested that the showy investments of the glitzy Olympics hosted by China (and later Russia) would have caused a financial dent but instead the reports are that the Olympics did not leave a debt legacy (Rabonovitch, 2008). Unlike nations that reveal budget details, it is difficult to access information on total costs vs. initial budget and taxpayer contribution. Only regular audits for accountability and a readiness for transparency could help the BRIC nations to improve the rank for budget balance.

9. DISCUSSION OF RESULTS: WHAT OTHER FACTORS INFLUENCE GLOBAL COMPETITIVENESS?

The WEF and IMD adopt a sound theoretical framework that supports respective methodology to meet their objective and arrive at their desired findings. Harvard Professor Michael Porter laid the foundation to the study of global competitiveness with his diamond model for competitive advantage of nations. The WEF Global Competitiveness Report acknowledges that their ranking system is based on Porter's Business Competitiveness Index. The IMD uses a four-factor framework that measures economic performance, government efficiency, business efficiency and infrastructure. Both the WEF and IMD depend on an executive opinion survey balanced by secondary data. The measures are made tangible with statistical numbers and opinions are translated into measurable scales. Are there other factors that may be less tangible and/or not covered in the methodology that help explain the global competitiveness performance of nations and in this study, the BRIC nations?

Does a nation's political system influence the global competitiveness of a nation?
Does a history of being colonized or being the colonizer affect global competitiveness??

Figure 10 shows two political ideologies among the BRIC juxtaposed against former colony or colonizer. China and Russia rule by communist ideology while India and Brazil practise a democratic system. Brazil and India had been former colonies of Portugal and Britain. China and Russia have never been conquered. Tibet is the only exception and China explains Tibet has been part of China dating back to wars and treaties as well as a marriage between a Tibetan king and a Tang dynasty princess in 640 AD. On the other hand, Russia has a history of invasion from the days of the Tsar to the Cossacks and today, Russia is linked to the Ukraine war.

Figure 10: Democracy vs. Communism, Colony vs. Colonizer

		High	Democracy	Low	
Former Colony	Yes	Brazil (Portuguese)	India (English)		No
	No	Russia (Tsar, Cossacks, today?)	China (Tibet – liberation? Formerly China?)		Yes
		High	Communism	Low	Former Colonizer

So, does the political ideology of a nation influence its global competitiveness? Although both are communist, China is ahead in global competitiveness ranking yet Russia is almost one stage ahead of China in economic development. As for the democratic countries, India is English-speaking with the advantage for international business but Portuguese-speaking Brazil is almost two stages ahead of India in economic development.

Does being colonized or being the colonizer help explain the performance in competitiveness? A colonized country is exposed to the management style of the colonizer in government and business administration. Hence, Brazil inherited the ways of the Portuguese and India, the British. A country that has never been colonized perpetuates its management style which may be superior or obsolete, such as in the case of China’s last emperor. The notion of colony/colonizer as an influencer will be tested against the weakest IMD factors as shown in Table 8.

Table 8: Competitiveness Trends in Factor Breakdown (IMD 2014)

Factor	Brazil	Russia	India	China
Economic Performance	59 International Trade 54 Prices	59 Prices	48 Prices	57 Prices
Government Efficiency	59 Institutional Framework 58 Business Legislation 58 Societal Framework	57 Business Legislation 53 Societal Framework	53 Business Legislation	56 Business Legislation 53 Fiscal Policy
Business Efficiency	59 Productivity & Efficiency	54 Management Practices 53 Productivity & Efficiency	52 Productivity & Efficiency 50 Management Practices	46 Management Practices
Infrastructure	58 Basic Infrastructure 57 Technological Infrastructure 55 Education	49 Health & Environment	60 Health & Environment 60 Education 53 Basic Infrastructure	54 Health & Environment

Source: Extracted from World Competitiveness Yearbook 2014, Institute of Management and Development (2014)

The Big Four share most of the indicators such as *prices and business legislation* in Economic Performance and Government Efficiency. Russia and China share the same problems in *management practices* in Business Efficiency and *health and environment* in Infrastructure. It is also obvious that India shares the same issues with Russia and China.

Does India share any similarities with Brazil being democratic countries? Table 9 is a rearrangement of Table 6 where Brazil is now beside India, and Russia beside China as democratic/former colony and communistic/colonizer respectively.

Table 9: 5-Year Average Rank of 12 Pillars of Global Competitiveness

BRAZIL 5-Year Average Rank	54	INDIA 5-Year Average Rank	59
P6 Goods market efficiency	115	P4 Health and primary education	101
P3 Macroeconomic Environment	90	P9 Technological readiness	99
P7 Labour market efficiency	90	P3 Macroeconomic Environment	98
P4 Health and primary education	86	P7 Labour market efficiency	93
P5 Higher education and training	86	P5 Higher education and training	88
P1 Institution	85	P2 Infrastructure	86
P2 Infrastructure	69	P6 Goods market efficiency	79
P9 Technological readiness	54	P1 Institution	68
P12 Innovation	50	P11 Business sophistication factors	45
P8 Financial market sophistication	48	P12 Innovation	42
P11 Business sophistication factors	36	P8 Financial market sophistication	26
P10 Market size	9	P10 Market size	3
RUSSIA 5-Year Average Rank	63	CHINA 5-Year Average Rank	28
P8 Financial market sophistication	123	P9 Technological readiness	82
P6 Goods market efficiency	122	P5 Higher education and training	63
P1 Institution	119	P8 Financial market sophistication	53
P11 Business sophistication factors	105	P6 Goods market efficiency	53
P12 Innovation	71	P1 Institution	48
P7 Labour market efficiency	65	P2 Infrastructure	47
P4 Health and primary education	63	P11 Business sophistication factors	42
P9 Technological readiness	62	P4 Health and primary education	38
P5 Higher education and training	48	P7 Labour market efficiency	37
P2 Infrastructure	45	P12 Innovation	30
P3 Macroeconomic stability	39	P3 Macroeconomic stability	9
P10 Market size	7	P10 Market size	2

Source: Global Competitiveness Reports from 2010/11 to 2014/15, World Economic Forum

Table 9 shows that Brazil and India share four of the top five weakest pillars although not in priority order: P3 Macroeconomic Environment, P4 Health and Primary Education, P5 Higher Education and Training, and P7 Labour Market Efficiency. Likewise, they

share the four strongest pillars: P8 Financial Market Sophistication, P10 Market Size, P11 Business Sophistication Factors and P12 Innovation.

Russia and China share commonalities but to a lesser extent than between Brazil and India. They share three of the five weakest pillars: P1 Institution, P6 Goods Market Efficiency and P8 Financial Market Sophistication.

There are two observations from the results:

1. The democratic/colonized countries are better at Financial Market Sophistication and Business Sophistication Factors. This suggests that they gained from the pain of colonization in (a) a better way of conducting business and (b) opening their countries to global trade and influences.
2. The communistic/colonizer countries are better at Macroeconomic Environment creating a strong domestic economy and providing stable employment, and consequently these sub-factors help attract international investment.

So, similar political ideology does seem to indicate similar challenges in global competitiveness. The case is stronger in the case of democratic Brazil and India than communistic China and Russia. Thus, why the difference between China and Russia since both subscribe to Marxism?

This will be discussed soon but meanwhile, if democracy is a superior form of government, democratic countries should soar higher in economic growth. In the case of the BRIC, albeit among only four countries minus the rest of the world, Communist China leads in capitalistic gains while India, a democratic nation is lagging behind.

As discussed earlier on the competitiveness trends, India shares the same problems in Management Practices (Business Efficiency) and Health and Environment (Infrastructure) with Russia and China. While Health and Environment issues could be linked to pollution stemming from poor management of sustainable growth, India is expected to have a higher standard of Management Practices being a democratic country that is open to western influences and an education system influenced by the British. Could the result be explained by an ideologically classless communist society versus a religious class caste system of a democratic country?

Communism has the ideal of egalitarianism – people should be treated as equals in classless society. In reality, this ideal is never attained as evidenced by corruption being the number one problematic factor in doing business in Russia and number two in China. Russia is ranked 136 of 174 countries in Transparency International Index 2014, China 100, India 85 and Brazil 69. Corruption is the fifth most problematic factor to doing business in India and sixth in Brazil. Corruption is the manifestation of a deeper issue and it is not an issue with India only but with many developing nations in the world. However, the causes may differ from country to country.

In India’s case, the caste-system has been known for discriminating the lower castes. The prevalence of violence against the Dalit, the untouchables, caused many Dalit to convert to Islam leading to a wave of persecution. India is also plagued with gender inequality which led to the ban of the documentary “India’s Daughter.” Religious diversity is not well tolerated by ultra-nationalistic political parties.

Does the caste-system influence Management Practices causing it to rank 50 compared to communistic China, a country that has opened its doors to the world only three decades ago is at 46 while democratic compatriot Brazil at 36?

Figure 11 illustrates the discussion on other potential influencers on the global competitiveness of the BRIC nations.

Figure 11: Democracy, Colonization and Religion



Democracy and Autocracy: Brazil is viewed more democratic compared to India with a caste-system that practises class discrimination. China is moving further from complete autocracy encouraging its youth to study abroad and citizens to travel and start businesses overseas. Russia's administration on the other hand is heavily guided by the President.

Colony vs. Colonizer: Brazil was colonized by the Portuguese and India, the British. As discussed earlier, the colonial legacy is demonstrated through its financial and business sophistication compared to communistic countries. China has never been known to invade other countries and hence, stay in the centre of the spectrum. Russia has a history of colonization and currently, believed to be involved in the Ukraine war which affects its economy and global competitiveness.

Theism vs. Atheism: Brazil is monotheistic with Christianity as the dominant religion while India is polytheistic with multi-gods central to Hinduism and in some sects, the self is divine and ultimately God. As discussed, India's Hindu caste-system is linked to "positive discrimination" against the untouchable castes. China and Russia are communist countries and at the height of communism, all forms of faith and worship were banned. Russians, not the government, practise the Russian Orthodox faith. China calls Christianity unscientific but is reported to become the nation with the largest population of Christians. China seeks to start seminaries with a government controlled curriculum to align preaching with the country's communistic ideals and values.

The above findings suggest that governments that share similar ideology may administrate their respective country differently. Each has their interpretation of how to administer communism or democracy that fits contemporary times and allows the government the ability to better manage the political, social and economic developments of the nation.

10. LIMITATIONS AND FUTURE RESEARCH

As this study is focused on global competitiveness, there is reliance on the data from the two most authoritative sources - the World Economic Forum's annual Global Competitiveness Report and the Institute of Management and Development's World Competitiveness Yearbook. Their different approaches and categorization of measurements render direct comparisons between them difficult. However, the

advantage of their differences is that they enrich knowledge with various perspectives and they serve to validate each other's findings.

For example, while WEF surveys the most problematic factor for doing business, IMD asks respondents to rate the top five the most attractive factors of China's economy. While WEF found access to financing, corruption, tax regulations, inadequate supply of infrastructure and inefficient government bureaucracy as the top five barriers to business, IMD found dynamism of the economy, cost competitiveness, policy stability and predictability, reliable infrastructure and competency of government as the top five most attractive factors. When examined, the two differing emphases are not that different as they are approaching their study in reverse order of each other.

The discussion on economic competitiveness cannot negate other sources of information such as the World Bank (source to counter-check the definitions of the measurements of WEF and IMD), the International Monetary Fund and even Transparency International. The challenge then is to correlate the different categories of information of which much are similar. Further, the information from each source has been written for a specific audience, such as for investors, trade partner nations or non-governmental and activist organizations, and in that respect, may not address the concerns of global competitiveness. Indeed, Yaris and Duncan (2007) in their study on the competitiveness of Asia-Pacific nations, reported four competitive indices including the United Nations Industrial Development Organization's (UNIDO) Competitive Industrial Performance Index, and Wignaraja and Taylor's Manufactured Export Competitiveness Index. Despite outlining the strengths of the other two indices, they could only use data from the WEF and IMD for their analysis.

The discussion of other factors of influence on global competitiveness may interest some scholars. The BRIC model has initiated discussions that scholars may want to explore the relationship between global competitiveness and (a) political ideology such as democracy vs. communism, (b) former colony, colonizer or never colonized countries, and (c) religion. There are also a rich variety of themes that scholars can engage in. For example, is technological readiness associated with (a) business sophistication, (b) innovation or (c) higher education and training.

Finally, there should be greater collaboration among the academia, government and business communities to maximize productivity and profit for the nation and society.

Regular consultation and presentation sessions should be scheduled to analyze data, exchange ideas and discuss issues to stimulate creative problem solving to improve the human development index of the nation. Such forums help engage more people for their input and the more diverse views are captured, the better conceived the strategy and implementation as the needs of diversity has been considered. All these will help to enhance the country's global competitiveness as a top agenda item.

REFERENCES

- [1] Aridas, T. and Magno, A. (2011). Global Competitiveness, www.gfmag.com/tools/global-database/economic-data, Accessed December 19, 2011.
- [2] Asia-Pacific Foundation of Canada (2015). China's Nuclear Developments in the 13th Five Year Plan, retrieved March 27, 2015 from <http://www.asiapacific.ca/blog/chinas-nuclear-developments-13th-five-year-plan-and-what>
- [3] Blanke, J. (2014). *Global Competitiveness Report 2014/15*, World Economic Forum, Geneva, Switzerland.
- [4] Boesler, M. (2013). The Economist Who Invented The BRICs Just Invented A Whole New Group of Countries: The MINTs retrieved January 31, 2015 from <http://www.businessinsider.com/jim-oneill-presents-the-mint-economies-2013-11#ixzz3QTkbhsFt>
- [5] BRIC nations' promise as saviours of car industry wavers (December 15, 2013) retrieved January 31, 2015 from <http://www.ft.com/intl/cms/s/0/ae5b9948-60e2-11e3-b7f1-00144feabdc0.html#axzz3QTaVZX4k>
- [6] BRICS New Development Bank Threatens Hegemony of U.S. Dollar (December 22, 2014), Forbes, retrieved March 28, 2015 from <http://www.forbes.com/sites/realspin/2014/12/22/brics-new-development-bank-threatens-hegemony-of-u-s-dollar/>
- [7] Bushra, S. (2013). Revitalised West knocks Brazil, Russia off global growth Top-30 retrieved January 31, 2015 from <http://blogs.reuters.com/globalinvesting/2013/11/27/revitalised-west-knocks-brazil-russia-off-global-growth-top-30/>
- [8] Canada set to implement changes to General Preferential Tariff Treatment (n.d.) retrieved March 28, 2015 from <http://www.frontierscs.com/?q=consumer-news-sep-19-2014>
- [9] Chi, M. (2015). China raises foreign students' subsidies, China Daily USA, October, 9, 2014 retrieved March 28, 2015 from http://usa.chinadaily.com.cn/china/2015-01/22/content_19378540.htm
- [10] China Outlook (2015), KPMG China Global Practice, retrieved March 29, 2015 from

<https://www.kpmg.com/CN/en/IssuesAndInsights/ArticlesPublications/Documents/China-Outlook-2015-201501-v1.pdf>

- [11] Colombo, J. (2015) The Emerging Markets Bubble (or The “BRIC” Bubble) retrieved January 31, from <http://www.thebubblebubble.com/emerging-markets-bubble/>
- [12] Data: China (n.d.) World Bank retrieved March 28, 2015 from <http://data.worldbank.org/country/china>.
- [13] Exports of goods and services (% of GDP), World Bank, retrieved March 27, 2015 from <http://data.worldbank.org/indicator/NE.EXP.GNFS.ZS>
- [14] Garelli, S. (2011). *IMD World Competitiveness Yearbook 2011*. International Institute for Management Development.
- [15] *Global Competitiveness Report 2000*, World Economic Forum, Geneva, Switzerland
- [16] *Global Competitiveness Report 2001*, World Economic Forum, Geneva, Switzerland
- [17] *Global Competitiveness Report 2002*, World Economic Forum, Geneva, Switzerland
- [18] *Global Competitiveness Report 2003*, World Economic Forum, Geneva, Switzerland
- [19] *Global Competitiveness Report 2004*, World Economic Forum, Geneva, Switzerland
- [20] *Global Competitiveness Report 2005*, World Economic Forum, Geneva, Switzerland
- [21] *Global Competitiveness Report 2006-2007*, World Economic Forum, Geneva, Switzerland
- [22] *Global Competitiveness Report 2007-2008*, World Economic Forum, Geneva, Switzerland
- [23] *Global Competitiveness Report 2008-2009*, World Economic Forum, Geneva, Switzerland
- [24] *Global Competitiveness Report 2009-2010*, World Economic Forum, Geneva, Switzerland
- [25] *Global Competitiveness Report 2010-2011*, World Economic Forum, Geneva, Switzerland
- [26] *Global Competitiveness Report 2011-2012*, World Economic Forum, Geneva, Switzerland
- [27] *Global Competitiveness Report 2012-2013*, World Economic Forum, Geneva, Switzerland
- [28] Holland, T. (2013). Despite rebalancing, exports still vitally important to China, South China Morning Business Post, July 9, 2013 retrieved March 27, 2015 from <http://www.scmp.com/business/article/1278239/despite-rebalancing-exports-still-vitally-important-china>
- [29] Horn, J., Singer, V. and Woetzel, J. (2010). A truer picture of China’s export machine, McKinsey Quaterl7, September 2010 retrieved March 27, 2015 from http://www.mckinsey.com/insights/globalization/a_truer_picture_of_chinas_export_machine
- [30] Limsamarnphun , N. (2010) Competitiveness: which ranking do we believe? The Nation, <http://www.nationmultimedia.com/home/2010/10/23/opinion/Competitiveness-which-ranking-do-we-believe-30140672.html>, Accessed April 21, 2012.
- [31] Loo, M. (2012) “Global Competitiveness: Top Five Nations Last Decade and Next Decade,” *International Journal of Business and Management Studies*, ISSN: 2158- 1479:

- 1(3):391–412 (2012).
- [32] Mishra, P. (2014) China Is Driving the BRICS Train retrieved January 31, 2014 from <http://www.bloombergvew.com/articles/2014-07-20/china-is-driving-the-brics-train>
- [33] Murray, T. S., McCracken, M., Willms, D., Jones, S., Shillington, R. & Stucker, J. (2009). Addressing Canada's literacy challenge: A cost/benefit analysis. Ottawa: *Data Angel Policy Research*.
- [34] Perkowski, J. (2011). Exports no longer drive China's growth, Forbes, July 9, 2011 retrieved March 27, 2015 from <http://www.forbes.com/sites/jackperkowski/2011/09/07/exports-no-longer-drive-chinas-growth/>
- [35] Phiromswad, P., Srivannaboon, S., Fujioka, T. and Hoontrakul, P. (2010) The Competitiveness of Thailand: Economic Analysis from Competitiveness Reports, www.pongsak.hoontrakul.com/papers/081118, Accessed January 07, 2012.
- [36] Rabinovitch, S. (2008). Beijing Games to be costliest, but no debt legacy, Reuters, August 5, 2008, retrieved March 27, 2015 from <http://www.reuters.com/article/2008/08/05/us-olympics-cost-idUSPEK25823820080805>
- [37] Reading the Future (n.d.) retrieved March 28, 2015 from <http://www.ccl-cca.ca/CCL/Reports/ReadingFuture/LiteracyLevels.html>
- [38] Rosselet, S. (2014). Frequently Asked Questions, retrieved March 28, 2015 from <http://www.imd.org/uupload/imd.website/wcc/FAQs.pdf>.
- [39] Sala-I-Martin, X. (2011). *Global Competitiveness Report 2011-2012*, World Economic Forum, Geneva, Switzerland.
- [40] Schwab, K (Ed.) (2011). *Global Competitiveness Report 2010-2011*. World Economic Forum, Geneva, Switzerland.
- [41] Sujjapongse, S. (2011). Thailand Competitiveness: Thailand Focus 2011, retrieved March 28, 2015 from https://www.set.or.th/th/news/thailand_focus/files/11_Dr.Somchai.pdf
- [42] When Giants slow Down (July 27, 2013) retrieved January 31, 2015 from <http://www.economist.com/news/briefing/21582257-most-dramatic-and-disruptive-period-emerging-market-growth-world-has-ever-seen>
- [43] *World Competitiveness Yearbook 2009*, Institute of Management and Development, Lausanne, Switzerland
- [44] *World Competitiveness Yearbook 2010*, Institute of Management Development, Lausanne, Switzerland
- [45] *World Competitiveness Yearbook 2011*, Institute of Management Development, Lausanne, Switzerland
- [46] *World Competitiveness Yearbook 2012*, Institute of Management and Development,

Lausanne, Switzerland

[47] World Competitiveness Yearbook 2013, Institute of Management and Development, Lausanne, Switzerland

[48] *World Competitiveness Yearbook 2014*, Institute of Management and Development, Lausanne, Switzerland

[49] Yari, M. and Duncan, R. (2007). Competitiveness: An Essential Ingredient for Growth in Asian and Pacific Developing Countries in a Globalizing World, *Asia-Pacific Development Journal*, Vol. 14, No. 1, June 2007 pp. 125-144/