



## A COMPARATIVE ANALYSIS OF GLOBAL COMPETITIVENESS AMONG BRIC NATIONS: IMPLICATIONS FOR CHINA

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### Abstract

*Since the acronym BRIC was coined in 2001, the world has touted Brazil, Russia, India and China as the emerging superpowers and engines of growth that would supersede the G7 economies and revive the sagging global economy. By 2010, the Big Four accounted for only 25% of the world's gross national income despite owning over 25% of land area and over 40% of global population. This paper analyzes the global competitiveness of the BRIC nations over 15 years, in three five-year periods, and finds only China has shown stable growth. What then are the secrets to China's growth and can China maintain growth? This paper then investigates the performance of China's pillars of competitiveness and identifies the weak pillars, drawing attention to the issues and making recommendations for sustainable growth.*

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

### INTRODUCTION

At the start of the 21<sup>st</sup> century, Brazil, Russia, India and China were hailed as the emerging nations that would supersede the G7 economies. Known as the BRIC, they were expected to increase in competitiveness and provide the impetus for global economic growth. Indeed, for example, the BRIC have become crucial profit drivers for the global car industry as car ownership surged in the last decade with a new middle class with higher income and access to credit. However, by the end of the decade, the BRIC nations were losing their charm. By 2010, the Big Four accounted for only 25% of the world's gross national income despite owning over 25% of land area and 40% of global population. The booming car market has accelerated pollution and traffic congestion (BRIC nations' promise

as saviours of car industry wavers, December 15, 2013).

Some analysts argued that the B and R should be dropped (Bushra, 2013) while others claimed that China is driving the BRIC train (Mishra, 2014) and still others are proposing a new list of nations to replace the BRIC nations as the engines of growth (Boesler, 2013). The indicators of an over-heated BRIC (Colombo, 2015) are pointing to a lack of attention to building sound fundamentals to sustain growth (When Giants Slow Down, July 27, 2013). What then are the measurable fundamentals to ensure BRIC remain competitive and attractive to investors? In that context, how does China compare in global competitiveness among the BRIC nations?

Although much has been said about the BRIC nations' competitiveness, from how their economic growth has reduced poverty to the huge market size that many marketers are vying for a slice to the recent formation of their 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 focused on current performance. While data on global

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competitiveness from the World Economic Forum and Institute of Management and Development are available each year, national governments and business communities have tended to use the latest data to review current performance, and at best compared the current with the previous year's performance. Few examined the historical trends that analyzed the past, evaluated the present and forecasted future incline or decline in competitiveness.

A time-series study over 15 years is rare but important to investors and governments to examine the ability of nations 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 would include infrastructure for business and tourism as well as the reliability of police services to provide safety and fight organized crime, such as in the cases of Singapore and Hong Kong where implementation of such policies since the 1980s had enabled them to growth from strength to strength making them favorites for tourist arrivals, expatriate settlement and foreign direct investment as well as among the most competitive nations in the world.

Breaking the 15 years into three-five year periods will further test the progress over every five years, much like the five-year-plans of most nations and five year review of financial performance of corporate businesses, to determine the government's ability to raise the standard of living, affecting international recognition and investor confidence. The time-series study will 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.

Finally, a focus on China is timely as it is the most sought after trading partner for its huge market and increasingly affluent population. Further, it has outpaced the rest of the BRI compatriots and surprised the world how communism and capitalism are juxtaposed with resounding economic success for over a decade.

This study seeks to study the reasons for its success and strip the veneers to examine each indicator that may foretell boom, gloom or doom for the world's most talked-about nation currently. The objective of this paper is to analyze the global competitiveness of China among the BRIC, identify the key issues facing China based on the analysis and propose recommendations to overcome the issues for sustainable growth. Thus, the first step is to define global competitiveness and second, identify the measurement for global competitiveness.

## 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.

### 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). 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 (Blanke, 2014). 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 (Rossetet, 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.

**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* 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.

As shown in Table 1, the WEF and IMD rely on primary and secondary data to determine the competitiveness of nations. The number of countries surveyed fluctuates slightly from year to year but overall the WEF surveys close to 150 countries and IMD about 60 countries, and thus, WEF's samples are two to three times higher than IMD's:

- WEF surveys over 15,000 management executive respondents and IMD at about 5,000.
- WEF collaborates with 150 partner institutions and IMD with about 60 to help execute the surveys in each nation.

However, IMD has nearly three times more measurements at 338 than IMD's 114 indicators.

The key difference lies in their ratio between primary and secondary data to achieve the respective objectives. 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 up-to-date perceptions and forward-looking indicators that reflect the voices of opinion leaders in business, while the IMD emphasizes more on the indicators from independent sources which reveals more about 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
Institutions	21	Economic Performance	83
Infrastructure	9		
Macroeconomic Environment	5		
Health and primary education	10	Government Efficiency	70
Higher education and training	8		
Goods and market efficiency	16	Business Efficiency	71
Labour market efficiency	10		
Financial market development	8		
Technological readiness	7		
Market size	4	Infrastructure	114
Business sophistication	9		
Innovation	7		
<b>Total</b>	<b>114</b>	<b>Total</b>	<b>338</b>

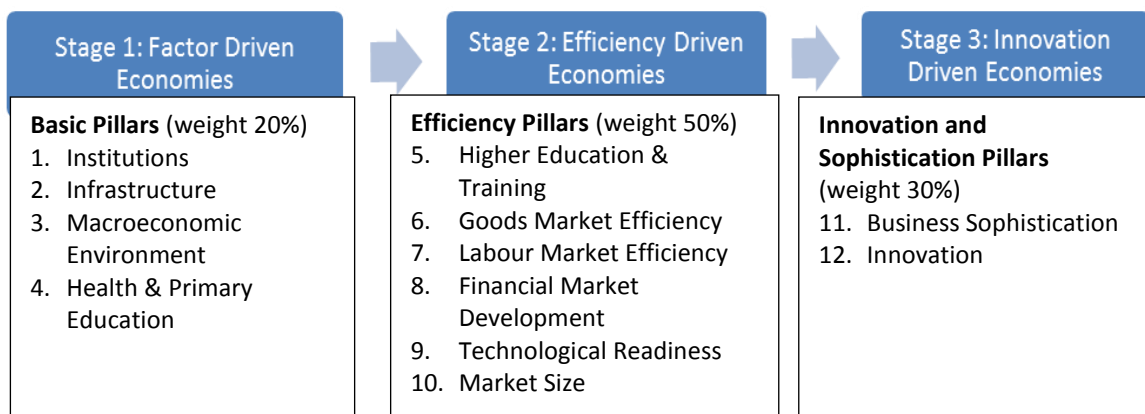
Source: Global Competitiveness Report 2014/15 and World Competitiveness Yearbook 2014

The WEF evaluates economies by the 12 pillars to construct a weighted Global Competitive Index that determines their rank. 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% and they form the first stage of economic development, they provide the basic requirements comprising factor endowments, such as human and physical capital, natural resources and trade location. They produce labour intensive products and 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 described as efficiency enhancers, weighted at 50%. Economies move into the efficiency-driven stage of development 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 describe the innovation and sophistication stage of development, weighted at 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 heavily 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.

<b>Economic Performance</b>	<b>Business Efficiency</b>
1. Domestic Economy	1. Productivity and Efficiency
2. International Trade	2. Labour Market
3. International Investment	3. Finance
4. Employment	4. Management Practices
5. Prices	5. Attitudes and Values

<b>Government Efficiency</b>	<b>Infrastructure</b>
1. Public Finance	1. Basic Infrastructure
2. Fiscal Policy	2. Technological Infrastructure
3. Institutional Framework	3. Scientific Infrastructure
4. Business Legislation	4. Health & Environment
5. Societal Framework	5. Education

*Figure 2.* IMD’s Four Factors of Competitiveness  
Source: World Competitiveness Yearbook 2014

The 20 sub-factors comprise a total of 338 criteria to calculate the overall competitiveness ranking, as seen in Table 2. These criteria emphasize the market’s support for

entrepreneurship and ability to attract investment.

### **Which measurement is better?**

Many developing nations suffer from the annual fluctuations in their competitiveness ranking. For example, in 2010, IMD ranked Thailand 26<sup>th</sup> among 59 countries while WEF ranked it 38<sup>th</sup> among 139, declining by two ranks from 36<sup>th</sup> the year before. The fall in rankings of a nation can give room to criticism against the ruling government. The Thai government would be happier with the IMD than the WEF rankings, especially in the aftermath of a period of domestic political instability (Limsamarnphun, 2010).

The situation becomes even more controversial when a significant difference exists between the two measurements. Thailand fell from 28<sup>th</sup> in 2006 to 38<sup>th</sup> in 2010 in the WEF reports. Meanwhile, Thailand advanced from 33<sup>rd</sup> in 2007 to 26<sup>th</sup> in 2010 in the IMD findings (Sujjapongse, 2011). While the Thai government could be criticized for failing by WEF standards, it could defend that it has progressed since 2007 by IMD's measurements. However, the WEF places Thailand in a more competitive position in the top 27% compared to the IMD's position among the top 44%. So which measurement should governments, business managers and scholars use? The methodology of this paper takes into account the difference in ranking approaches.

### **MATERIALS AND METHODS**

The soundness of the fundamentals of a nation are 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 review of businesses for their historical performance to forecast future potential. The assessment will also reveal the issues that need to be addressed, and hence the implications for policy decisions.

As discussed earlier, there are two main sources of global competitiveness data: The

World Economic Forum (WEF) and the Institute of Management and Development (IMD). The WEF measures 12 pillars of competitiveness comprising 114 indicators while the IMD evaluates four factors comprising 338 criteria.

This study will use both measurements to study the global competitiveness of the BRIC nations. The objective for this paper is accomplished in three stages.

1. Determining China's Performance in BRIC
  - a) Country overall rankings over 15 years: An analysis over the last 15 years to determine the trends in growth or decline in competitiveness of each BRIC nation. The WEF data is selected as it provides a better picture of each nation's competitiveness against nearly 150 nations.
  - b) Country overall rankings over three-five year periods: A comparison over three five-year periods, totaling 15 years to compare the growth of each nation from the first five years to the second five and finally, the last five years. This will also test each nation's sustainability in continuous economic progress over the three five-year periods.
  - c) Country's average rankings in 12 pillars or four factors of competitiveness in the last five years. This will provide a picture of China's strengths and weaknesses relative to the Brazil, Russia and India.

Identifying Issues in China's Competitiveness: China's performance in the WEF 12 pillars and IMD four factors in the last five years will be analyzed. The performance in the last five years is the best predictor of China's competitiveness in the next five years. The analysis will identify the strong and weak pillars and factors, yielding the issues for discussion.

Proposing Recommendations: The focus will be the weaknesses as they need improvement to enable China's sustainable growth. Policy implications will be raised.

### **RESULTS AND DISCUSSIONS**

#### **Determining China's Performance in BRIC**

##### **a) Country Rankings over 15 Years from**

**2000 to 2014/15**

Table 3 shows the country rank from 2000 to 2014/15 for each BRIC nation awarded by the WEF. The last column shows the average rank over the 15 years in one decimal place and the average rank will be rounded up in the

continuing discussion. China has the highest average rank at 35<sup>th</sup> followed by India at 53<sup>rd</sup>, Brazil 56<sup>th</sup> and Russia 63<sup>rd</sup>. China is the only BRIC nation to have rankings in the last five years higher than its 15-year average.

Table 3. BRIC 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

Table 3 shows the fluctuations in rank over the 15 years of each BRIC nation. Combining the data from Table 3 and the trends in Figure 3, several observations could be made of the performance of each BRIC nation over the last 15 years.

- India has been declining in global competitiveness since 2006/2007 from 42<sup>nd</sup> rank to 71<sup>st</sup> rank in 2014/15 slipping by 29 places. India's best performance was between 2006/07 and 2009/10 within the Top 50.
- Russia has been fluctuating in performance but managed to return to a rank within the range of the 50's at 53<sup>rd</sup> in 2014/15, close to its highest rank in 2008/2009 at 51<sup>st</sup>. Russia's best performance was in the Top 60.
- Brazil was declining in global competitiveness from 2001 to 2007/2008 but improved thereafter and managed to stay within the Top 60. Brazil's highest rank was in 2001 at 44<sup>th</sup>.

China was fluctuating between Top 40 and Top 50 positions but progressed to Top 30 in the last five years since 2009/2010. China's highest rank was in 2011/12 at 26<sup>th</sup>.

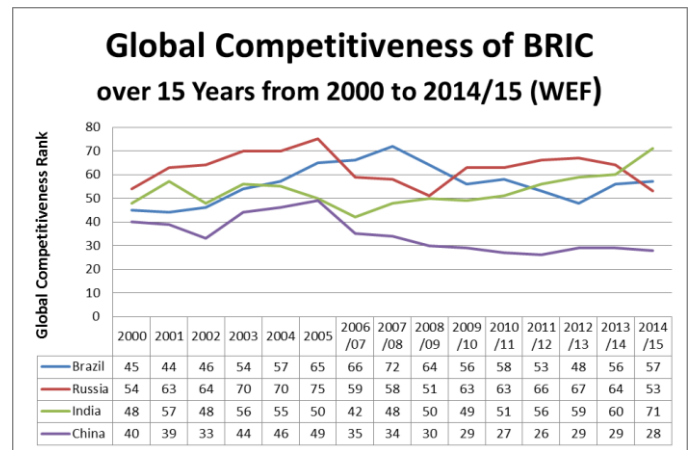


Figure 3. Global Competitiveness Rankings of BRIC from 2000 to 2014/15

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

Throughout the 15 years from 2000 to 2014/15, China has maintained the best rankings 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 has become the weakest performer in global competitiveness among the BRIC countries. Russia has gone up and down but has beaten 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.

Table 3 and Figure 4 gives us a sense of the struggles of the BRIC nations through their fluctuating rank performance in global

competitiveness. Like corporate businesses which review assess their performance over five year periods, many countries have implemented five year economic plans to help them progress. The performance over the 15 years is next analyzed by five year segments to determine each BRIC nation’s progress from one five-year segment to the other.

**b) Country Average Rankings over Three 5-Year Periods from 2000 to 2014/15**

Figure 4 shows the average rank for three 5-year periods from 2000 to 2004, 2005 to 2009/10 and 2010/11 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 continuous improvement from 40<sup>th</sup> rank to 35<sup>th</sup> and 28<sup>th</sup>. The second best performer is Brazil, slipping from 49<sup>th</sup> to 65<sup>th</sup> and reversing the slide in the last five years to 54<sup>th</sup>. Although Russia fluctuated on a year to year basis, the average rank over the five-year periods showed little movement from 64<sup>th</sup> to 61<sup>st</sup> to 63<sup>rd</sup>. India became the worst performer by 2014/15 although it started well progressing from 53<sup>rd</sup> to 48<sup>th</sup> but slipped to 59<sup>th</sup> in the last five years.

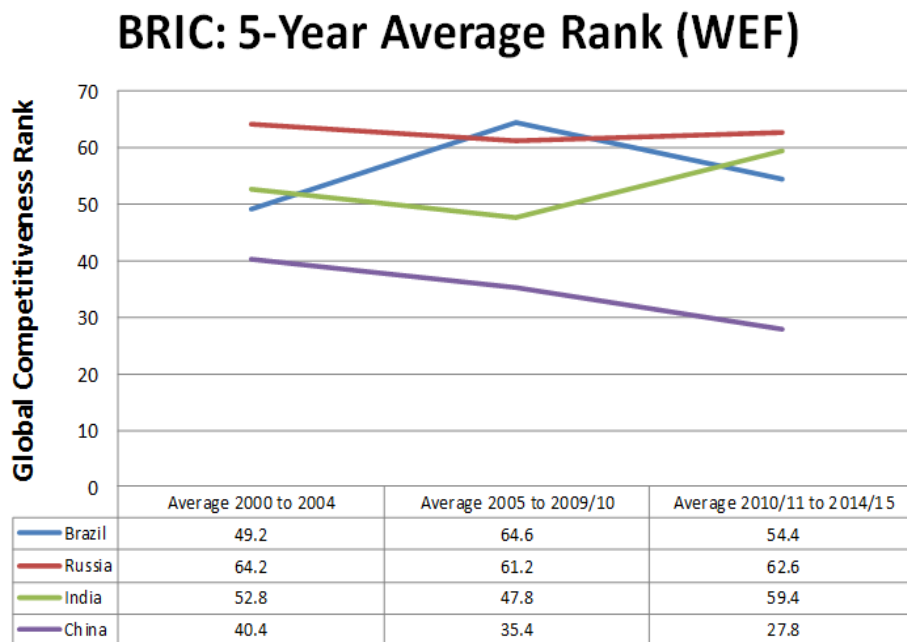


Figure 4. Three 5-Year Average Rank from 2000 to 2014/15  
 Source: Global Competitiveness Reports from 2000 to 2014/15, World Economic Forum

**c) Country’s Rankings: WEF 12 Pillars and IMD Four Factors**

**The WEF 12 Pillars of Global Competitiveness**

Figure 5 and Table 5 show the WEF’s rankings of the 12 pillars of competitiveness of each BRIC nation. While the Big Four enjoys a huge market size (Pillar 10) placing them among the Top 10 in the world, their similarity very much ends there. The WEF’s Global Competitiveness Report 2014/15 classifies India as a Factor-Driven economy, China as an Efficiency-Driven economy, Brazil and Russia as in transition from the

second to third stage Innovation-Driven economy. Brazil leads the BRIC in Business Sophistication and Technological Readiness, while Russia leads in Higher Education and Training. India excels in Financial Market Sophistication. Overall, China leads in eight of the 12 pillars: Institution, Infrastructure, Macroeconomic Stability, Health and Primary Education, Goods Market Efficiency, Labour Market Efficiency, Market Size and Innovation. China is among the Top 10 in Market Size (2<sup>nd</sup>) and Macroeconomic Stability (9<sup>th</sup>) in the last five years.



### BRIC's 12 Pillars of Competitiveness

Average Rank over 5 Years from 2010/11 and 2014/15

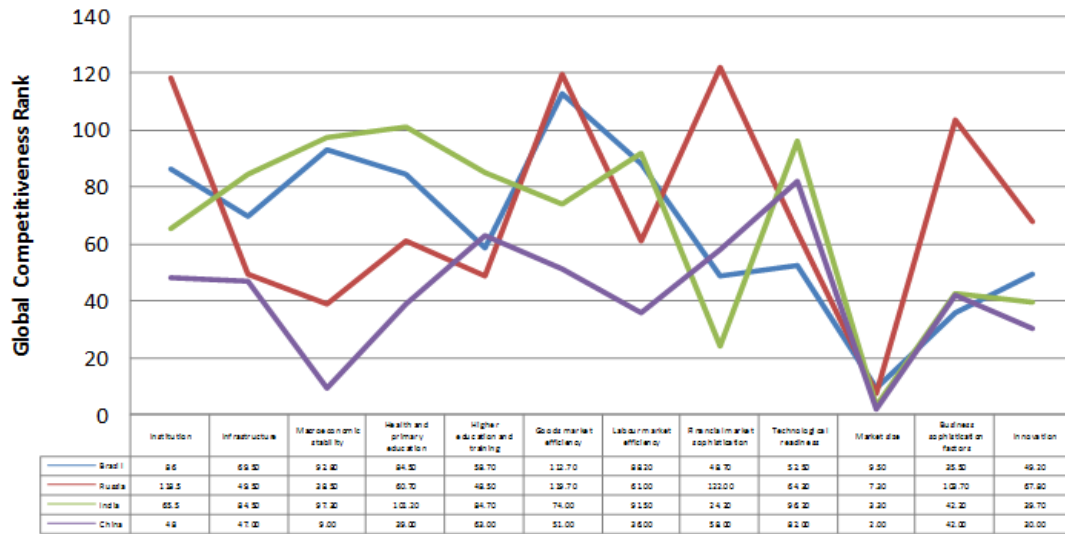


Figure 5. BRIC Average Performance in 12 Pillars of Competitiveness from 2010/11 to 2014/15

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

Table 4. BRIC's Average Performance in 12 Pillars of Competitiveness from 2010/11 to 2014/15

2010/11 to 2014/15	Institution	Infrastructure	Macroeconomic stability	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	48.4	47.2	8.6	37.8	62.2	50.0	36.2	58.8	81.4	2.0	41.2	29.2

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

Does a nation's political system influence the economic development of a nation? China and Russia rule by communist ideology while India and Brazil practise a democratic system. Although China is ahead in global competitiveness ranking, Russia is almost one stage ahead of China in economic development. Although India is English-speaking with the advantage for international business, Portuguese-speaking Brazil is almost two stages ahead of India in economic development.

The argument would have been that democratic countries espouse the virtues of capitalism and thus, should have soared ahead in economic growth. In the case of the BRIC,

albeit among only four countries minus the rest of the world, Communist China is in the lead in capitalistic gains while India, a democratic and capitalistic nation is left lagging behind. Perhaps, the results could be explained by an ideologically classless communist society versus a religious caste-class system. The findings suggest that governments that share similar ideology may not necessarily administrate the country along similar lines. Each has their interpretation of how to administer communism or democracy that fit contemporary times and maximize economic gains for its people. The attention is now turned towards analyzing and comparing the BRIC

nations’ pillars of competitiveness in each economic stage.

**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. Although China is criticized for human rights issues, China’s Pillar 1 Institution at 48<sup>th</sup> rank is far ahead of the other three nations. In terms of Pillar 2 Infrastructure, China leads at 4<sup>7th</sup> rank with Russia a close second at 50<sup>th</sup> rank. China leads way ahead in Pillar 3 Macroeconomic Stability at 9<sup>th</sup> rank placing it among the world’s Top 10. China also leads in Pillar 4 Health and Primary Education at 39<sup>th</sup> rank.

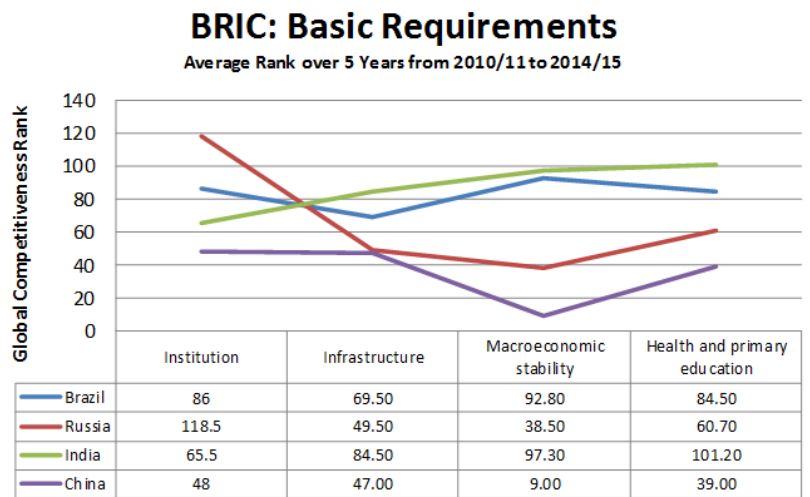


Figure 6. BRIC’s Pillars of Competitiveness for Factor-Driven Economy  
 Source: Global Competitiveness Reports from 2000 to 2014/15, World Economic Forum

**Second Economic Stage: Efficiency-Driven (50%)**

Figure 7 shows the six pillars of competitiveness, weighted 50% that enable the second stage of economic development, Efficiency-Driven Economy. On the average, each pillar is worth 8.3% weight.

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

5 Higher Education and Training at 49<sup>th</sup> rank, India leads in Pillar 8 Financial Market Sophistication at 24<sup>th</sup> rank, and Brazil in Pillar 9 Technological Readiness at 53<sup>rd</sup>. China leads in three pillars of competitiveness: Pillar 6 Goods Market Efficiency at 51<sup>st</sup> rank, Labour Market Efficiency at 36<sup>th</sup> and Market Size at 2<sup>nd</sup>.

### BRIC: Efficiency Enhancers

Average Rank over 5 Years from 2010/11 to 2014/15

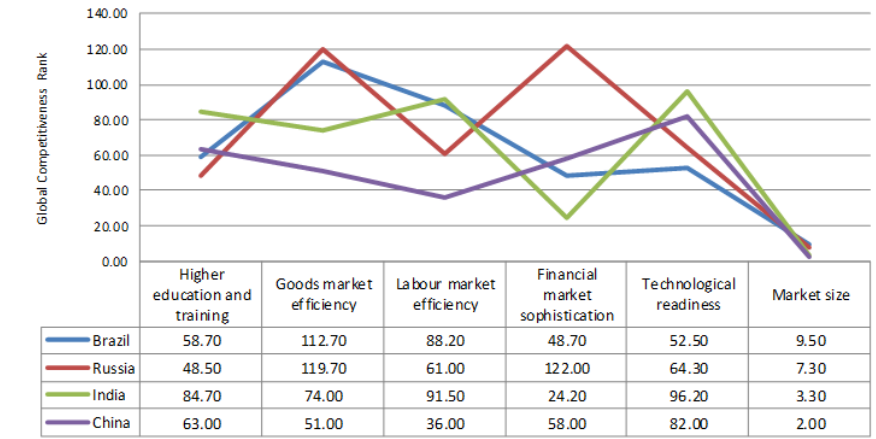


Figure 7. BRIC’s Pillars of Competitiveness for Efficiency-Driven Economy  
 Source: Global Competitiveness Reports from 2000 to 2014/15, World Economic Forum

### 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 is on the average worth 15% weight.

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

### BRIC: Innovation and Sophistication

Average Rank over 5 Years from 2010/14 to 2014/15

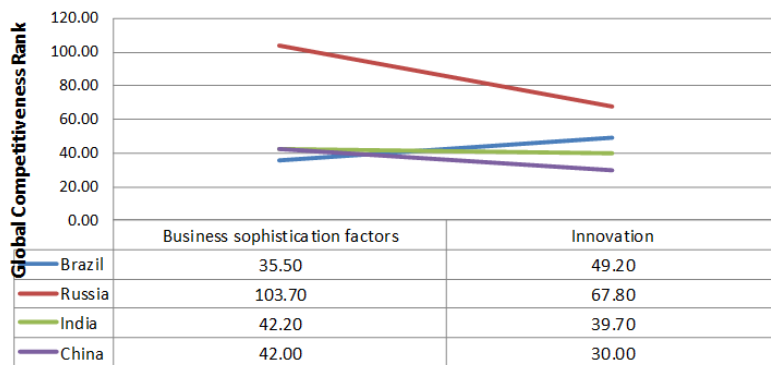


Figure 8. BRIC’s Pillars of Competitiveness for Innovation-Driven Economy  
 Source: Global Competitiveness Reports from 2000 to 2014/15, World Economic Forum

### Summary of BRIC Performance in the WEF 12 Pillars of Effectiveness

As a summary, the findings from the annual Global Competitiveness Reports from the World Economic Forum shows that China leads in:

- All the four pillars which form the basic

requirements for the first stage of economic development, known as Factor-Driven economy;

- Three of the six pillars in the second stage of economic development known as Efficiency-Driven; and
- One of the two pillars in the third stage

of economic development known as Innovation-Driven economy.

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

### The IMD Four Factors of Global Competitiveness

Figure 9 and Table 5 show the average performance of the BRIC in the four factors of global competitiveness measured by the IMD.

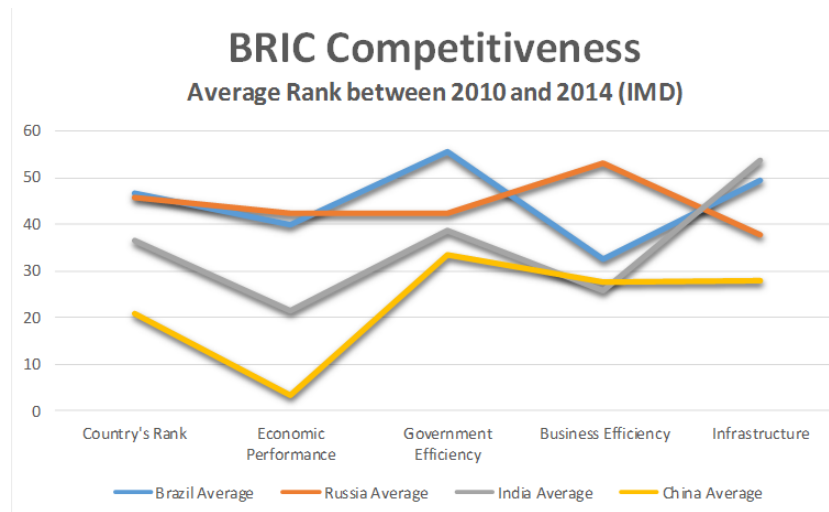


Figure 9. BRIC's Average Rank in Four Factors of Competitiveness 2010 to 2014  
Source: World Competitiveness Yearbook from 2010 to 2014, Institute of Management and Development

Table 5. BRIC's Average Rank in Four Factors of Competitiveness 2010 to 2014

Country	Country's 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

The IMD findings show that China is ahead in three of the four factors of competitiveness: Economic Performance at 3<sup>rd</sup> rank, Government Efficiency at 33<sup>rd</sup> and Infrastructure at 28<sup>th</sup>. China is narrowing the gap with India in Business Efficiency with China at 28<sup>th</sup> rank and India at 26<sup>th</sup>.

#### Summary of WEF and IMD Findings

Thus, 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 in China's global competitiveness.

#### IDENTIFYING ISSUES IN CHINA'S COMPETITIVENESS

As stated earlier in the methodology section, China's performance in the 12 pillars and four factors of competitiveness in the last five years will be analyzed as they will be the best predictor of China's competitiveness in the next five years. The analysis seeks to identify the strong and weak pillars and factors of competitiveness. Subsequently, the weak factors and pillars will be the focus of study to identify the implications for policy that pertains to China's sustainable growth.

Figure 10 shows a graphical comparison in China's performance in the 12 pillars of global competitiveness over the last five years from 2010/11 to 2014/15.

### China's Global Competitiveness Rank of 12 Pillars from 2010/11 to 2014/15

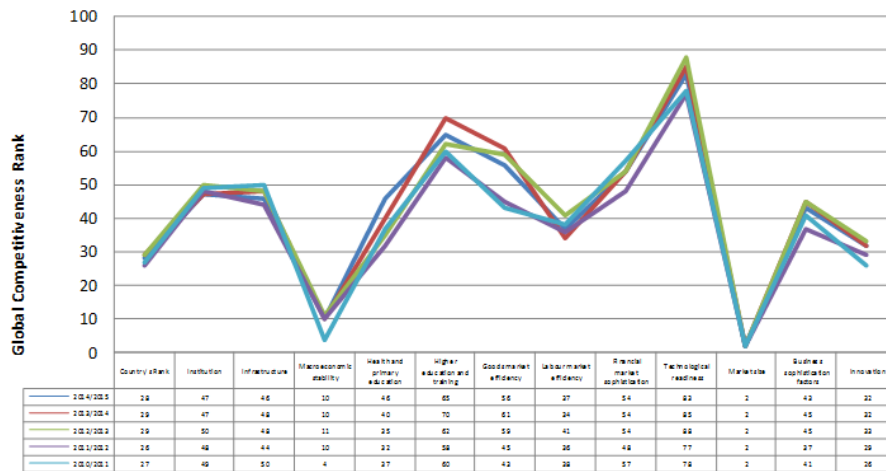


Figure 10. China's 12 Pillars of Competitiveness from 2010/11 to 2014/15.  
Source: Global Competitiveness Reports from 2000 to 2014/15, World Economic Forum

Table 6 shows the ranks of each pillar achieved over the last five years.

Table 6. China's 12 Pillars of Competitiveness from 2010/11 to 2014/15

Year	Country's Rank	Institution	Infrastructure	Macroeconomic stability	Health and primary education	Higher education and training	Goods market efficiency	Labour market efficiency	Financial market sophistication	Technological readiness	Market size	Business sophistication	Innovation
2014/2015	28	47	46	10	46	65	56	37	54	83	2	43	32
2013/2014	29	47	48	10	40	70	61	34	54	85	2	45	32
2012/2013	29	50	48	11	35	62	59	41	54	88	2	45	33
2011/2012	26	48	44	10	32	58	45	36	48	77	2	37	29
2010/2011	27	49	50	4	37	60	43	38	57	78	2	41	26
Average	27.8	48.2	47.2	9.0	38.0	63.0	52.8	37.2	53.4	82.2	2.0	42.2	30.4

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

Table 7 and Table 8 shows the difference in rank between the average ranks of the country and each pillar or factor based on the WEF and IMD annual competitiveness reports respectively.

Table 7. Determining Strengths/Weaknesses and Prioritizing Issues (WEF)

Issue	5-Year Average Rank	Difference with Country's Rank	Difference %	Priority	*S/W
Country	27.8				
P9 Technological readiness	82.2	-54.4	-195.68	1	W
P5 Higher education and training	63.0	-35.2	-126.62	1	W
P9 Financial market	53.4	-25.6	-92.09	2	W

sophistication					
P6 Goods market efficiency	52.8	-25.0	-89.93	2	W
P1 Institution	48.2	-20.4	-73.38	2	W
P2 Infrastructure	47.2	-19.4	-69.78	2	W
P11 Business sophistication	42.2	-14.4	-51.80	2	W
P4 Health and primary education					
P7 Labour market efficiency	37.2	-9.4	-33.81	3	W
P12 Innovation	30.4	-2.6	-9.35	3	W
P3 Macroeconomic stability					
P10 Market size	2.0	25.8	92.81	4	S

Note: P = Pillar, e.g. P1 = Pillar 1; \*S/W = Strength/Weakness.

Table 8. *Determining Strengths/Weaknesses and Prioritizing Issues (IMD)*

Issue	5-Year Average Rank	Difference with Country's Rank	Difference %	Priority	SW
<b>Country's Rank</b>	<b>20.8</b>				
<b>Government Efficiency</b>	33.4	-12.6	-60.58	1	W
<b>Infrastructure</b>	28.0	-7.2	-34.62	2	W
<b>Business Efficiency</b>	27.6	-6.8	-32.69	2	W
<b>Economic Performance</b>	3.4	17.4	83.65	4	S

Note: \*S/W = Strength/Weakness

The results are ranked from the greatest negative difference to the greatest positive difference. The negative differences are the weaknesses and the positive differences, the strengths. The pillars and factors that have lower average rank than the country's average rank result in negative differences – weaknesses that deserve attention.

As resources are limited, the concerns have to be prioritized. Several approaches could be proposed to determine the prioritization of the issues. For example, one might argue that Pillars 11 and 12 Business Sophistication and Innovation deserve top priority as they are weighted heaviest at 30%, each worth an average 15% weight. However, the differences in rank between each of the two pillars and the country are lower than other pillars, indicating other pillars could weaken further without due attention. In addition, addressing the critical needs of Pillars 9 Technological Readiness and Pillar 5 Higher Education and Training could affect Business Sophistication and Innovation positively but focusing on Pillars 11 and 12 exclusively may not strengthen Pillars 5 and 9. Thus, the approach adopted in prioritizing

issues is based on the greatest difference between the average ranks of China and each of its 12 pillars.

As the WEF's 12 pillars are ranked among 144 countries in 2014/15, the negative differences exceeding 100% are ranked as Priority 1, negative differences exceeding 50% but less than 100% as Priority 2 and the rest Priority 3. There are two strengths and they are Priority 4.

The WEF sample country size at 144 is about 2.5 times larger than the IMD at around 60. Hence, there are smaller negative differences in the IMD analysis. Applying 2.5 times to the IMD difference percentage, there is one Priority 1, two Priority 2 and Priority 4 concerns.

Table 9 summarizes the priorities according to the magnitude of the negative differences from the WEF and IMD reports.

Table 9. *Summary of China's Global Competitiveness Issues*

Priority	WEF	IMD
<b>1</b>	P9 Technological Readiness P5 Higher Education	Government Efficiency

	and Training	
2	P8 Financial market sophistication P6 Goods market efficiency P1 Institution P2 Infrastructure P11 Business sophistication	Infrastructure Business Efficiency
3	P4 Health and primary education P7 Labour market efficiency P12 Innovation	None
4	P3 Macroeconomic Stability P10 Market Size	Economic Performance

### IMPLICATIONS FOR POLICY

The recommendations for strengthening the pillars and factors are based on the Global Competitiveness Index in the WEF Global: Competitiveness Report 2014/15 which ranks the indicators of each pillar (Appendix 1), and the Factor Breakdown in the IMD World Competitiveness Yearbook 2014 (Appendix 2) which outlines the weaknesses of each factor.

#### Priority 1

**Pillar 9 Technological Readiness:** All seven indicators are below country's rank of 28<sup>th</sup> of 144 countries with the highest rank at 51<sup>st</sup> for fixed broadband internet subscriptions/100 population, and the lowest at 120<sup>th</sup> for international internet bandwidth. The key recommendation is two-fold: (1) step up technology absorption and (2) promote internet usage. There should be incentives for foreign direct investors to effect technology transfer (ranked 81<sup>st</sup>), make available latest technologies (97<sup>th</sup>) and train firm-level technology absorptions, and policies that promote internet usage (75<sup>th</sup>) and mobile broadband subscriptions/100 population (78<sup>th</sup>). Pillar 9 is heavily dependent on Pillar 5 Education and Training to provide skilled manpower to operate and invent technology.

**Pillar 5 Higher Education and Training:** All eight indicators are below country's rank. Secondary enrollment is ranked 72<sup>nd</sup> and tertiary education enrollment 85<sup>th</sup>. If there were a perception that China has excellent math and science education, the rank 56<sup>th</sup> dismisses it. The quality of education system at 52<sup>nd</sup>

probably accounts for the poor rank in math and science education which in turn affects the quality of management school, 85<sup>th</sup>. The recommendation is that China increases enrolment at secondary and tertiary levels to improve quality of skilled workforce to enable technology absorption. The Organization for Economic Cooperation and Development (OECD) has identified Level 3 as the internationally-accepted level of literacy required to cope in a modern society. This roughly denotes the skill level required for successful high school completion and college entry (Reading the Future, n.d.). Level 3 literacy skills are needed to ensure investments can be recouped. Even in advanced countries such as Canada, about 48% of adults are below Level 3 affecting their ability to utilize new technologies, adapt to new responsibilities and absorb training effectively (Murray, McCracken, Willms, Jones, Shillington and Stucker, 2009).

**Government Efficiency (IMD):** Appendix 2 shows that the IMD ranked China in the last five among 60 economies or bottom 10% in social security contribution rate from employer (59<sup>th</sup>) and employee (58<sup>th</sup>), start-up procedures (56<sup>th</sup>) and start-up days (56<sup>th</sup>). The poor social security contribution rate means employees are not valued, resulting in little monetary support for retirement or disablement from a workplace accident. The high number of start-up days and procedures discourage entrepreneurship which limits business growth, maximizes employer power and minimizes employee value. China needs to upgrade the social security contribution rate to boost morale. The assurance of adequate financial support at retirement or disablement would enhance loyalty and promote creativity leading to higher productivity.

The capital markets (raising capital) are ranked 56<sup>th</sup>, state ownership of enterprises 54<sup>th</sup>, foreign investors 53<sup>rd</sup>, tariff barriers 52<sup>nd</sup>, redundancy costs (reduced need in demand for employees by a firm) 51<sup>st</sup> and cost of capital (total cost needed to bring a project to a commercially operable status) 51<sup>st</sup>. China has to reduce the high costs of operating a business and practise modern management with optimal number of skilled employees. In addition, China needs to implement policies that overcome the fear among investors and

entrepreneurs of state ownership of their businesses, especially when they become profitable.

## Priority 2

**P8 Financial Market Sophistication:** Six of eight indicators are below country's rank. Lowest ranked is legal rights index (the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders, and thus, facilitate lending) at 85<sup>th</sup> and related are the soundness of banks 63<sup>rd</sup> as well as the regulation of securities exchanges 58<sup>th</sup>. Financial services are not readily available (63<sup>rd</sup>) or affordable (50<sup>th</sup>) and financing through local equity market (34<sup>th</sup>) could be improved. Although ease of access to loans (21<sup>st</sup>) and venture capital availability (13<sup>th</sup>) 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).

**P6 Goods Market Efficiency:** 13 of the 16 indicators are below country's rank and five indicators have sunk to the bottom 20% of the 144 economies. The number of procedures to start a business (135<sup>th</sup>), total tax rate (131<sup>st</sup>) and number of days to start a business (116<sup>th</sup>) re-confirm the IMD's poor rankings in Government Efficiency discussed earlier. The low rank of imports as a percentage of GDP (130<sup>th</sup>) and trade tariffs (115<sup>th</sup>) to restrict imported goods and services may backfire when trade partner nations remove the General Preferential Tariff (GPT) status. For example, under Canada's GPT rules, countries classified for two consecutive years as high or upper-middle income and have a share of world exports equal to or greater than one percent will have their GPT eligibility withdrawn. (Canada set to implement changes to General Preferential Tariff Treatment, n.d.). Other indicators that discourage trade include prevalence of trade barriers (54<sup>th</sup>) and burden of customs procedures (55<sup>th</sup>) – all these need re-balancing to enhance goods market efficiency.

**Business Efficiency (IMD):** Large corporation efficiency (57<sup>th</sup>) and international experience (57<sup>th</sup>) may be heavily influenced by national culture (14<sup>th</sup>) which is heavily

egalitarian in a communistic environment. Poor auditing and accounting practices (55<sup>th</sup>), shareholder rights (54<sup>th</sup>) and regulatory compliance (51<sup>st</sup>) ultimately affect health, safety and environmental protection (50<sup>th</sup>), reflect poor finance skills (48<sup>th</sup>) and raise financial risks (48<sup>th</sup>). China has a critical need to improve transparency in these measures if it wants to gain international standing in global business community.

**P1 Institution:** 17 of the 21 indicators are below country's rank and mostly between 40<sup>th</sup> and 80<sup>th</sup> rank among 144 economies compared to the extreme lower ranks discussed earlier. China has to improve in business costs of terrorism (85<sup>th</sup>) and provide better protection to investors (83<sup>rd</sup>). Similar to IMD findings, China needs to step up auditing and reporting standards (82<sup>nd</sup>), efficacy of corporate boards (78<sup>th</sup>) and ethical behaviour of firms (55<sup>th</sup>) to protect minority shareholders' interest (67<sup>th</sup>). Police services have to increase in reliability to gain public trust (61<sup>st</sup>) to overcome organized crime (70<sup>th</sup>) and bribery (66<sup>th</sup>) and safeguard judicial independence (60<sup>th</sup>) against corruption. Further, China needs a more effective legal framework to settle disputes (49<sup>th</sup>), challenge regulations (47<sup>th</sup>) and enforce transparency in government policymaking (33<sup>rd</sup>), especially in diversion of public funds (45<sup>th</sup>). Other disconcerting policies that need redress is intellectual property protection (53<sup>rd</sup>) and property rights (50<sup>th</sup>).

**P2 Infrastructure:** Eight of the nine indicators are below country's rank. The lowest rank is mobile telephone subscriptions/100 population (108<sup>th</sup>) crippling further technological readiness. As the second largest country in the world by land area, China has a critical need for an effective system of telecommunication. Even fixed telephone lines/100 population (59<sup>th</sup>) and quality of electricity (56<sup>th</sup>) are in short supply weakening communication and basic amenities for living. The quality of overall infrastructure (64<sup>th</sup>), air transport infrastructure (58<sup>th</sup>), port infrastructure (53<sup>rd</sup>) and roads (49<sup>th</sup>) have to improve to match its railroad infrastructure (17<sup>th</sup>).

**Infrastructure (IMD):** By IMD competitiveness measurements, China's internet bandwidth speed is the slowest among 60 economies, followed by subscriptions to mobile



telephone (58<sup>th</sup>) and internet (52<sup>nd</sup>). Energy intensity, the measure of the energy efficiency of a nation's economy (57<sup>th</sup>) needs critical attention to drastically reduce pollution (60<sup>th</sup>), ranked the worst in the world. Human development index (54<sup>th</sup>) will be raised when medical assistance (52<sup>nd</sup>) and infrastructure for university education (55<sup>th</sup>) improve. Stricter intellectual property rights (52<sup>nd</sup>) have to be enforced to promote innovation. Inbound mobility (53<sup>rd</sup>) calls for transparency with information on mobile (foreign) students' origin and their percentage of total tertiary enrollment.

**P11 Business sophistication:** Seven of the nine indicators are below country's rank, but they are within the Top 40 among 144 economies. Local supplier quality (63<sup>th</sup>) is lowest ranked of the nine indicators, followed by production process sophistication (56<sup>th</sup>). Closing the gap between the country's rank and business sophistication is not as wide as the indicators in the pillars under Priority 1. Talented managers from Hong Kong, Malaysia, Singapore and Taiwan as well as from Western nations could be recruited to help improve local managers' ability to delegate (49<sup>th</sup>), broaden marketing (52<sup>nd</sup>), expand value chain (37<sup>th</sup>) and enhance competitive advantage (45<sup>th</sup>).

### **Priority 3**

**P4 Health and Primary Education:** With a population of 1.36 billion (Data: China, World Bank, 2015), WEF's health audit on China may indicate a tipping point after years of industrialization, placing China among the bottom 40 or bottom 30% of the 144 economies. Tuberculosis, an old foe is still lurking around (96<sup>th</sup>), and the difficult to cure HIV/AIDS (86<sup>th</sup>) are both impacting business. Although China has the lowest HIV prevalence (1<sup>st</sup>) by percentage of adult population, the infection rate has been rising. A serious outbreak in a country as large as China could significantly impact the economies of both China and the world. While China has achieved global tuberculosis (TB) control targets in 2005, there is still a relatively higher number of TB cases/100,000 population (84<sup>th</sup>) to eradicate. China has to inculcate personal hygiene habits against spitting and smoking in public which makes one more susceptible to TB while imposing stricter environmental pollution

laws. Infant mortality/1,000 live births (62<sup>nd</sup>) should be effectively reduced to replace a greying workforce.

Although primary education enrollment is well ranked (4<sup>th</sup>), the quality of primary education is far behind (59<sup>th</sup>) resulting in lower enrollment in secondary education and even lower tertiary education as discussed under Pillar 5 Higher Education and Training. The Ministry of Education has to continue to ban gifting activities, fine teachers who accept gifts and parents who give gifts to teachers to ensure their children get "special treatment" (Zhao, 2014). Parents need the assurance that their children enjoy equal treatment at school and are taught by dedicated teachers who seek to educate and enhance the children's intellectual abilities.

**P7 Labour Market Efficiency:** Eight of the 10 indicators are below country's rank. The high redundancy costs (120<sup>th</sup>) are explained by the low hiring and firing (15<sup>th</sup>), especially with state firms. Flexibility of wage determination (84<sup>th</sup>) could be improved to respond faster to supply and demand of labour. Redundant workers in state enterprises should be upskilled with new trade skills that meet the needs of new industries. Gender diversity with women in labour force (60<sup>th</sup>), cooperation in labour-employer relations (58<sup>th</sup>) and reliance on professional management (43<sup>rd</sup>) ought to be promoted and enforced to enhance labour market efficiency.

**P12 Innovation:** Five of the seven indicators are below country's rank. All indicators are within the top 30% of 144 economies, suggesting China is moving quickly in the innovation path. The ranks are close to each other with quality of scientific research institutions at 39<sup>th</sup>, capacity for innovation at 40<sup>th</sup> and availability of scientist and engineers at 43<sup>rd</sup>. University-industry collaboration in R & D is at an encouraging 32<sup>nd</sup> close to country's rank, likewise PCT patents/applications per million people, 34<sup>th</sup>. Firm spending on R & D is 23<sup>rd</sup> and government procurement for advanced tech products at 10<sup>th</sup> which are higher than country's rank. China should be commended for its aggressiveness in pursuing innovation. The need now is to step up manpower skills via secondary and tertiary education as well as re-skilling and up-skilling

to enable workers to utilize and operate technology related to the new innovations to speed up return on investment.

#### Priority 4

P3 Macroeconomic Stability: China has to be commended that only one of the five indicators in macroeconomic stability is below country's rank. Government budget balance, % GDP ranked 50<sup>th</sup> is a head-scratcher considering China being ranked 1<sup>st</sup> in controlling inflation, 5<sup>th</sup> in gross national savings, 22<sup>nd</sup> in general government debt and 25<sup>th</sup> in country credit rating. The key recommendation would be regular, systematic and thorough checks to ensure expenditures do not exceed revenue. Some analysts suggested that showy investments such as the China's glitzy Olympics at the cost of some US\$40 million would cause a financial dent but the Olympics did not leave a debt legacy (Rabinovitch, 2008). However, unlike other countries that revealed budget details, it is difficult to access information on total costs vs. initial budget and taxpayer contribution. Checks, transparency and accountability would help improve the rank for budget balance.

P10 Market Size: Only one of four indicators are below country's rank. China ranks 1<sup>st</sup> in foreign market size index, 2<sup>nd</sup> in domestic market size index and GDP (PPP\$ billions) but exports as a percentage of GDP is a dismal 109<sup>th</sup>. Exports as a percentage of GDP is the exports of goods and services that represent the value of all goods and other market services provided to the rest of the world. Export growth has been a major component supporting China's rapid economic growth. For example, China implemented policies that enabled foreign-invested factories to assemble imported components into consumer goods for export and liberalizing trading rights. In its 11<sup>th</sup> Five-year Plan, adopted in 2005, China placed greater emphasis on developing a consumer-driven economy to sustain economic growth and address imbalances. When then are exports as percentage of GDP ranked so low?

Horn, Singer and Woetzel (2010) found that China was one of the few countries that escaped the great 2008-09 global downturn without a major economic slowdown, suggesting that internal growth played an important role. Other

analysts observed that China's economy can be sustained by its big domestic market without a strong need for exports. For example, in 2007 net exports accounted for 18 percent of 14.2 percent GDP growth, but in the first half of 2011, they contributed a negative 0.7% of 9.6% growth but yet China is doing well (Perkowski, 2011). More recently, in the first quarter of 2013, China's net exports equalled just 2.2 % of GDP down from levels of more than 8% during 2007.

Although China's economy may not seem to be impacted by exports, Holland (2013) argues that the net export number does not tell much about the importance of external demand in driving China's economy. Holland (2013) cited that Xing Yuqing and Manisha Pradhananga at the Asian Development Bank concluded that despite efforts to rebalance the economy towards domestic consumption, China is still highly dependent on demand from the rest of the world and that its growth remains highly vulnerable to external shocks. Thus, the key recommendation: China needs to generate demand from other countries for its products to sustain economic growth.

Economic Performance (IMD): Despite ranked number 1 in real GDP growth, China has several weaknesses that situate at the bottom 35% of 60 economies: direct investment stocks inward is 59<sup>th</sup> and abroad is 48<sup>th</sup>, exports of commercial services are 55<sup>th</sup>, GDP (PPP) per capita 55<sup>th</sup>, GDP per capita 53<sup>rd</sup>, tourism receipts 55<sup>th</sup>, food costs 48<sup>th</sup> and cost-of-living index 45<sup>th</sup>. These indicators do not augur well as China, the low-cost factory of the world is unable to hold down the high cost of living and drive demand for its products which suffer from a quality perception.

#### CONCLUSIONS

As this study is focused on global competitiveness, data may be over-reliant on 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 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 organizations and activist association, and in that respect, may not address the concerns of global competitiveness. China's government sources of information, if accessible and reliable, would deserve attention, especially those related to the economic growth plans such as the 11<sup>th</sup> Five Year Plan from 2006 to 2010 and the present 12<sup>th</sup> Five Year Plan from 2011 to 2015 and the coming 13<sup>th</sup> Five Year Plan from 2016 to 2020. The 11<sup>th</sup> Plan was to sustain an annual growth of 8% and the 12<sup>th</sup> Plan is focused on clean energy sources for sustainable growth. The coming 13<sup>th</sup> Plan has been said to focus on China becoming a world leader in nuclear energy by 2020 (Asia Pacific Foundation of Canada, 2015).

The study of global competitiveness is extensive and continually evolving with nations rising and falling in ranks, year after year. Each factor, each pillar and each stage of development deserve more in-depth analysis to yield deeper insights to the challenges facing China. For example, Technological Readiness and Higher Education Training are two pressing

needs and studies to address these issues would be of value to China. Scholars could attempt to identify correlations between factors such as between Government Efficiency and Business Efficiency. The studies on single factors/pillars or the correlation studies between factors/pillars may reveal significant findings that would help China move forward in the next decade.

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