

Foreign Business in China and Opportunities for Technological Innovation and Sustainable Economics

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Chapter 1

China's Economic Growth and Innovation in Globalization

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ABSTRACT

The purpose of this chapter is to investigate the potential long-term effects of contemporary globalization on the Chinese economy and innovation in an era of global hypercompetition. Globalization today is basically accepted as the process that removes geographical boundaries and enables the economic integration and interdependence of national economies into the international economy through trade, foreign direct investment, migration, and capital flows. Since productivity remains the critical determinant of long-term national growth and prosperity, the effects of today's globalism on productivity demands the need for business organizations in particular to sustain a competitive advantage and to remain profitable over time. Based on an integrative literature review, this chapter explores why China must continue to develop its innovation capabilities as well as to provide opportunities for foreign businesses over the long-term via responsible economic development that also benefits the nation's domestic population.

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INTRODUCTION

The nation with a global blue-water navy is the master of today's economy - Capt. Earle G. Gardner, Jr. (USN)

The purpose of this chapter is to investigate the potential long-term effects of contemporary globalization on Chinese economic growth and innovation in an era of worldwide hypercompetition. Globalization today is basically accepted as the process that removes geographical boundaries and enables the economic integration and interdependence of national economies into the international economy through trade, foreign direct investment (FDI), migration, and capital flows (Cooper, 2008). Since productivity remains the critical determinant of long-term national economic growth and prosperity in an aging world (McKinsey Global Institute, 2015; Drucker, 2002), the effects of globalism today on productivity demands the need for business organizations to sustain a competitive advantage and to remain *profitable* over time (Chatterji & Patro, 2014; Teece, 2014; Campbell, Coff, & Kryscynski, 2012; Porter, 1998). Based on an integrative literature review and personal business experience in China during various periods since 1986, this chapter explores why the country should continue to develop its innovation capabilities as well as to provide opportunities for foreign businesses over the long-term for responsible economic development that also benefits the nation's *domestic* population – a concern which should not be overlooked in any serious discussion on China (Ren, 2016; Shellekens, 2013).

This chapter is based on a key question: “Can China continue its economic growth and innovativeness developed over the past 30 years for the remainder of this century within the context of global hypercompetition?”. China has undoubtedly made serious strides in its economic development since Deng Xiaoping's market-economy reforms that started in the late 1970s. However, recent events such as the current trade war with the USA or China's chronic debt problems which have developed over the years, in an attempt to maintain economic growth, underscore structural issues that could collectively inhibit future development in the world's second largest economy (CIA Factbook, 2018; Bradsher, 2018).

Anderson and Wong (2013) state that competitive advantage in the digital economy of the 21st century focuses on *intangible factors* including firm strategy and positioning, radical innovation and first mover advantages, organizational ambidexterity, network effects and externalities, transaction cost efficiency, intangible resources and competencies, and relational optimality. Global competition today

is an entirely new game compared to the last century, and the future of national economies, consumers, and workers are tied to the success of regional, national, and corporate activity based largely on productivity and competitive advantage. Despite its impressive economic development since the 1980s, China is no exception in the 21st century.

Each year the World Economic Forum (WEF) ranks 144 countries in terms of a Global Competitiveness Index (GCI) which captures the fundamentals of an economy on a scale that ranges from 1 to 7. The GCI uses statistical data such as government debt and life expectancy obtained from a variety of internationally recognized agencies such as the International Monetary Fund (IMF) and the World Bank to rank nations in terms of ability to compete on a global scale. The most recent GCI ranking (2017) for China (not including Hong Kong or Taiwan) places the country at 27th in the world behind the Republic of Korea. However, it is important at this juncture to also examine China's current innovativeness standing in the world. According to a recent WEF report via data from the National Science Foundation, China is the world's second-largest spender on Research & Development (R&D) after the USA and states the former will overtake the latter in the next 5-10 years (Harris, 2018).

However, does this fact on its own really matter or is there much more involved in the long-term? Productivity, R&D expenditures, profits, debt concerns, innovativeness, trade wars, environmental problems, corruption, economic blocs (e.g., BRIC, MENA), geopolitical and military realities, sustainability, a growing global skills gap, and other issues are all a collective and sometimes contradictory mix in today's globalization. It is from a *holistic perspective* that includes these facts from which one must view the current situation in China (and elsewhere) with regards to overall economic growth (and prosperity) in this century, despite some recent writings of a new world order (Muggah & Tiberghien, 2018; World Bank, 2018a; Global Firepower, 2018; Christiansen & Kasarci, 2016; Transparency International, 2016; De Vaal & Ebben, 2011).

This chapter is organized below in the following manner. First is an integrative Literature Review covering subjects deemed most critical, within the scope of this chapter, for that holistic perspective mentioned above as it pertains specifically to China as follows (Yue, 2018; Maswood, 2018; Stiglitz, 2015):

- The Chinese economy today
- Productivity
- The growing global skills gap

- Open innovation and diversification
- Profitability and national debt
- Geopolitics and naval power
- Corruption
- Employment and poverty
- Pollution/environment

Second is an Analysis and Conclusion section followed finally by a section on Future Research Directions. The reader should note this work is to be considered as a *scholar-practitioner* effort and not solely as an academic endeavor; research demonstrates that practitioner knowledge often complements that of academics (Bartunek, 2007, p. 1327; Mohrman & Lawler, 2012). Therefore, the content (and style) of this chapter will not necessarily follow a familiar pattern common in strictly academic work. The contribution this chapter makes to the extant literature on China's economy and innovation is one of managerial applicability in the digital age.

INTEGRATIVE LITERATURE REVIEW

The International Monetary Fund (2018) ranks the Chinese economy as the second largest in the world with a value of US\$14 trillion behind the USA with a value of US\$20.4 trillion, which the WEF (2018) states currently amounts to more than 25% of the global economy. However, the World Bank (2018a) estimates that China will represent 35.2% of global growth in terms of real Gross Domestic Product (GDP) by 2020. Furthermore, it has been reported that China has already overtaken the size of the US economy in terms of Purchasing Power Parity (PPP) dollars (PwC, 2017).

Clearly, China is a fast-growing economic entity that cannot be dismissed on the global stage. Nonetheless, there are other issues to consider against these facts that could affect the overall long-term outcome in terms of timing and value as mentioned in the latter part of the Introduction. Jaffe (2014) states that although scientific knowledge and technical expertise promote the wealth of nations in general, the scientific productivity of a country correlates more strongly with gross national income (GNI) per capita for advanced economies than does technological sophistication, which is fundamentally more critical for currently developing nations such as China (United Nations, 2018).

However, as China transitions from a current Stage 2 (Efficiency-driven) to a Stage 3 (Innovation-driven) economy such as Australia or the European Union (EU), the country will need to become more competitive and productive than in the past;

in addition, along with this stage change normally comes higher wages associated with a higher standard of living, the need for the most efficient production processes, and—of course—superior innovation capabilities (Schwab, 2017). Can China achieve *and* sustain all of these over time, especially with regards to achieving higher and sustainable living standards for the entire country?

Productivity is not always an easy concept to define, but it is basically measured by the efficiency with which nations and organizations turn inputs into outputs via new technologies and business models, a capable workforce, and efficient management (Drucker, 2002; Bartelsman, Haltiwanger, & Scarpetta, 2013). While mainstream academia stresses that productivity is highly critical to national economic growth and corporate stability over time, recently there has actually been a global productivity slowdown recently for many of the world's largest economies (Andrews, Criscuolo, & Gal, 2016; OECD, 2016). Eichengreen (2015) highlights that Total Factor Productivity (TFP), which measures the combined productivity of capital and labor, has been basically zero for three consecutive years, thus meaning the living standards of today's young adults could possibly rise much more slowly than those of their parents if there is no major change in TFP over time. This would extend to all regions of the world, including China, and any increase would depend entirely on improvements in education and training as well as investment in equipment and structures (Eichengreen, 2015).

Linked to productivity is the growing global skills gap which is reshaping the world economy (Association for Talent Development, 2018; McKinsey Global Institute, 2012). Strains on the global labor force have become increasingly obvious over the past decade. The demand for higher-skilled workers will increase as the working age population decreases worldwide, and approximately 70% of all immigrants educated to the university level head to only four nations: Australia, New Zealand, the United Kingdom, and the USA (Hays Global Skills Index, 2017). It should be noted that 20% of all migrants in the world live in the USA (approximately 50 million people as of 2017), and until recently only one in every seven Chinese students returned to China from the USA following higher education; however, this trend has reversed substantially due to Chinese investments in higher education (especially science and engineering) and general salary levels (Pew Research Center, 2018; Pells, 2018). It should be added that global growth will be increasingly driven by investment in skills and innovation (OECD, 2016).

Open innovation is a strategy by which organizations allow a flow of knowledge across their boundaries as they seek ways to enhance their innovation capability (University of Cambridge Institute for Manufacturing, 2009). Chesbrough (2003) first introduced the concept to emphasize that firms generate, develop, build,

market, and finance their ideas on their own volition. Wang et al. (2012) studied how Chinese firms have successfully used open innovation to strengthen their innovative performance, based on empirical research of 91 native Chinese firms in high-technology industries. Their research showed the innovative performance of these companies is improved by internal R&D and licensing agreements with foreign firms to obtain new technology. Furthermore, Zhang et al. (2018) examined how human capital can affect the relationship between open innovation and the financial performance of firms using evidence from the Chinese mechanical manufacturing industry. Their efforts demonstrate there is an inversed U-shape relationship between open innovation and firm performance; in addition, they generally found that the higher the education level of employees, the better the financial performance will be of the firm.

Diversification within the scope of this chapter comes in two forms: industry and international. These two aspects of diversification were chosen because they are related to **profitability** which is a key factor in this chapter. Wan (1998) empirically explored the relationship between industrial and international diversification of Hong Kong multinational corporations (MNCs) and found that international diversification has a positive impact on profitability stability and sales growth, but not on profitability itself. Additionally, the study determined that industrial diversification also enhances profitability stability but reduces profitability significantly. The empirical results from a study on China's Listed Energy Companies by Li et al. (2016) indicated that industrial diversification hinders corporate performance while international diversification improves the performance of renewable energy firms but hinders the performance of conventional energy firms. These studies suggest that any diversification activities should be carefully considered by Chinese organizations and the government in general.

In China profits and the growing national debt have an inverse connection. While there is good news for Chinese banks and industry regarding their net profits as of 2018, the Chinese government debt-to-GDP rose to an all-time high in 2017 of 47.60 percent (Trading Economics, 2018; McKinsey & Company, 2017). It is expected that China's national debt shall rise to a value of US\$12.1 trillion by 2022 or approximately a 63% ratio of debt-to-GDP (Statista, 2018b; IMF, 2018). It should be noted here that general consensus states an optimal debt-to-GDP ratio for developing nations such as China is 40% while the same ratio for developed countries is 60% of GDP. Therefore, China will need to rein in its government (and corporate credit) debt to remain in balance in this century. Continuing its current debt ratio to the level of a developed nation could place China's debt management strategy and even the global financial system into jeopardy.

Geopolitics today is a very complex issue and usually does not follow what might best be labeled as “logical” (Christiansen & Kasarci, 2017). The Washington, DC-based international affairs organization, The Brookings Institution, recently developed a research series titled, “Order from Chaos: The New Geopolitics”, which contains material related to Asia, Europe and Russia, and the Middle East. The series on Asia “analyzes the major dynamics at play in the region and provides ideas and strategies to guide critical countries and key leaders on how they should act to preserve and renovate the established international order to secure peace and prosperity for another generation” (Brookings Institution, 2018).

Recent coverage includes issues such as the potential end of US engagement with China, North Korea’s nuclear program, and the general geopolitical situation in Central Asia. What is important to highlight now is that the entire world has entered into a completely new phase of international relationships which is quite volatile, depending highly on fast-changing global events such as the first-ever meeting in 2018 between the leaders of North Korea and the USA in Singapore to discuss nuclear disarmament. In order to maintain a stable flow of goods throughout the world in such global uncertainty, it is necessary to develop and sustain a strong naval power since approximately 90% of all world trade is carried at some point by the international shipping industry with over 70% as containerized cargo (International Maritime Organization, 2018; UNCTAD, 2017).

While literature can vary somewhat with regards to global naval force strength, the current undisputed naval power in the world remains the United States Navy in that it is a *global* blue-water navy and is considered the only one in the world to date (IISS, 2018; RAND, 2018). This means the country can effectively project its naval power anywhere in the world for a continuously sustained period of time, although the US Navy has not had a direct and major confrontation since World War II with the Japanese Imperial Navy at the time. China has launched an extensive buildup of its navy for two primary reasons: 1) to challenge US maritime dominance in East Asia; and 2) to obtain great-power maritime capabilities since the country understands the value of a *global* blue-water navy (Ross, 2018). Whether or not this massive effort actually materializes over the remainder of this century is probably anybody’s guess; however, it is important to understand that simply building ships for a *global* blue-water navy is not enough as it requires more than a generation to train capable admirals and commanders to lead such task forces around the world (Thomassen, 2016).

Corruption generally reduces economic development and creates inefficiencies (WEF, 2015; Blackburn, Bose, & Haque, 2006; Shleifer & Vishny, 1993; Mauro, 1995), although some literature suggests corruption helps to overcome bureaucratic

constraints, rigid laws, and inefficient public services in nations with weak institutions (De Vaal & Ebben, 2011; Luo & Han, 2008; Lein, 1990). Nonetheless, while corruption is found throughout the globe at different levels, it is in the developing world such as China that the effects are the most destructive (UN, 2004); however, its effects can also be seen in developed economies (Acemoglu & Verdier, 2000). Transparency International (TI), an international non-governmental organization based in Berlin, Germany, each year produces its Corruption Perception Index (CPI) in which it ranks individual nations. Its CPI for 2016 shows that the least corrupt nations include Denmark, New Zealand, Finland, Sweden, and Switzerland (in order), while the most corrupt countries at the bottom of the index include Yemen, Syria, North Korea, and Somalia (TI, 2017). In 2017, China ranked 77 out of 180 countries listed in the CPI. Clearly, the country needs to improve its standing in the world with regards to corruption or risk its capability for sustainable development (Otusanya, 2011).

Employment and poverty have an inverse relationship, and with regards to the latter China has apparently done exceptionally well by lifting over 700 million from its grips since the 1980s (World Bank, 2016). However, it is necessary to investigate further into China's situation regarding both issues before concluding that the country is "free and clear" both economically and politically. For example, Chow (2018) states that China's war on poverty is actually in danger of turning into a war on the poor by pushing them into urban dependence outside of the already capped cities such as Beijing and Shanghai and into second- and third-tier areas like Liaocheng and Zhengzhou which often lack basic infrastructure. In addition, we must examine the meaning of poverty as it relates to today's global economy in general and in China specifically.

According to the United Nations Educational, Scientific, and Cultural Organization (UNESCO, 2018), poverty can be defined as either absolute or relative with the former referring to basic needs such as food, clothing, and shelter while the latter referring to economic status compared to other members of society. Absolute poverty has been largely eradicated in China; however, relative poverty (or economic inequality) remains an issue in the country (Asian Development Bank, 2016, 2018; Holcombe, 2017; Li, Su, & Liu, 2016; Stuart, 2015). Exactly how this is eventually achieved in a nation of over 1.4 billion people remains to be seen, but there is some mounting evidence that it can be done (Zhuang & Shi, 2016).

Within this context it is important to consider two issues: *i*) the Gini coefficient that is the most commonly used measure of inequality by economists in which a higher Gini score equates to higher inequality; and *ii*) the Kuznets Inverted U-Curve which graphs economic inequality against income per capita over the course of economic

development, and is considered one of the most influential statements ever made regarding inequality and development (Catalano, Leise, & Pfaff, 2009; Melikhova & Čížek, 2014; Kuznets, 1955). The Chinese Government would be well-advised to pay close attention to these two indicators as time passes during this century.

The employment rate in China as of 2018 appears solid with a labor participation rate of 69 percent and an unemployment rate of only 3.9 percent (Statista, 2018a; Trading Economics, 2018). However, some underlying facts tell more of the story such as 8.2 million college graduates seeking suitable jobs, labor disputes, and rising wages as they relate to high employee turnover (Scheltema, 2017; Nie & Sousa-Poza, 2017; Zhai et al., 2013). The Chinese government has long been concerned about job creation and satisfaction, higher living standards, and wage levels as it should given the population of the country. As such, it is imperative for the government to monitor employment rates in the country so as not to foment civil unrest in the long-term.

The environment as it relates to pollution in China is a critical concern to the Chinese government and industry as incomes rise in the country. Evidence shows the country is starting to win its overall war on pollution, although China still lags behind international standards in air quality despite significant gains following its National Action Plan of 2013 (Greenstone & Schwarz, 2018). In addition, Currell and Han (2016) state that China's water pollution is of major concern to the world as well as the country; for example, it is reported that over 80% of the shallow groundwater in large parts of northern China is affected by pollution, thus making it undrinkable without treatment. Jiao, Xu, and Liu (2018) found in a nationwide multilevel data study that there is a nonlinear relationship between community socioeconomic status and community air pollution; in addition, the study emphasized that air pollution had the greatest impact on the lower socioeconomic groups that exist mostly outside the major cities.

It comes as no surprise there is an economic as well as a human cost to increasing worldwide air and water pollution; furthermore, the extant literature tends to show that socioeconomic status can vary the extent of the human cost by means of health care and living location among other factors. The cost to China varied among the different literature on the subject; therefore, no specific numbers will be given here.

ANALYSIS AND CONCLUSION

The globalization of today is very different from that of the past due in no small part to the speed of technological advancement and use that drives world markets

(Gates & Hemingway, 1999; Ritzer & Dean, 2015; Roberts, Hite, & Chorev, 2015), in addition to the facts and issues covered in the integrative literature review. In fact, it is not common knowledge that globalization has actually long existed (Nye, 2003). One pertinent example can include China's "Silk Road" which has existed for centuries and was developed to link China with the West at the time. World trade has increased one thousandfold since the end of World War II when modern economic globalization began (Lechner & Boli, 2015), and it is expected to continue rising during this century despite the potential effects of *deg*lobalization which has numerous sources such as threats to tradition and corporate lay-offs (Kobrin, 2017).

In fact, it is a somewhat ironic twist of fate that the primary source of any *deg*lobalization is actually be the very group of nations which created the construction of an international order thus leading to globalization during the second half of the 20th century (e.g., the original G-7). Essentially, the world now has two options: 1) a backlash against globalization with economic nationalism and market segmentation; or 2) transition to a new type of globalization also referred to as "Globalization 2.0" (James, 2017). Whichever way the world turns regarding the two options above, China will most likely continue largely on its own path given the country's growing economic, military, and political strengths. However, there are consequences to "going against the global grain" in the form of economic sanctions, financial market fallout, and so forth.

It is important to realize here that China remains largely a "Middle-Income nation" despite its many billionaires and, given the characteristics of today's globalization, there is no guarantee any such country can necessarily or eventually escape the "Middle-Income Trap", which is the phenomenon of otherwise rapidly growing economies stagnating at middle-income levels and failing to eventually graduate into the ranks of high-income countries – an occurrence that is particularly common during economic growth slowdowns which China is now facing (World Bank Group, 2018; Yiping, Qin, & Xun, 2014; Aiyar et al., 2013).

One of the issues intentionally not covered in the integrative literature review due mainly to its enormous complexity is the rapidly aging global population which includes China. Chand and Tung (2014) state that aging is already very apparent in developed nations such as Japan or the USA, and is also expected to accelerate even in the developing world (e.g., Africa, parts of Asia). They also highlight that for much of world history, the elderly (those over age 65) have never exceeded 4% of a country's population. However, the Washington, DC-based Center for Strategic and International Studies estimates this percentage could reach an average of 25% by 2050. The result will be much additional pressure on national and local governments

such as those in China which are already experiencing serious shortfalls to implement public policies such as pensions and unemployment benefits (WEF, 2017a). In fact, China's pension gap through 2050 is expected to grow by seven percent each year (WEF, 2017b); the social ramifications are self-evident.

It is noteworthy at this point to highlight that most nation states have failed to contend with major global challenges today, and that the 200 inter-city networks worldwide may very well be the signal of the future since half of humanity today lives in cities which power over two-thirds of global GDP. In the Future Research Directions section, we will briefly examine the major cities of the world which are taking the lead in one of the most critical aspects of economic development today: innovation.

When considering all of the factors presented in this chapter, China has numerous challenges to rise beyond a middle-income nation to join the ranks of the advanced economies such as those found in North America and the EU. Systemic and global geopolitical conflict during the first half of the 21st century will undoubtedly shape the remainder of this century (Friedman, 2009). This fact will eventually affect nearly all countries, especially those which are in transition such as China towards becoming Stage 3 innovation-driven or developed economies such as Australia, Canada, Japan, South Korea, the United Arab Emirates, and the United Kingdom (Schwab, 2016, p. 38).

The WEF classifies *Factor-driven* nations as those which compete based largely on unskilled labor and natural resources; *Efficiency-driven* countries are those which have developed efficient production processes leading to higher quality products due to increased education and training; *Innovation-driven* economies are those which are able to sustain higher living standards due to sophisticated production processes and innovation (Schwab, 2017). The critical message here is that for a national economy to develop to the point of providing a sustainable and high standard-of-living in this century, it is imperative over time to become an *Innovative-driven* entity (Aghion & Howitt, 2009).

To achieve this goal requires a regional / national economy to be diversified and to encourage creativity that translates into products and services that are desired on a global scale. China certainly has at least most of the means to achieve this goal, but it must be remembered that economic growth is beginning to slow as the working-age population shrinks and the scope for catch-up diminishes. As demand rebalances in favor of more household consumption, China must successfully implement the latest round of reforms if the country is to avoid the middle-income trap and ensure shared prosperity for all its citizens over time (OECD, 2015).

The question now is if China can effectively direct her vast resources to obtain *long-term profitability and sustainability* in order to overcome the various challenges and issues covered in this chapter? We must remember the purpose of this chapter is to explore why China must continue to develop its innovation capabilities as well as to provide opportunities for foreign businesses over the long-term via responsible economic development that also benefits the nation's domestic population.

Today's globalization has created, among other issues, at least seven major challenges the Chinese Government fundamentally must overcome in the long-term (CIA Factbook, 2018; Morrison, 2018): 1) raise productivity growth rates via efficient allocation of capital and innovation; 2) manage the country's high corporate debt burden to maintain financial stability; 3) maintain competitiveness while facilitating higher-wage job opportunities for the middle class including rural migrants and college graduates; 4) reduce a high domestic savings rate and correspondingly low domestic household consumption; 5) lower speculative investment in the real estate sector without sharply slowing the economy; 6) reduce industrial overcapacity; and 7) keep unemployment under control or risk huge civil unrest. Following are some suggestions to address at least some of the items on this list.

RECOMMENDATIONS

Below are some suggestions for China's consideration with regards to its long-term economic (and political) viability during the 21st century. The following are key long-term efforts based on a synthesis of the points outlined in this chapter.

- **Raise National Productivity:** Despite the recent global slowdown of productivity growth, it remains important for China to further develop its respective productivity levels. How this is achieved involves numerous tenets such as improved human resource management practices. Professor Michael Porter of Harvard University in the USA has long stated since publishing his book, *The Competitive Advantage of Nations*, in 1990 that prosperity is earned, not inherited. The same premise stands for productivity.
- **Address Corruption:** This chapter has addressed the issue of corruption including its long-term negative effects which is adequate mention here with regards to China.
- **Select Diversification With a Focus on Profitability and Innovation:** In general, national economies must be diversified to remain sustainable today. This is an effort which also includes moving from risk averse to higher risk

with higher reward industries such as pharmaceuticals or medical equipment for sustainable profitability. Since transitional markets such as China's are considered the most likely to lead global growth during this century, it would be advisable to develop so-called "disruptive industries" requiring innovation like smart manufacturing, cloud-to-edge computing, and 3D metal printing. The Chinese government must streamline its various bureaucracies, especially with regards to the establishment of new firms, scientific development, and international collaboration that provides opportunities for foreign companies. Essentially, China must walk something of a "fine line" between industrial and international diversification since some empirical evidence demonstrates the former can enhance profitability stability but not necessarily profitability itself, while the latter has a positive impact on profitability stability and sales growth, but not necessarily on profitability itself.

- **Increase Domestic Consumption:** The Chinese economy has long been export-oriented with relatively little attention paid to raising domestic consumption of its own products. While wages have increased significantly over the years, many of China's own products remain outside the reach of the average person due to price, especially in rural areas.
- **Continue to Develop a Global "Blue Water" Navy:** It has long been established that a strong naval presence is a foundation of economic growth and security; this is particularly true today. In his August, 2018 report to the United States Congress, Ronald O'Rourke, who is a specialist in naval affairs, stated that China has been steadily building a modern and powerful navy since the early to mid-1990s. China's navy has become a formidable military force within China's near-seas region, and it is conducting a growing number of operations in more-distant waters, including the broader waters of the Western Pacific, the Indian Ocean, and waters around Europe. China's naval modernization effort encompasses a wide array of platform and weapon acquisition programs such as anti-ship ballistic missiles (ASBMs), anti-ship cruise missiles (ASCMs), and submarines.
- **Continue to Lower Both Air and Water Pollution:** This is self-evident based on the Literature Review as well as any cursory examination of this topic in the extant literature or via qualified search on the Internet. As mentioned above, the country has made good strides towards these goals but much more remains to be done to meet international standards.
- **Decrease or at Least Limit the National Debt While Refraining From Continuing the Country's "Debt Trap" With Other Nations:** Statista (2018) reports that China's national debt will amount to over US\$7 trillion

in 2018 increasing to over US\$12 trillion by the end of 2022. Prudent macroeconomic policies combined with productivity-enhancing structural reforms should allow the country to manage its fiscal issues while concurrently addressing growth-related reforms. Additionally, one of the related issues is China's "debt trap diplomacy" with other nations otherwise referred to as China's "Belt and Road Initiative". This entails China supporting large infrastructure projects in strategically located developing countries by extending enormous loans to their governments with the ulterior motive of gaining long-term influence over their economies and politics. Djibouti, Sri Lanka, Kyrgyzstan, Laos, Pakistan, Mongolia, and Tajikistan are some of the prime examples of this initiative. However, the plan could very well backfire for China in the wake of the country's own sovereign indebtedness leading to unrest at home.

What must be understood above all is that the global geopolitical and economic situation the world faces in 2018 has not been seen since before World War II (Krugman, 2009; SIC, 2017). Worldwide destabilizing events are currently impacting the entire globe far beyond simple economics and politics (e.g., the globalization of society). Examples of such events can include the growing militarization of foreign policy, continued conflict in the Middle East and the Ukraine, erosion of multilateral trading agreements, and even international cybersecurity attacks. The main message here is that the ever-changing global landscape creates a cascade of unexpected outcomes on national fortunes, including China's, which can easily disrupt even the best laid and well-intentioned plans.

Of special note for the reader to consider is the potential partnership between China and Russia over the coming years despite their long-standing mutual suspicion of each other. These two nations collectively possess great strength in the combined form of human and natural resources, innovation, technological development, and exporting power. It is possible these two nations working together could diminish many of the negative effects of contemporary globalization which is fast approaching its next natural stage of development (Sheffield, Korotayev, & Grinin, 2013). One poignant example regarding their collaboration can be found in the Chinese protest with the USA in September, 2018 over the former's purchase of Russian Sukhoi Su-35 fighter jets and S-400 surface-to-air missile systems. If history has taught humanity anything over time, it is that strange bedfellows can often create unusual circumstances in an unsuspecting world. As mentioned earlier in this chapter, geopolitics normally does not follow logical paths.

FUTURE RESEARCH DIRECTIONS

There are several suggested research directions based on this chapter that would be useful for future benefit by academics and practitioners alike. First is the development of an algorithm or related mathematical formula to quantify the combination of issues raised in this chapter. The purpose of this chapter has largely been to investigate the potential effects of contemporary globalism on China; however, this effort requires further exploration to include a *quantifiable* outcome. Therefore, enlisting the assistance of mathematical experts would enhance the work covered in this chapter and provide new insights for future research.

Examining the development of innovative cities today would help national and local governments in China to further develop their own. To date no Chinese city ranks in the Top 10 of the “Innovative Cities Index 2018”; in fact, Hong Kong ranks 27 while Shanghai ranks 35 on this list (Innovation Cities Program, 2018). Other cities such as London, New York, Tokyo, Los Angeles, and Singapore should be investigated to see why these have made the top of the list and implement a plan for China.

Investigating the “Middle-income Trap” as it relates to China would be very helpful to prevent the region’s major cities from falling into, and remaining in, this conundrum that has afflicted numerous other areas of the world in the past and present. The growth rates of transition economies such as China’s typically slow down substantially at GDP per capita incomes in current prices of US\$10,000 - \$15,000 after which future development becomes exceedingly difficult to achieve. China today has a GDP per capita income in current prices of approximately US\$10,000 at the end of 2018 and is expected to reach just over US\$15,000 by 2023 (Statista, 2018b).

Since innovation is one of the key components of sustainability in the 21st century, it would be of significant interest to further investigate the influence of language structure on innovation. Berman, Mudambi, and Shoham (2017) have conducted some studies on language structure and its effects on innovation, but they state more research should be done to support their findings. The Chinese language is considered one of the most difficult in the world and does not as easily integrate foreign concepts as some other languages like Japanese via its *kana* syllabary, which is largely believed to have allowed Japan to rapidly develop its massive military power before World War II because of long-term incorporation of foreign scientific and technological concepts from Europe and the USA at the time.

Finally, it would be worthwhile to analyze why global productivity has dropped in recent years and apply the observations or results to the Chinese economy via simulation of different scenarios. While there is argument among academicians and practitioners as to why this phenomenon has occurred, it is known that productivity-enhancing reform will be a key driver of long-term growth and jobs on a global scale as has been mentioned throughout this chapter.

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KEY TERMS AND DEFINITIONS

Disruptive Technologies: Technologies which significantly alter the manner in which businesses or entire industries operate.

Gini Coefficient: A measure of statistical dispersion intended to represent the income or wealth distribution of a nation's residents, and is the most commonly used measurement of inequality.

Globalization: The process that removes geographical boundaries and enables the economic integration and interdependence of national economies into the international economy through trade, foreign direct investment, migration, and capital flows.

Innovative Cities Index: A benchmark of the world's top cities with regards to innovation.

Kuznets Curve: The hypothesis that as an economy develops, market forces first increase and then decrease economic inequality.

Productivity: The effectiveness of productive effort, especially in industry, as measured in terms of the rate of output per unit of input.