

INTERNATIONAL COMPETITIVENESS, GLOBALIZATION AND TECHNOLOGY FOR DEVELOPING COUNTRIES: SOME REFLECTIONS FROM PREVIOUS RESEARCH

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ABSTRACT

Continuing this series of six articles in which the first and second research papers dealt with public sector management and the political economy of public policies in relationship to some insights from distortions to agriculture, third paper attempts to deal with and outline the importance of international competitiveness, globalization and technology in developing countries. The role of technology cannot be underestimated for public administration, governance, and for purposes of economic growth. In so doing the paper will examine key global trends and traces the impact of the rise of China on developing countries. The paper will therefore, attempt to show that technology is an important element of globalization and competitiveness and that, developing countries because of their lack of competitiveness and technological change cannot effectively participate adequately in the technological world. This by implication hampers the emergence of public administration and governance in developing countries. The paper is crystallized from the in depth work by Carl Dahlman 2006, which arose from a seminar in New York. The seminar dealt with the following issues – technology and economic growth; changes in regional competitiveness; high performers over the last 50 years and their strategies with particular reference to East Asian economies; a review of the BRICM countries (Brazil, Russia, India, China, and Mexico) which are the largest developing country economies. Developing countries find it difficult to compete with high performing East Asian countries because of the competitive environment and more difficult because of the rapid rise of China and to a lesser extent India. Finally some conclusions are discussed. It is hoped that these first three papers on public administration will rekindle the importance of the issues discussed. Although these papers are not original research, the works of celebrated authors in the compilation of these papers will assist in creating awareness, but more importantly, it is hoped that policy makers in the so – called developing world will utilize the strategies advanced in these series of articles.

Key Words: Economic Growth, Technology, Global Trends, Globalization, Strategies, Capabilities, Knowledge, Flexibility, Competitiveness, Challenges

INTRODUCTION

There is no doubt that the developing countries must out of necessity develop more technological capability and greater flexibility to succeed in the more demanding global environment. This is because globalization pressures and international competition generates protectionist retrenchment in both the developed and developing world. These should be resisted and controlled. It is therefore obvious that the developing countries focus on increasing flexibility for purposes of comparative advantage and, on increasing educational opportunities, infrastructure and technological capability and thus greater efforts are required to provide global balancing and transfer mechanisms. It therefore, becomes important to understand and reflect on the long term trends in respect of knowledge, technology and growth.

TRENDS IN THE LONG TERM

It is important to project upon the role of knowledge and development in terms of a historical perspective on the growth of population and the increase in average per capita income. Initially, the population growth was slow. Around 1500 the global population and per capita income began to increase simultaneously. This was due to better hygiene, harnessing of wind and water power for purposes of energy generation, irrigation, improved seeds and so on. The tremendous growth of population in the 1800's and onwards led to the development of the steam engine and this enabled the augmentation of fossil fuels and gave rise to the momentum and impetus of the industrial revolution, thus allowing for the expansion of products and services for the market. Improvements in agriculture released labour into the industrial sectors and scale economies emerged with new opportunities for advanced living and today are the hallmark of capitalist developed countries. Indeed, this was achieved also through the exploitation of the working class, slavery and the annihilation of many cultures and people's in the advancement of capitalist ideologies and the accumulation of unbridled wealth accumulation in the advancing economies that, seized on the new found opportunities offered by new technology. Electricity changed the dimensions of power and the penetration of lands hitherto unknown to man and released women into the workforce. All of this increased the length of the working day and transportation mechanisms, the telegraph, the telephone reduced distances thus enlarging markets and increasing communication. Development strategy in the modern world must therefore be based upon the evolving productive and developmental logic of information information technology and knowledge economies. Regrettably, the benefits of the historical advances have not been equally spread. Thus the unequal economic growth is to create more research capability in the developing world. These countries must make use of effective technologies.

Innovation is about facilitating new technology through global knowledge in the domestic context of developing nations. It revolves around acquisition, adaptation, dissemination and not just research and development. What then must developing countries undertake? It is a question of appropriate policies, institutions and capabilities that support innovation; therefore it should be the pursuit of these five activities that must be pursued by developing countries, if they are desirous of entering the first quarter of the 21st century and beyond, for purposes of joining the highway of development, innovation and success, if they want to compete with developed countries on an even footing.

USE OF KNOWLEDGE IN DEVELOPING COUNTRIES

The creation of knowledge is the result of research and development, but not all knowledge is the result of research and development. The acquisition of knowledge may be expected to yield higher increases in productivity. By the same token easy communication allows access to technical information. Despite significant proprietary constraints, much of the most useful

technology is in the public domain or owned by governments that, could easily put it in the public domain. It's not about acquisition but rather the challenges confronting delivery of technology and knowledge to those who need it. Technologies therefore, must be adopted for applicability to local conditions. This is very pertinent to agriculture and industrial technologies. In this regard there has to be a heavy investment upon skills necessary to adopt technology. The efficient use and dissemination of knowledge requires mechanisms to educate potential users in the benefits of the related technology. These efforts usually involve explicit training, demonstration projects, or technical assistance on how to use technology. It requires literacy and specialized training. It also requires inputs from supporting industries and access to finance for new equipment. Foreign technology owners are not always willing to license their cutting edge technology.

NOTE: In order to understand further issues the reader must read and consult the paper written by Carl Dahlman (2006) on the following issues:

- Global overview of changing competitiveness;
- Countries with successful long – term growth;
- The first wave of high performing East Asian economies;
- Strategies of the second wave of high performing East Asian economies;
- Strategies of the BRICM countries;
- Brazil still mostly a primary commodities exporter in spite of decades of government Research and Development effort;
- Mexico: Falling behind in spite of being next to the United States;
- Russia: Becoming a petro – economy with poor industrial competitiveness;
- India: Cautiously beginning to integrate into the global trade system;
- China: Embracing globalization.

The idea of this section was to trace the strategies of successful high performing economies. However, the simpler labour intensive outward oriented strategies that worked in the past are no longer as easy to replicate for two reasons. One is that the global context has changed significantly. Some of the new trends and their implications for developing countries must be seriously considered. The second is the speed, scale and scope of China's entry on to the global stage. In respect to these issues:

Note: The reader must read the following:

- Key global trends;
- Increasing the speed in creation and dissemination of knowledge;
- Trade liberalization;
- Globalization;
- Physical disintegration of production and the increased importance of integrated supply chains;
- Increased role of production and distribution;
- Changing elements of competition.

THE CHINA AND INDIA FACTORS

In terms of Purchasing Power Parity (PPP) and using PPP exchange rates, China is already the second largest economy in the world and India the fourth largest. China will become the largest economy, surpassing the US by approximately 2013, and India will surpass Japan, which is currently the third largest economy, by the end of 2013 / 2014. It is important to note that China and India are now large players in economic terms and they are going to be even larger because,

they are growing almost three times faster than the world average. What then are their strengths and challenges and their impact for potential growth on other countries? These are as follows:

- It's very large size, massive population and rapid growth.
- It has economies of scale.
- A government that has a long – term strategic vision.
- Can implement long - term plans.
- It is well integrated into the global system.
- It has the capacity to upgrade its technology very fast.
- It competes with the best abroad.
- It uses FDI to rapidly modernize its economy.
- It has a huge internal market and the potential to serve as an export platform.
- It uses the most modern technology.
- It has a large pool of engineers and scientists.
- It invests heavily in higher education and tertiary enrolment is reaching over 21 percent; 40 percent in mathematics, science and engineering. It has surpassed the US in this regard.

CHALLENGES:

In respect to challenges, the following are most salient:

- Increasing income inequality.
- Very large regional inequalities.
- State enterprises are shedding workers at the rate of 12 to 15 million workers a year.
- The absorption of rural migrants, in large numbers into the cities.
- Its financial sector is a weak area and a non – performing loan portfolio.
- Bulk of the funds, are channeled to the state enterprise sector.
- The social security system is not well developed.
- It has a rapidly ageing population.
- It faces serious environmental constraints.
- It is natural resource poor, especially on a per capita basis.
- Relies on imports from the rest of the world for a large part of its raw materials.
- It is the second largest oil importer, after the US.
- It has water shortage.
- The Gobi desert is moving towards Beijing with huge sand storms.
- Water and air pollution is a serious problem. This is exacerbated by rapid industrialization, and the volume of cars is a problem.
- A one party system as the country moves to a private market economy and the number of demonstrations has been rising.
- In spite of growth it has structural problems.

INDIA'S STRENGTHS AND CHALLENGES

- It is a rising economic power, but has not fully integrated with the global economy.
- It has a large domestic market and has a young and growing population and a strong private sector.
- It has a developed legal and financial system.
- Possesses a critical mass of highly trained English speaking engineers, businessmen, scientist and other professionals, responsible for the growth of the service sector.

- It has a service led industrialization programme.
- It has a highly bifurcated higher education system and its science universities are world class.
- The bulk of the higher education system produces low quality graduates.
- There are many political economy problems.

CHALLENGES

- The rapidly growing young population that will overtake the population of China.
- The average education attainment is low.
- Low literacy rates among the population of men and women.
- It has poor infrastructure in terms of power supply, roads, ports and airports and increases the cost of doing business.
- It has an excessively bureaucratic and regulated environment which increases the cost of doing business.
- It is constrained to react to changing opportunities and low education reduces workforce flexibility.
- There are constraints in allowing foreign investment because of poor infrastructure.
- Failure to compete internationally.

THE IMPACT OF CHINA ON THE REST OF THE WORLD

The speed, scale, and scope of China's economic growth are unprecedented in economic history. This has implications for the rest of the world, in terms of the global trading system. The technology intensity of its exports has been increasing very rapidly. China's merchandise exports surpass the US's and Germany as of 2006 and 2009 respectively. To analyze the impact of China's trade on the global system, it is useful to distinguish direct effects from indirect effects. Direct effects include the direct impact of exports and imports on other countries. The indirect effects include the impact of exports and imports on third markets, as well as any secondary effects that China's growth may have on the international flows such as direct foreign investment and finance. These are difficult to quantify but an attempt will be made to at least indicate what some of these may be for different countries. First, China is rapidly increasing its exports and also increasing imports. It is opening the opportunity for many countries to export to China, and also set up manufacturing facilities. The indirect impact of China's rapid expansion of manufactured exports is that they have helped to drive the price of many manufactured products down. This has diminished markets and profits for producers of those goods from other countries, and some have been driven out of business. The impact has been seen in the textile industry where China has a clear comparative advantage.

Developed countries probably have the most to gain from the expansion of China's trade. Developing countries in South East Asia have also been benefitting from China's growing trade. The more advanced economies, including Japan, Korea, and Taiwan are supplying capital goods and components for higher technology manufacturing. Middle – income countries of South East Asia present the biggest competitive challenge from China. The labour rich low – income countries, such as Vietnam, Cambodia, and some South East Asia countries, particularly India, may find that, as Chinese wages rise, some of the labour intensive production will be transferred to them. Latin American countries are likely to experience two different effects. Mexico and some of the Central American textiles exporters which have had preferential arrangements with the US, such as the Dominican Republic and Nicaragua, are already feeling the pain of increased competition. On the other hand Brazil is experiencing an export boom because of the increase demand from China. Because of a lack in education investment by Brazil and Mexico and

therefore do not carry out sufficient innovation to become competitors with China. African countries are likely to experience similar effects but even more pronounced than Latin American countries. Because of competition many factories are closing down. Given past experience and the low education and institutional capability in most African countries, the trajectory of African developed can be affected drastically. Aid agencies will have to factor in the implications of a much larger Chinese influence in Africa not just in the commercial and economic spheres, but also in terms of development assistance and policy advice.

CONCLUSIONS AND IMPLICATIONS

From the work undertaken by Carl Dahlman (2006), in his paper titled: Technology, globalization, and international competitiveness: Challenges for developing countries, this paper attempted to summarize his work, for purposes of synthesizing the important issues as concerns the subject matter. Emanating from the synopsis, the paper puts forward some conclusions and implications, under different headings for purposes of ease of reference. These are:

- Competition: The world has become more integrated through the expansion of trade, investment. And communication. The ICT revolution has led to an explosion in internationalization of services that can now be undertaken digitally. Productive life – cycles have become shorter and, production, distribution, and supply chains have become more integrated globally even as production has become more fragmented across countries.
- Efficient communications and information systems, including logistics: Goods and services need to go in and out of countries and very quickly delivered to customers. This has led to a speed in production and distribution systems, and response to customer demand must be immediate.
- Prerequisites to compete successfully in a demanding global system: it is not only a question of latest technologies or skills but the question of putting into place agile procedures and ways of doing business. Logistics is essential together with infrastructure. Many countries do not possess economies of scale for bulk air or sea shipping via the most direct routes to key markets. This excludes many developing countries from fast paced markets.
- China and India must reduce bureaucracy: they have highly trained people and Research and Development, large internal markets to play within global markets and, develop the rules for trade and investment. They can play an important leadership role for developing countries.
- Developing countries must position themselves: There has to be investment in human capital by improving education in all spheres. Investment in infrastructure as concerns physical infrastructure and new ICT infrastructure improvements in the economic and institutional regime, the rule of law, efficiency of capital and labour markets is essential. The improvement in governance. In order to respond to new challenges is of vital importance.
- Levels of development and economic, political and social structure: To examine how to make best use of resources and how to leverage them. To think and act more strategically. Learn from high performing East Asian countries, and how to make use of global knowledge and how to attract FDI, together with positive externalities from their investments.
- Increase in incomes between the rich and poor: The world effective labour force has doubled as concerns the global markets with the entry of China, India and the former

USSR. There is therefore, increased trade in goods and services, resulting in rapid technological change, the shifts in production locations and the redeployment of resources. This brings about adjustment pressures because of globalization.

- Increase in inequality: the gap between rich and poor countries is about 500 times. This is also the case in developed countries. The gap in incomes is increasing.
- A possibility of a backlash against globalization with the risk to move back to protectionist policies: this can start in Western Europe and spread to the US. Globalization could be a problem in the developing world because these countries are being left out. There is a feeling in Latin America that the Washington Consensus has failed. It will be a danger for both the developed and developing world to revert to protectionism, developing countries must display flexibility of their economies to adjust to changing comparative advantage by fostering creativity and innovation. Human capital must be improved and physical infrastructure to take advantage of trade opportunities.

CONCLUSION

There are large asymmetries in the global rules of the game and in the distribution of income and wealth. The least developed countries are falling further behind. The global system is not benefiting all equally. More efforts need to be made to open up possibilities for the disenfranchised. These challenges are real in terms of technology, globalization and international competitiveness. There has to be sustained intervention, coordination and understanding on the part of the West, China and India that, they must contribute to the development of classical developing countries and cannot monopolize the creation of wealth. A lack of realization of this issue can plunge the world even into greater distress and prolong the recession and thus stymie the emergence of developing nations in respect of development and economic growth.

ACKNOWLEDGEMENTS:

This paper emanates from discussion by the authors, in the sense that it was decided to summarize Carl Dahlman's (2006) paper. As such it does not add much to the discourse in respect to new material. It was further decided that this paper could not be left out of the series of articles for obvious reasons, because the paradigm of public administration will be incomplete in respect of this series of articles. Our sincere thanks go to Carl Dahlman, for the use of his work. The principal author, Professor Anis Mahomed Karodia thanks all the other authors for their inputs, observations and inputs, in the preparation of this article. It was a difficult exercise to synthesize, crystallize and project upon Dahlman's comprehensive research and even more difficult to leave out some of the issues discussed by him in great length. We feel satisfied, on the basis that this paper makes up, part of our series of articles on public administration discourse and analysis, in the contemporary world.

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PLEASE NOTE:

1. The paper does not reference within the body of the article, but has synthesized the intellectual discussion in summary form.
2. The bibliography used by Carl Dahlman in the preparation of his article is provided hereunder.
3. Carl Dahlman has used extensive notes in the preparation of his article. Readers are requested to consult the paper directly, for the notes used.

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