

Meaningless Europe?

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Abstract

Many economists, politicians and strategy analysts notice that the rise of China or emergence of BRIC countries as a new powerhouse may pose a threat to Europe's or U.S. role in the global economy. But many also argue that the standard of living in Europe can be preserved amid Europe's thought leadership, ability to innovate and create new products and services. Middle and low income countries are seen as the FDI target and the source of cheap labor. Author deeply disagrees with such a view and presents evidence that without major reforms Europe is making rapid progress towards becoming meaningless in the global economy of the 21st century. While Europe is stuck in never ending debates about its future, Asian countries are making a rapid progress by making strategic alliances with African countries, which is a very sound investment in the future relationship capital. Asia is also making rapid progress in building other parts of intellectual capital, and is very likely to become the global innovation centre in the coming decades. Finally, Asia is making efforts to develop deep and well functioning financial markets, which will leverage the region's growth potential. By making the analogy to the 20th century growth divergence between U.S. and Argentina, author calls on Europe's authorities to wake up, if Europe does not want to become the Argentina of the 21st century.

¹ Author is a Deputy Governor of the National Bank of Poland and a member of the Polish Financial Services Authority. This paper is based on the presentation author made at the conference "The Future of the European Regions", held in Warsaw on 31 May – 2 June 2007. The views presented here are those of the author and do not necessarily represent the official position of the NBP or the PFSA. In depth discussion of the issues presented in this paper can be found on the author's blog www.rybinski.eu.

1. Introduction

The direct motivation to write this paper came from professors Grzegorz Gorzelak² and Antoni Kuklinski³, who invited the author to speak at the conference “The Future of European Regions” held in Warsaw on 31 May – 2 June 2007. The goal of the conference presentation and the goal of this paper are to present overwhelming evidence that China and more broadly Asia is quickly improving its capability to achieve success in the global knowledge economy of the 21st century, and that Europe lacks ability to meet this growing competition in the coming years⁴. The goal of this paper is not to provide a very broad discussion, author rather aims to highlight the key points and back them with appropriate data.

The paper begins by looking briefly at past episodes of growth divergence, which may be a relevant lesson for the future. Then it describes the present situation, focusing on stark differences in terms of knowledge momentum in Europe and in Asia, and the looks into the future. Paper ends with conclusions and policy implications.

2. The past, and why it is relevant

Few people would remember that back in late 19th century Argentina and the United States had similar level of GDP per capita, although the credible data starts from early 20th century with about 80 percent of U.S. income level enjoyed by an average Argentinean. Then in the following hundred years the level of GDP per capita declined to about a quarter of the U.S. level. Author will not discuss here why this happened, or more broadly why the ratio of income between richest and poorest countries increased by factor of five in the 20th century⁵. But this history lesson is a very powerful one. Wrong policies may lead to economic misery lasting for a century, while other parts of the world may enjoy robust growth and economic prosperity. It is also worth mentioning a very relevant contribution by Paul Romer⁶ which states that knowledge is a very important input for production and that large countries can grow faster than small ones. Romer postulated that knowledge as an input exhibits increasing returns to scale and that in contrast to capital and labor, which can be employed only in one place at a time, there is a property of non-rivalry of ideas, which can “work” in many places at the same time. Because the likelihood of emergence of new ideas is proportional to the

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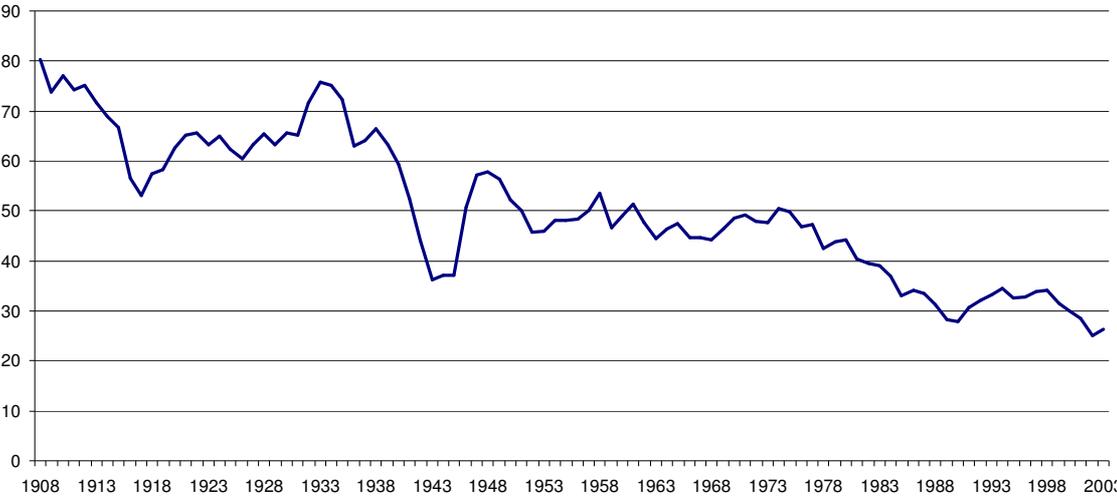
⁴ This paper build also on the evidence presented in the book Rybinski (2007), in Polish.

⁵ See for example Pritchett (1997). Abramovitz (1986) and Baumol (1986) are pioneering contributions explaining long-term growth differentials.

⁶ Romer (1986). In-depth discussion of Romer results in the context of the global knowledge economy is presented in Rybinski (2007).

number of researchers, Romer concluded that big countries will grow faster than small ones. However, in the 21st century this is only partly true, as we saw an emergence of the global market for knowledge, and ICT deepening makes it possible for research teams located in 5 or 10 countries work efficiently together. But still, with this remark in mind, only those countries and regions that are able to generate enough knowledge in-house and are able to efficiently source ideas from the global knowledge pool will succeed and prosper in the 21st century. Others risk repeating the Argentinean case.

Figure 1. GDP per capita in Argentina, according to PPP, United States level = 100



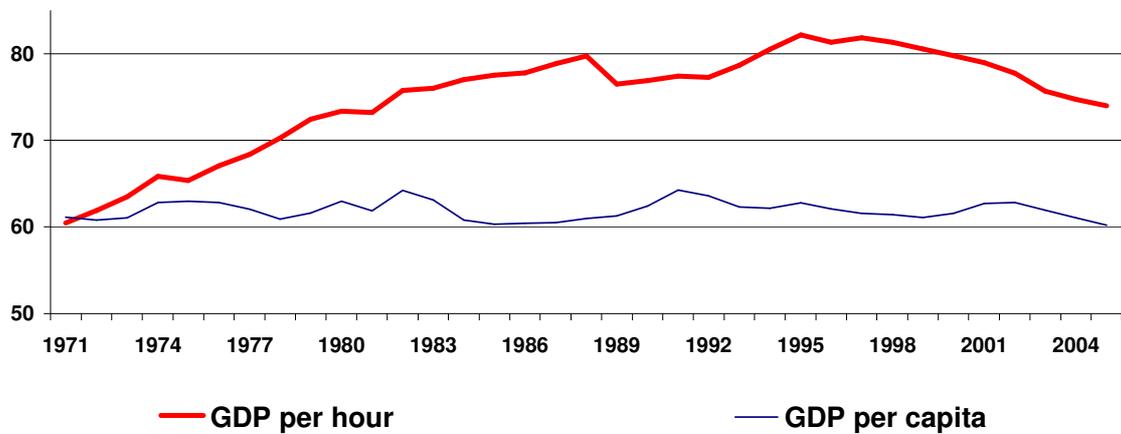
Source: Maddison, Historical Statistics for the World Economy.

3. Europe’s poor performance

In the last 30-40 years Europe has failed to catch up with the United States and it was actually loosing ground in the last decade, which is illustrated in figure 2. There is voluminous literature on the sources of this divergence in the last 10-15 years between U.S. and Europe. It is worth mentioning two contributions: Ark, Inlaar (2005) and Ark (2005) showing that this difference in growth performance maybe to a large extent explained by differences in productivity growth in services sector, which grew much faster in the U.S. than in Europe. Sector which contributed to this productivity growth differential were wholesale and retail trade, securities trading and banking. Retail and wholesale trade productivity improvements are often called a Wal-Mart effect, which is a good example of a company that excels in turning innovations into a successful business model in the global economy⁷.

⁷ See Basker, Van (2005), Neumark, Zhang, Ciccarella (2005) or broad discussion in Rybinski (2007).

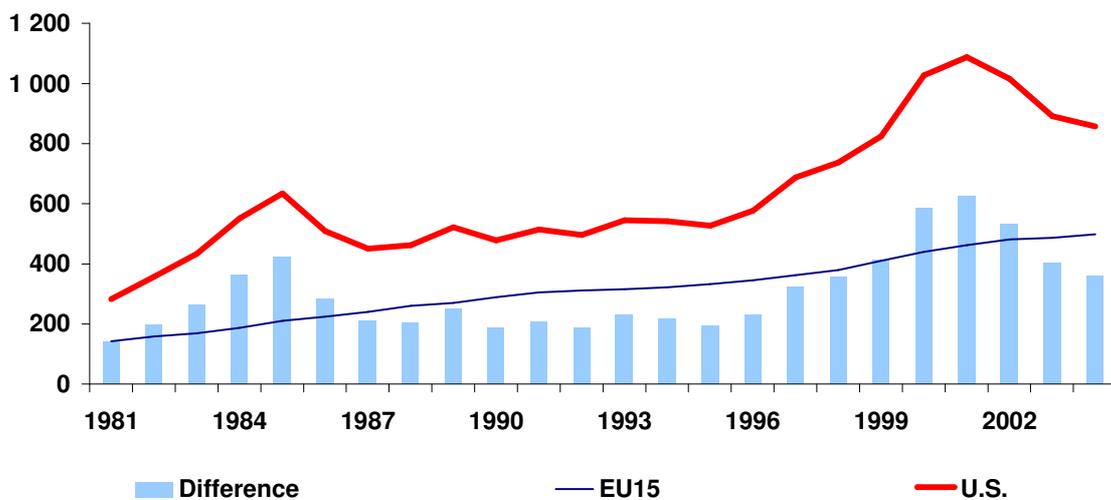
Figure 2. GDP per hour and GDP per capita in the EU-15 (U.S. = 100, constant prices, PPP)



Source: Groningen Growth and Development Centre and the Conference Board, Total Economy Database, January 2007, <http://www.ggdc.net>

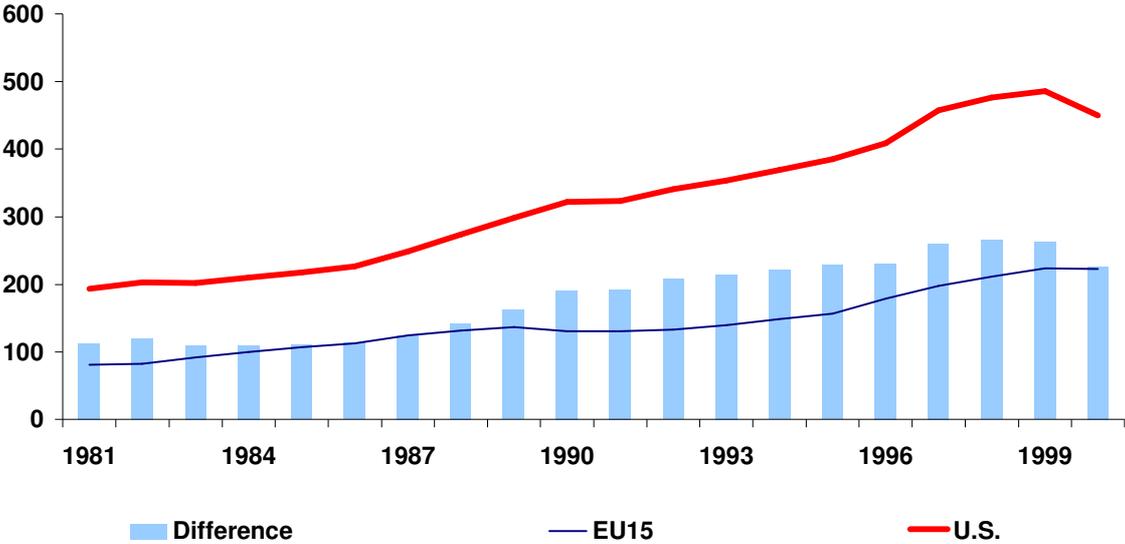
While in 2006-2007 Europe has experienced a cyclical rebound, which led some politicians to hail victory and announce the end of the dull period, author disagrees. Available data describing Europe's ability to create new knowledge, the very crucial growth input in the knowledge based economy, suggests that Europe's ability to generate innovations has been deteriorating in relative terms, as shown in figure 3 and 4 presenting R&D spending and patent applications.

Figure 3. Total R&D spending per capita (in ECU/euro)



Source: Eurostat

Figure 4. Patents applications to EPO and granted by USPTO, per million of inhabitants



Source: Eurostat

As documented above the knowledge creation intensity in Europe is significantly smaller than it the United States and at the same time R&D spending is significantly smaller, which will translate into further widening of the innovation generation ability between U.S. and Europe.

One could argue that Europe can afford to be less innovative because it makes better use of other available production inputs such as capital and labor. This is not true, as documented by Edward Prescott in his paper “Why Do Americans Work So Much More Than Europeans”⁸ and illustrated in figure 5 below.

While in 1990s output per hour worked in Europe has improved significantly in comparison with 1970s, hours worked dropped dramatically and as a consequence output per worker fell slightly in two biggest EU economies to below 75 percent out average output of U.S. worker.

One can sum up, that Europe is not only less capable to create new knowledge than U.S., but it also got lazy. Again some people could argue that there is nothing wrong with this life style, Europe has developed its social model and is now enjoying life. Author would argue that this lifestyle cannot be maintained, and developments taking place in Asia in recent years will put and abrupt end to Europe’s social dream in the next few years.

⁸ Prescott (2004)

Figure 5. Output per person and hours worked in large EU countries relative to the U.S.

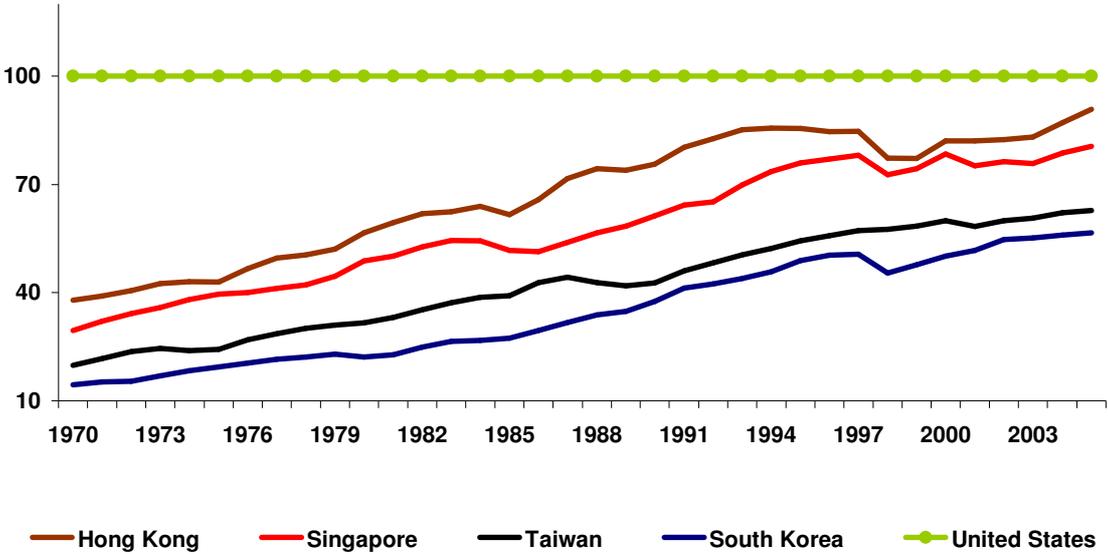
| Period | Country | Relative to U.S. (U.S.=100) | | |
|---------|----------------|-----------------------------|-------------------------|------------------------|
| | | Output per person | Hours Worked per person | Output per Hour Worked |
| 1993-96 | Germany | 74 | 75 | 99 |
| | France | 74 | 68 | 110 |
| | Italy | 57 | 64 | 90 |
| | United Kingdom | 67 | 88 | 76 |
| 1970-74 | Germany | 75 | 105 | 72 |
| | France | 77 | 105 | 74 |
| | Italy | 53 | 82 | 65 |
| | United Kingdom | 58 | 110 | 62 |

Source: Prescott (2004).

4. At the same time in the different part of the world ...

So far we presented evidence that in the past some regions lost ground amid poor policies and that in recent decades Europe was losing ground to United States. In this section author will show that many Asian countries embarked on a rapid growth path and are quickly closing the income gap with the United States, see figure 6.

Figure 6. Asian Newly Industrialized Economies GDP per capita (PPP, U.S. = 100)

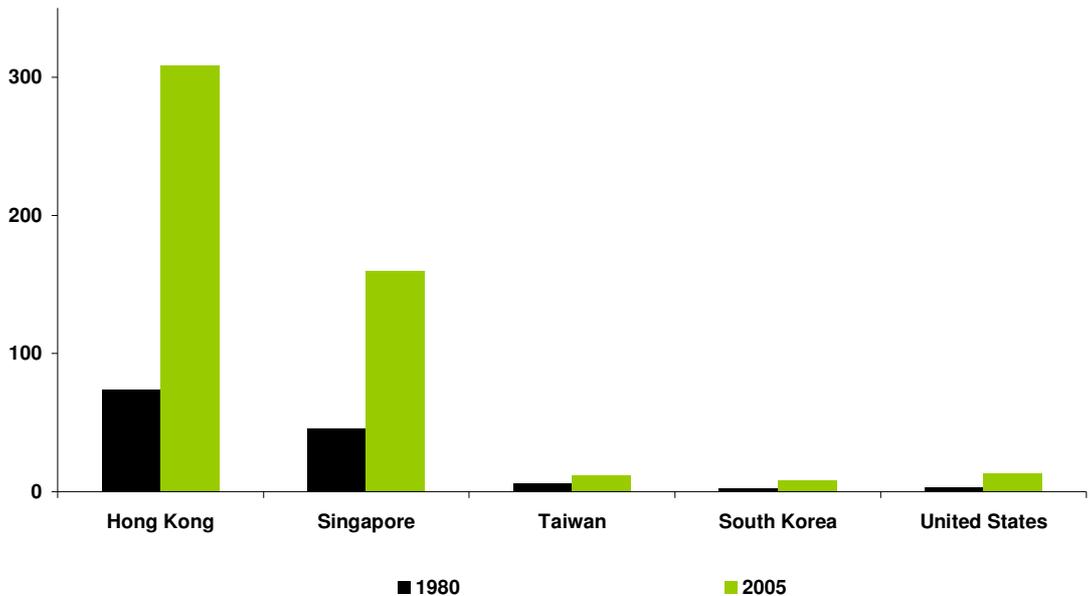


Source: Groningen Growth and Development Centre and the Conference Board, Total Economy Database, January 2007, <http://www.ggdc.net>

This situation calls for deep analysis. What factors have contributed to this enormous success of Asian NIEs, which improved radically their standard of living, massively reduced poverty and some countries very likely to exceed U.S. income per capital level in near future.

In this section author briefly presents a standard Washington consensus⁹ type of explanation, and will present the description of the most important factor, ability to innovate, in later sections. Asian countries were successful in attracting foreign direct investment, which contributed to knowledge transfer, created many jobs which required higher qualifications and created positive vertical spillover effects. Indeed in Singapore and Hong Kong the stock of inward investment topped the GDP level, in Hong Kong three times, while in other economies investment stock to GDP ratio has doubled (Taiwan) or quadrupled (South Korea) between 1980 and 2005.

Figure 7. Inward FDI stock in percent of GDP in 1980 and in 2005



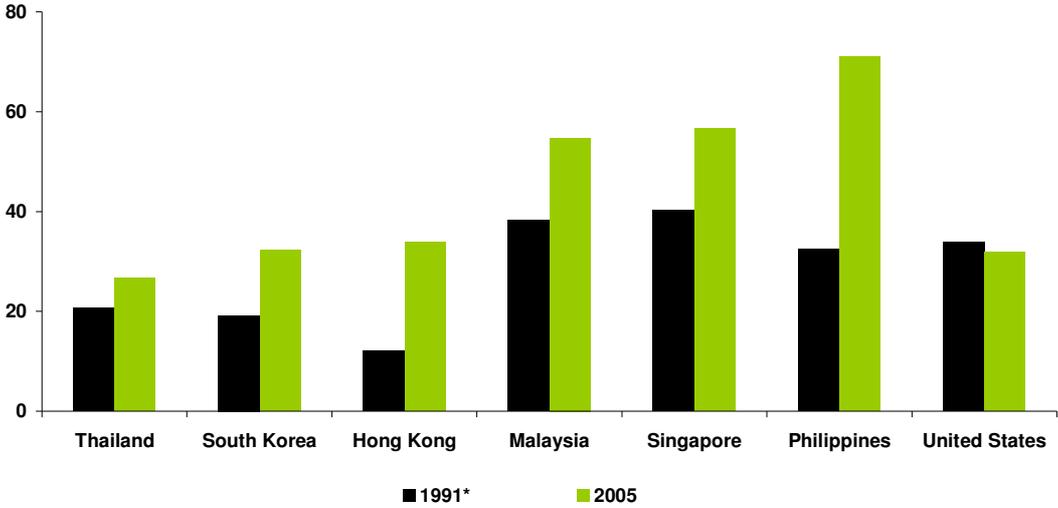
Source: UNCTAD

This strong inflow of foreign direct investments has contributed to a significant change in value added of production, with production and services pattern changing towards more advanced goods and services. This was particularly pronounced in the case of exports, with the share of high technology goods¹⁰ rising fast in 1991-2005 period, see figure 8.

⁹ See Rodrik (2005) for a definition and a critical discussion of Washington consensus.

¹⁰ High technology goods are products of the following sectors: aerospace, computer, electronics, ICT, pharmaceuticals, machinery, chemicals, scientific instruments.

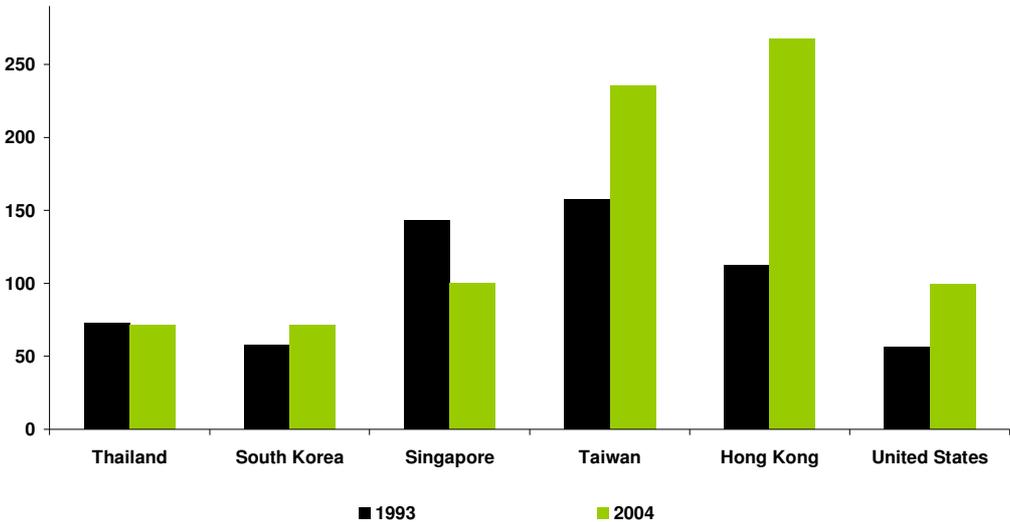
Figure 8. Share of high technology goods in country manufacturing exports



Source: World Development Indicators. World Bank, * Hong Kong: 1992.

Asian NIEs success in attracting FDI and in developing ability to export high value added goods was combined with development of deep and liquid financial markets which helped to allocate capital to efficient projects, reduced the cost of investment and stimulated investment led growth¹¹. As shown in figure 9 in many countries the ratio of stock exchange turnover to GDP has exceeded significantly the same ratio in the United States.

Figure 9. Stock exchange turnover, percent of GDP



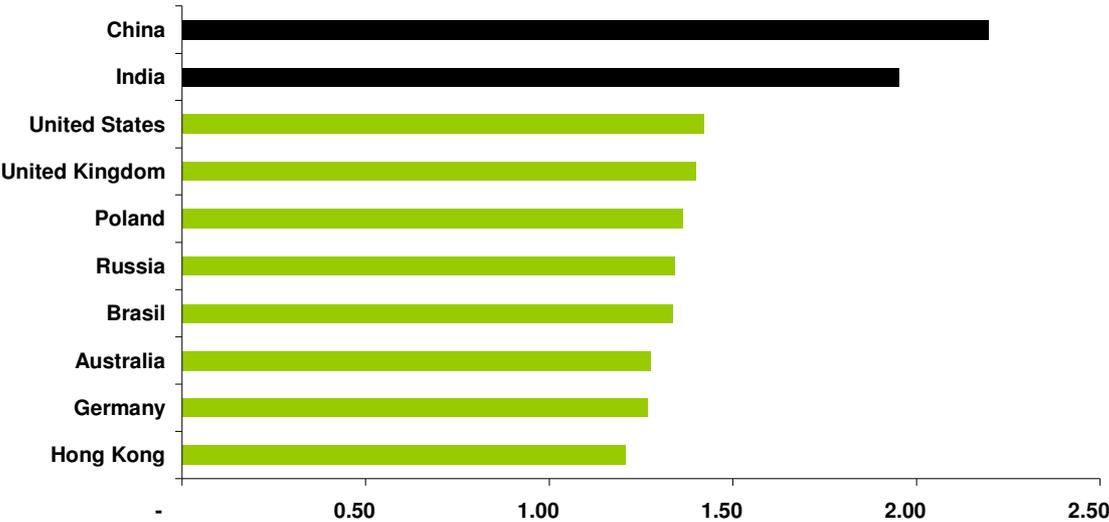
Source: IMF IFS, World Stock Exchanges

¹¹ There was a brief period of poor allocation of resources to investment in some Asian countries, which led to Asian crisis in 1997. Description of this event is beyond the scope of this paper, author’s view on Asian crisis can be found in Rybinski (1998a) and Rybinski (1998b).

5. At the end of the 20th century the new power emerged, Chindia

While eyes of many investors were focused on rapid advancement of Asian NIEs, at the same time, quietly, China and India, often called Chindia, emerged as new powers of the 21st century. Both countries have populations exceeding 1 billion and have been growing at a very rapid pace in recent years, in the case of China at a pace close to or even exceeding 10 percent per annum. Both countries became top destinations for foreign direct investments as illustrated in figure 10.

Figure 10. FDI confidence index in 2005.

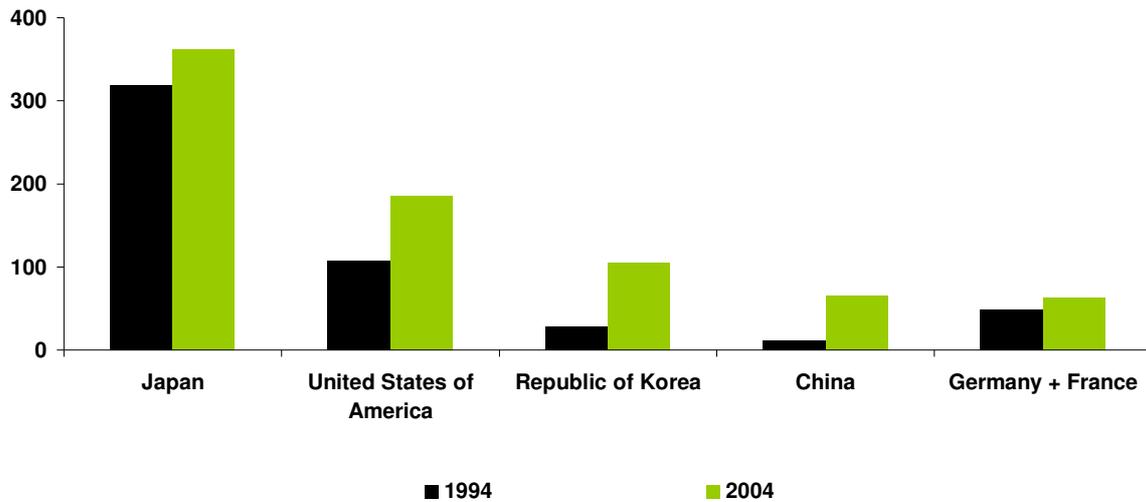


Source: AT Kearney.

This FDI confidence statistics is not enough to assess the country growth potential in the knowledge economy, as many investments may simply benefit from cheap labor and may not be associated with a significant knowledge transfer. This is not the case, a very broad discussion supporting this view is presented in Rybinski (2007), here author will only show two bits of data, which suggest that Chindia is quickly catching up with global leaders in research and innovation, such as Japan and United States, and is very likely to challenge those leaders in the next few years.

Firstly, in a survey presented in UNCTAD 2005 World Investment Report conducted among companies which are world the largest R&D spenders, China and India were ranked number four and number six respectively as a most favored location of R&D efforts. United States, United Kingdom and France opened the list, and Japan was ranked fifth.

Figure 11. Number of patents registered by residents (in 1000s)



Source: WIPO database.

Secondly, as presented in figure 11 Asian countries have already become major world innovators as measured by the number of patents. Not only Japan, traditional world innovation leader, but also Korea and recently China have become world innovation powers. In 2004 Chinese residents have registered more patents than French and German residents combined. Of course this is a very simple data, which does not take into account the importance of innovations. It may still be the case that most important innovations are created in Japan, United States and developed Europe, but author has no doubts, that in the coming years China will become world innovation leader and that the likelihood of disruptive innovations emerging in China will rapidly rise.

6. Who will be the winners of the knowledge based 21st century?

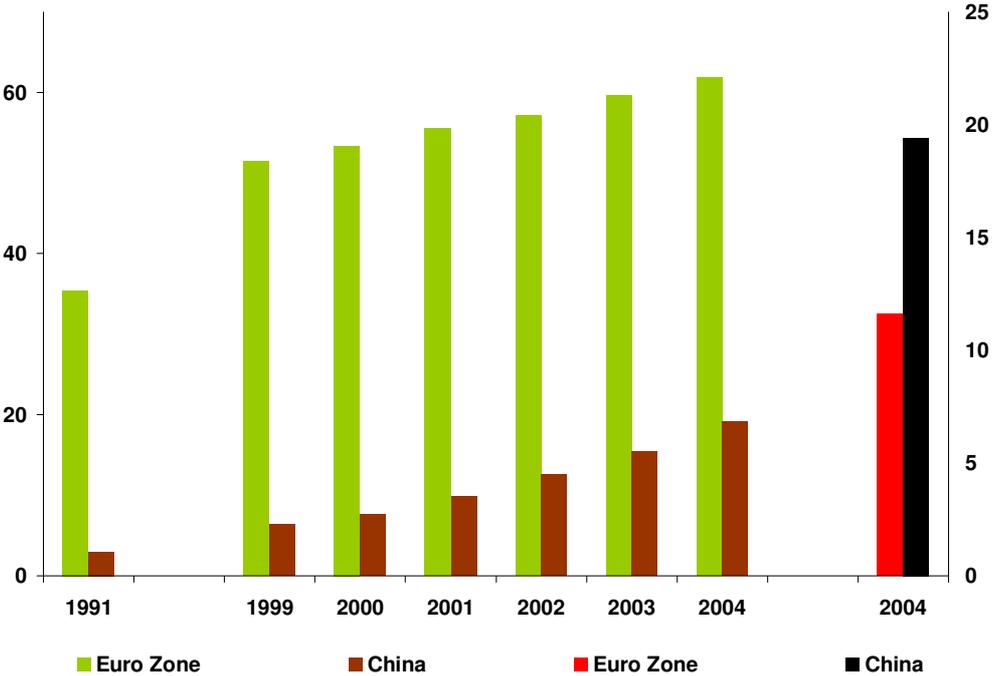
Before answering the above question author will present few important indicators which shed some light on what the answer might be. But first let's introduce the concept of intellectual capital, which encompasses three dimensions: knowledge capital, structural or organizational capital and relationship capital¹². **Knowledge capital** refers to formal knowledge acquired at school or university, to experience gained at work and to tacit knowledge. **Structural capital** encompasses capital of processes in organization, innovation capital (such as patents), and organizational culture, for example flat corporate structure, knowledge-sharing attitude, sharing common vision and goals. **Relationship capital** refers to relations with clients,

¹² For broad discussion of intellectual capital see for example Marcinkowska (2004), Kasiewicz et al. (2006) (both in Polish) or Skyrme (2003).

suppliers, it describes both the client base but also the clients potential¹³. Intellectual capital can be measured, and this measure can refer to companies, cities, regions and entire countries. It is important to note, that the crucial input factor behind success in 21st century will be intellectual capital, and while knowledge is an important part of it, very low rating of relationship or structural capital may reduce significantly company or country ability to innovate¹⁴.

A very important indicator of the future knowledge capital is the current level of tertiary education. Again author is aware that it is a very crude measure, because when signals are distorted there may be many students choosing “wrong” fields. To make things complicated it is hard to say what is wrong. U.S. students preferences to major in recreation and to avoid tough engineering studies may be right or maybe wrong. It suggests that U.S. has a good chance to become world massage center, but maybe this is reasonable to invest in leisure services in the future.

Figure 12. Tertiary education



Note: Left scale shows total tertiary enrolment as percentage of population in the age corresponding to the tertiary level of education. Right scale shows tertiary education participants in China and in the Eurozone, in millions.

Source: World Development Indicators, World Bank, UNESCO Institute for Statistics

¹³ Increasingly innovations in both the private and the state sector are client-driven
¹⁴ As an extreme case imagine that a company has a genius innovator, but the ill silo-based corporate culture makes it impossible for decision makers to find out that a great innovation has been developed. In this case high level of knowledge capital is not enough to achieve success amid extremely low level of structural capital.

But keeping above remarks in mind it is worth taking a look at tertiary education data presented in figure 12. It shows that tertiary enrollment is becoming more and more popular in China. And because China has a long family tradition of investing large family resources in children education, with rising income level one should expect that Chinese young generation will become better educated, and that this progress will be rapid rather than gradual also because recent rapid increases of wages for middle level managers in China and India raised return to education big time. But even today, Chindia already has six million graduates per year and China alone graduates 600,000 engineers per year¹⁵. Even if only some 10 percent of them would qualify for immediate employment in multinational corporations, the law of large numbers and financial incentives do work and this pool of well educated and capable engineers/innovators in Chindia is expected to expand rapidly in the coming years.

Of course growth in particular country is a consequence of successful growth strategies pursued by companies located in this country, think about Finland and Nokia as a good example. One caveat applies here, in a global knowledge economy any company that is a success candidate has to go global one day. In May 2006 Boston Consulting Group published The New Global Challengers Report, which listed 100 companies from rapidly developing economies which will likely become global winners of the 21st century¹⁶. 44 companies on this list are from China, 21 companies from India, 12 from Brazil, 7 from Russia, 6 from Mexico, and several from other countries. These companies engaged in over 200 outbound M&A transactions over the last five years. In 2006 Fortune 500 list had 163 European firms and 44 Asian firms, of which 20 from China. In 20-30 years proportions these will be dramatically altered. It is high time to learn new future global giants' names: Hunlan, Dongfeng, Huawei, Lenovo, Mahindra, Satyam, Tata, Wipro and many others. They will replace today's European giants, so some names that were with us for many decades and we treated them as a permanent element of European economic landscape will be gone or taken over.

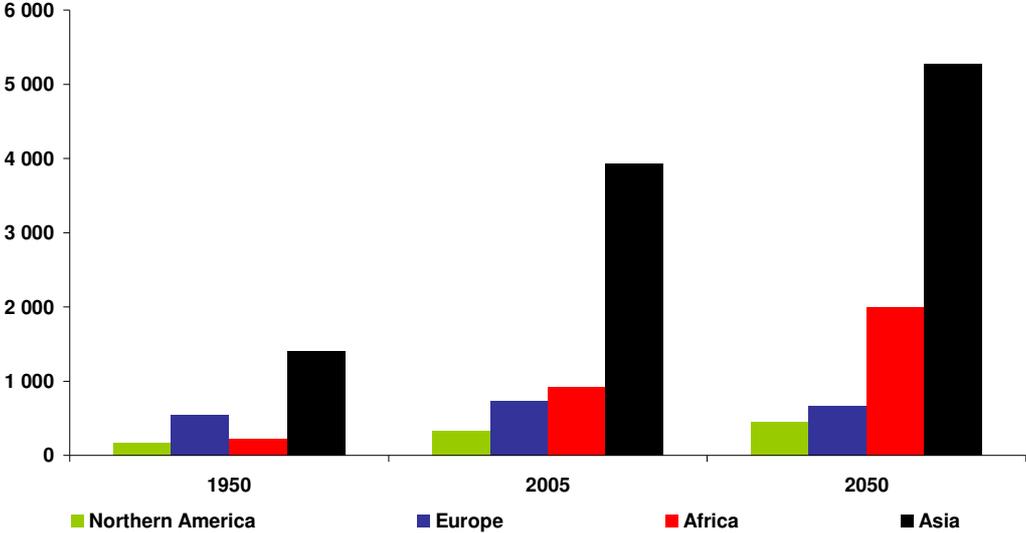
Demographics will also work in favor of Asia. According to United Nation demographic projections by 2050 population in Asia will grow by 1.3 billion, in Africa by 1 billion and in

¹⁵ Reported after Deutsche Bank research

¹⁶ Detailed description of the methodology used in BCG report is beyond the scope of this paper, please refer to Aguiar (2006)

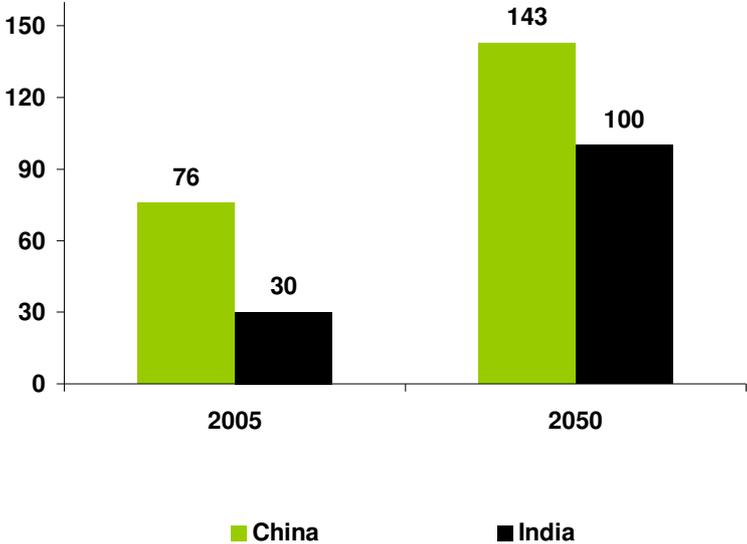
Europe will decline by 70 million¹⁷. Higher productivity and better demographics will push China and India GDP to levels above the U.S. GDP, according to many forecasts.

Figure 13. United Nations demographic forecasts (mln)



Source: UN demographic forecasts

Figure 14. Relative GDP (PPP, U.S. GDP = 100)



Source: Hawksworth (2006)

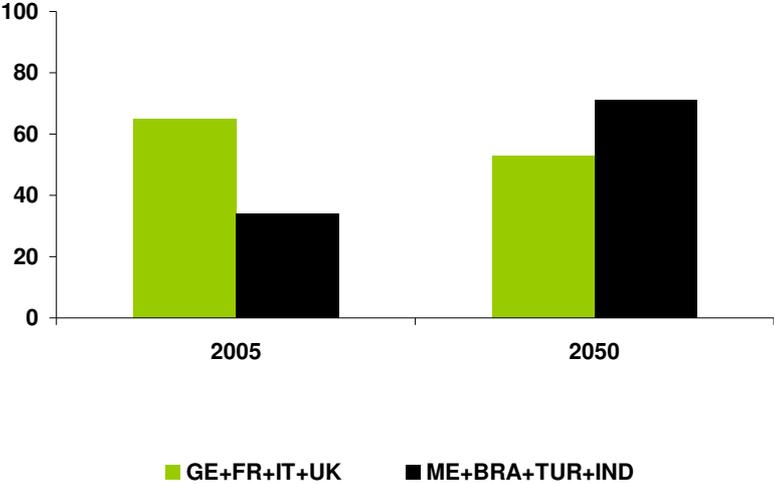
This relative size change will be broad based. Some countries that played global powerhouse roles in the last 20-30 years will loose importance and will be outgrown by emerging markets.

¹⁷ More recent forecasts predict a much smaller decline in European population amid improved fertility in some countries: UK, France, Scandinavia. See The Economist (2007).

Figure 15 shows GDP forecasts in 2050 of Germany, France, Italy and UK (combined) in comparison with Mexico, Brazil, Turkey and Indonesia (combined).

When I presented this evidence at the conference someone responded that these growth forecasts are not worrying, that Europe will be smaller but will remain the world center of excellence and innovation, and it should allow to keep the standard of living. I have already showed that with respect to knowledge capital this claim can be easily challenged, and Asia will soon become a dominant global innovation center. Unfortunately the same can be said about relationship capital.

Figure 15. Relative GDP (PPP, U.S. GDP = 100)



Source: Hawksworth (2006)

While European Union engages in endless debate about its future, how to calculate votes, should it have common foreign policy, etc. at the same time China is pushing hard its efforts to build relationship capital. Demographic forecasts suggest that Africa will become very important part of the global economy in 21st century. China has established a special fund of 20 billion dollars to leverage Chinese companies expansion in Africa. It held an African summit, which was an unprecedented event when 41 top African leaders sat at the round table to discuss Africa future with Chinese authorities¹⁸. China builds close ties with the Gulf region securing energy supplies, and it expands activity in FSU countries. Endowed with foreign exchange reserves topping 1.3 trillion dollars in mid 2007, China has enough

¹⁸ Issues related to Asia – Africa relations are discussed also on authors blog www.rybinski.eu. Discussion of the China-Africa summit can be found at the following address: <http://www.rybinski.eu/?p=241&language=en>, the post is titled “When Asia meets Africa Europe does nothing”.

resources to fund a very rapid expansion overseas. This triggers harsh response from the U.S. and from European authorities, which leads to protectionist actions and protectionist legislation. Landmark transaction, in which China bought a USD 3 billion stake in Blackrock, one of top private equity houses led to widespread worries that such vehicles can be used to gain control over strategic companies or industries. Chinese authorities stated that they were passive investors but it did not ease concerns, that such cross-border transactions should be monitored or even prohibited.

These protectionist actions are wrong-footed and will lead to acceleration of China expansion in Africa, Asia, Latin America and even in emerging Europe. While Europe and U.S. will focus on inward oriented policies, to protect their markets from Chinese equity capital, Chinese will continue to build relationship capital on the global scale, further advancing their capacity to create innovations and raise productivity.

Finally, the quick development of deep, liquid and well functioning financial markets will lead to more capital flowing to Asia, and relatively less capital being invested and raised in Europe and in the U.S. Already IPO statistics, or turnover data show that Chinese stock exchanges dwarfed many European markets, and this process will accelerate if recent talks about strategic alliance between Hong Kong exchange and China mainland exchanges become reality.

In order to illustrate that this process can be very fast consider the following data. In 2005 turnover on Shanghai and Shenzhen exchanges was at the 2 percent level of turnover on U.S. exchanges, while London stood at 23 percent. The same data reported by Financial Times on 9th May were 40 percent for China and 24 percent for London. Within eighteen months China dwarfed London, the European financial centre and dwarfed all other Asian exchanges taken together¹⁹.

This paper will not elaborate on the Chindia problems. They are well known. Poor property rights protection in China, air and water pollution, extreme rural poverty in China and India, poor infrastructure in India, little respect for human rights in China, infant employment, to name a few. However an incredibly rapid progress made in China in the last ten years, and the fact that China has more financial resources than ever suggests that many of these issues will be tackled and solved, some of them with a possible emergence of disruptive innovations.

¹⁹ Authors is aware that turnover data may be affected by very large popularity of stock investments among Chinese households, which leads some to conclude that there may be a speculative bubble building in China. Discussion of this issue is beyond the scope of this brief paper, but the large amount of big IPOs and planned strategic alliances, which should lead to improved governance standards make this claim less likely.

As documented here the answer to the question who will be the global winner in the 21st century is one word: Chinafrica. With such perspectives there is one very important question: what should be the Europe's response?

7. Can the old fat European dog bark at the Chinese charging dragon?

The answer is yes, it can, but it needs a vision and a strategy. What? Many eyebrows would go up after reading the previous sentence. Europe has a vision and a strategy. It is called "revived Lisbon strategy". Europe even has action plans and SMART goals.

This "Europe's strategy" looks good on paper, but it is not enough. Europe has to understand that:

1. Intellectual capital will be a crucial factor of country or region prosperity in 21st century
2. Europe has to function as well managed global enterprise, with executive sharing the same vision and goals, with countries-departments cooperating rather than competing to meet these goals, with citizens-workers understanding what is their contribution to meeting these goals.
3. Doing things the same way as in 20th century will not be good enough to succeed in 21st century. Europe needs courage, needs thinking outside the box.

Author does not have the answers but will try to sketch on the next page what this new approach might look like.

In Europe we are great talkers. We talk, we negotiate, we monitor, supervise and control. In Asia, and particularly in China they are great visionary and strategists. They create a shared vision, set goals, plan proper actions and execute. Europe still spends half of its common budget on farming subsidies. Asia spends increasing amounts on creating intellectual capital. Europe has to wake up, unless it does want to become Argentina of the 21st century.

Many papers begin with a motto. This one ends with a saying by Sun Tzu:

"All men can see the tactics whereby I conquer, but what none can see is the strategy out of which victory is evolved".

Sun Tzu, The Art of War

(see the text frame on the next page).

New Vision

Europe to become headquarters of the world service hub

Ideas are generated in Europe, simpler part of business processes are sourced in the world

Specific actions

- Open European labor markets fully to innovative minds (IMs), especially for those with innovation track record
- Create conditions such that innovations will breed (huge salaries/performance bonuses, IM social safety, spouse program for each IM, infrastructure supporting research)
- Launch a program to source IMs from universities/institutes worldwide
- Create European network of IMs
- Create markets for innovations
- Make innovations funding easy
- Create markets to hedge risks related to innovation process (e.g. Innovation Default Swaps – similar to Credit Default Swap)
- Teach innovation from primary school to university
- Make a rule that nobody graduates without producing innovation, new idea (encourage team-work, extra points for intercontinental / multinational teams). New innovation could range from new business process, new computer algorithm, to new cozy logo for a cellphone or a washing powder that does sell
- Make a rule that every student has to spend one year outside the country (provide adequate funding) to build global relationship capital
- Make government a source of innovation (e-government for example, look in Dubai or Singapore for good examples)
- Change GDP accounting: start treating wages and bonuses of IMs and R&D outlays as investments, not as costs

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