Briefing Memo

Prospect of Demographic Trend, Economic Hegemony and Security: From the mid-21st to 22nd Century

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The "Age of Asia-Pacific" has been advocated since the end of the Cold War. In recent years, the U.S. has set forth "rebalancing" its security posture toward Asia-Pacific. This will deeply affect the direction of Japan's security policy, but with a view to the mid and long term, aspects different from a general view of economic hegemony become clear. In this paper, from a viewpoint of economic hegemony and national security, the hypothesis that the 22nd century will again become the "Age of Atlantic," is discussed based on the long-term predictions of demographics and Gross Domestic Product (GDP).

1. Transition of economic hegemony from A.D. 1 to the present time

In pre-industrial agriculturally based economic societies, there were no great differences in productivity per worker. Therefore, population had long been the source of national strength for the greater part of human history. Figure 1 shows the transition of GDP (purchasing power parity: PPP) per capita of eight nations/regions (U.S., Russia/U.S.S.R., China, India, Japan, Western Europe, Latin America and Africa) from A.D. 1 to 2050 (the African average = 1.0). In A.D. 1, the GDP per capita of the Western Europe was the highest due to the prosperity of Italy (the Roman Empire). Nevertheless, it was only 30% higher than the world average. In the medieval period, however, national differences between respective regions shrank and the GDP per capita of Western Europe fell below China and India. Additionally, in this era, the GDP per capita of Western Asia which had inherited the intellectual legacy of ancient Greece and Rome and built Islamic Empires, had become the highest in the world (about 1.5 times that of Western Europe).

During the Renaissance, however, once again Western Europe which enjoyed developments in Mediterranean trade, finance business and woolen textile manufacturing surpassed other regions. For example, the GDP per capita of Western European nations in A.D. 1500 seems to have reached double that of the North America (present the U.S.) which was the lowest in the eight countries/regions at that time. This period, so to speak, was the "Age of Mediterranean." This situation changed dramatically in the latter half of the 18th century when European countries which entered into the Industrial Revolution by which they took the lead in commerce and dominated in capital accumulation to make great strides in increasing national power. The Industrial Revolution was literally a "revolution" from the viewpoint of GDP per capita, so that national power was completely freed from the curse of demographics.

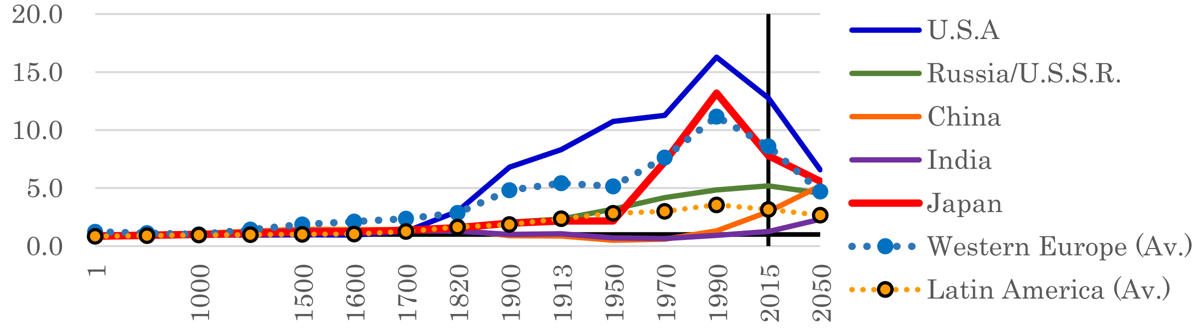

Fig.1: The comparison of GDP (PPP basis) (A.D.1 to 2050)
(Ratio transition by nation/region when the African average = 1.0)

Source: Author'u calculation and creation based on the followings;
Maddison Project Data 〈http://www.ggdc.net/maddison/maddison-project/home.htm, 2013 version〉; Population Reference Bureau, "2014 World Population Data Sheet" (August, 2014); Environment Policy Committee, OECD, "Long-term Economic Growth and Environment Pressure: Reference Scenarios for Global Projections," (September, 2012).

While the GDP per capita hardly varied in China and India which had not experienced an industrial revolution, Western Europe greatly increased its GDP per capita in the 18th to 20th century; first in the U.K. and then in Germany, followed by the U.S. Figure 2 shows the overall movements of GDP of respective nations/regions. Populous China and India dominated as economic powers from ancient times to the medieval period because of the small difference in GDP per capita (namely there was no big difference in labor productivity). After the Renaissance and the Industrial Revolution, however, Western Europe and the U.S. were on the rise as economic powers. By1900, the GDP per capita of Western European countries' exceeded by a factor of five that of China's and made up nearly 35% of the world's GDP despite constituting less than 15% of the world's population. Taking into consideration that West European powers had colonized India, Oceania, and Asian and African counties, they dominated more than half of the world's GDP. Further, considering the economic might of North America (the U.S. and Canada) and Central and South America, the period from the Industrial Revolution to the middle of the 20th century was indeed the "Age of Atlantic." During the Cold War period after World War II, the economic power of the U.S. was overwhelming followed by Western Europe and the U.S.S.R. Later on, from the latter half to the end of the Cold War, the U.S., Western Europe, the U.S.S.R., Japan and China were on a par with each other as economic powers. This situation is the base of a worldview which is stated in *The Rise and Fall of the Great Powers* (1987) by Paul M. Kennedy, *The Clash of Civilization* (1993) by Samuel P. Huntington, and *Diplomacy* (1994) by Henry A. Kissinger, etc. From a viewpoint of economic hegemony, this was the dawn of the "Age of Pacific."

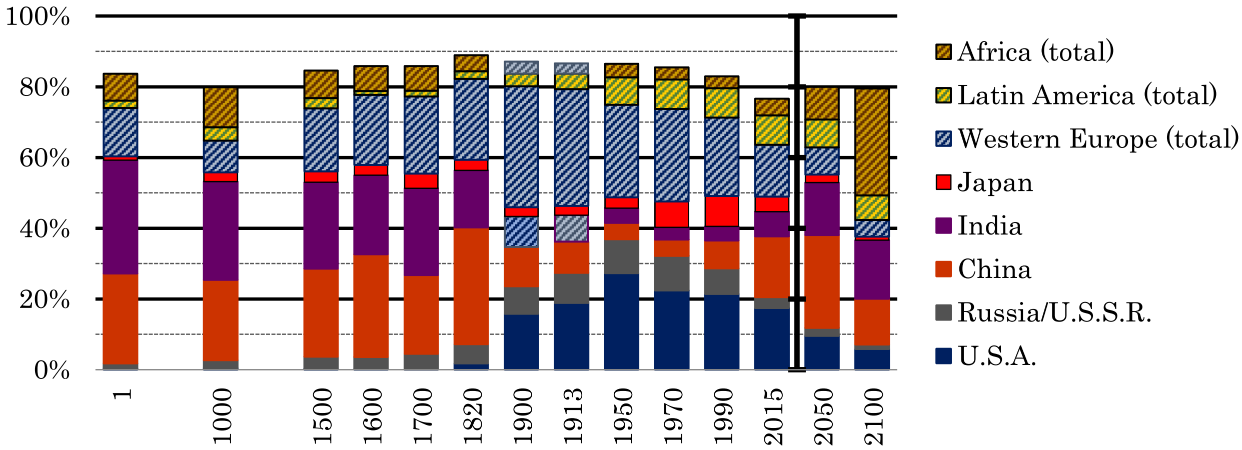

Fig.2: Worldwide GDP (PPP basis) Component Ratio (A.D. 1 to 2100)

Note: As India and Africa in 1900 and 1913 and Africa in 1950 were Western European colonies, they are colored the same.
Source: Same as Figure 1

2. Prospect of the world demographic trend and economic hegemony to the 22nd century

The GDP gap per capita among the eight countries/regions was about ten times (9.6 times between the U.S. and China) in 1913 and exceeded 20 times (21.8 times, ditto) in 1950, and this trend continued until 1970, the year before the "Nixon Shock" (19.3 times between the U.S. and India). Afterwards, however, the GDP disparity per capita decreased rapidly. After 1993, the lowest value was for Africa (the mean value), however, its difference with the U.S. was a factor of 16.1 in 1990 and 12.0 in 2014. This value is predicted to shrink to a factor of 6.5 in 2015 and 1.9 in 2100. This is greatly due to the globalization of economic activities. With the liberalization of capital, advancements in industrialization become possible for developing nations without capital limitations and because of the rapid diffusion of production technologies ancillary to direct investment, the time lead enjoyed by advanced nations is eroded. In addition, even cheap value-added daily necessities became objects of trade competition, so that the price gap of goods and services between advanced countries and developing countries has narrowed. As a result, the difference in GDP per capita among nations will decrease throughout the 21st century and the possibility of an age when "population is almost equal to economic might/national power" will come about for the first time since the medieval period. Though it is unclear whether a PPP basis income differential between the U.S. and African countries will be less than a factor of 2.0, it is believed that the income differentials among nations/regions will converge on a long-time basis.

Therefore, as for a total GDP (PPP basis) as of 2014, the largest economic power in the world is China (16.9% of the world GDP), whose GDP is a little bit over the U.S. (16.3%). In 2050, India (14.8%) will be the second largest economic power and the U.S will be the third place (9.6%). Furthermore, by 2100, the largest economic power in the eight nations/regions will be Africa (30.2%), followed by India (16.5%) and China (13.0%). Additionally, it is pointed out that the economic power of the U.S. (5.9%) may become below Latin America (7.0%) (See Fig. 2). Nevertheless, while income differentials per capita among nations will decrease, concerns are rising that domestic income disparity within each country will be trending upward, becoming new grounds for concern for national security.

3. The possibility of the U.S.'s return to the Atlantic and the security of the Western Pacific

The Table below indicates the economic size transition of coastal regions along the three major oceans (the Pacific, the Atlantic and the Indian Ocean) in the 21st century, which is based on the figures above. The Pacific Rim regions will account for more than half of the world's GDP until the mid-21st century. Afterwards, however, the economic power of the Indian Ocean coast will become the largest and, by 2100, the Atlantic regions could surpass the Pacific coast. In addition, the trend will not change even in the beginning of 22nd century. In this case, securing a leading position in the Western hemisphere will be the most crucial security matter for the U.S. in view of its national interest. At present days in the beginning of the 21st century, should the U.S. military deployment which is focused on Asia in its strategic "rebalancing" turn its attention to a return to the Atlantic in the 22nd century, it cannot help but have a major impact on Japan's defense policy. That is to say, in response to the "Atlantic-oriented" strategy of a relatively economically weakened U.S., Japan will be required to play a greater role in ensuring the stability of the Western Pacific in spite of the lessening of its absolute economic power.

Table: The prospect of GDP world share [PPP basis] of coastal regions in the three oceans

	2014	2050	2100
Pacific Ocean	52.0%	51.9%	32.8%
Indian Ocean	21.8%	30.9%	43.4%
Atlantic Ocean	45.7%	31.9%	36.9%

Note: "Atlantic Ocean" includes the Mediterranean coasts of South Europe and North Africa
Some countries facing two oceans.
Source: Same as Figure 1

For instance, Michael Auslin advocates the U.S. ridding itself of a security system radiating from a U.S. core, as was established in time of the Cold War, in order to secure freedom in the global commons (including cyber space) of the Indian and the Pacific Oceans and counter the threat of China. Collaborative actions with allies or friendly nations forming a triangle such as Japan / South Korea - India- Australia, a reminder of Britain's "3C policy" in the 19th century, is examined there as a security policy which should be explored by the U.S. in the 21st century. Although the relative decrease in U.S. power is an integral part of this argument, the improvement of Africa's economic power is not its premise. However, Joseph S. Nye strongly denied the views showing concern about relative decrease of the U.S.'s national power in his recent published book; *Is the American Century Over?* (2015). The discussions there focuses on the point that the overwhelming power of the U.S. is unlikely to be shaken in the respective following fields: the soft power (the justification of politics and ethics and cultural attractiveness), the development / operation (particularly the latter) of information and communication technology, and the provision of a global commons (international system of diplomacy, security, and economy). In spite of this, he does not deny the relative decline of the economic power of the U.S. Moreover, it has to be accepted that the effect of the "soft power" in which Dr. Nye thinks the U.S. has superiority is also considerably proportional to economic might.

These are only ultra-long-term forecasts, and therefore predicted figures may vary greatly even if only premise such as a population growth rate are slightly modified. For example, the predicted population rate of Nigeria as of 2100 by the UN Population Division was 300 million as a published data in 2004, however the figure was revised upward to 750 million in 2015, namely by 2.5 times larger. There is no doubt, however, that the globalization of economic activities causes the GDP per capita of respective countries to converge and the population ratio of the Atlantic regions centering on Africa and Latin America to increase while that of Asia-Pacific regions decrease. If so, the relative importance of the Atlantic regions in the world economy will inevitably rise and, from the perspective of national interest for the U.S., the importance of the Atlantic regions will increase more than the Pacific regions. At that time, the U.S will no longer have enough economic power to keep an eye on both the Atlantic and the Pacific regions. What policy will the U.S. select at the time? And what will Japanese national security look like under it? Such discussions will be unavoidable in the near future.

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