

The Future of the Global Market

~The World's Economy in the 21st and 22nd Centuries~

Juro Nakagawa

Specially Appointed Professor, Nagoya City University

22nd Century Institute

President, Business Intelligence Society of Japan

The world has been changing very rapidly due to the globalization of its economy and the development of information and communication technology. The rise of the West, as a result of the industrial revolution, is being repeated in Asia. This study addresses the following questions: To what extent will the world change as a result of the economic development of the BRICS countries (Brazil, Russia, India, China, and South Africa) and other developing countries in the 21st and the 22nd centuries? What impact will technological change have on the world economy? And how should Japan respond to these changes?

1. The Age of the Information Industry Revolution

The human race began cultivating grains and other agricultural products some 10,000 years ago, and began shifting away from life based on hunting and gathering. As a result of this shift, the earth's population has increased dramatically and human culture has advanced enormously.

In the latter half of the 18th century, the steam engine was invented, which brought about an Industrial Revolution that greatly increased productivity. In the middle of the 20th century, the computer was invented and the world entered the Age of the Information Revolution. And in the 21st century, the Internet, mobile phones, smart phones, tablets and "big data" have brought about The Knowledge Society. Today, information and knowledge have become the driving engines of the Age of the Information Industry Revolution.

2. The Age of the Global Market

Since the fall of the Berlin Wall in 1989, the Communist bloc countries of the Soviet Union and Eastern Europe have shifted towards market economies and economic reforms introducing market principles in the People's Republic of China. The information revolution, sparked by information and communication technology (ICT), has greatly contributed to this shift. The Information Revolution led by the

spread of mobile phones and the Internet has dramatically changed the world, not only in the developed countries, but also in the developing world.

How deeply will the Globalized Market and Information Society influence the world in the 21st and 22nd centuries? We should anticipate widespread upheaval, and so we must establish a strategy to cope with rapid change in the future.

3. Origins of the Information Industry Revolution

The Information Age, which started in the mid-20th century has entered the 21st century, during which the Information Industry Revolution will change the entire world through the Internet and “big data,” the large complex data sets which are currently being created around the world. In order to make forecasts about the future, it is imperative that we make the best possible use of this data. “The world has been changed dramatically due to the information wave,” says Mr. Joichi Itoh, Director of the MIT Media Lab. “The corporations in the big data age can originate and add new values by big data.”

Power in the Agricultural Age 10,000 years ago was based on land, and that in the Industrial Age was based on capital. Information has been the source of power in the Information Age since the middle of the 20th century and knowledge has become an additional source of power in the Knowledge Information Age of the 21st century. By the 22nd century, big data will become the primary source of power in society.

The Library of Alexandria, constructed by Ptolemy the second in the 3rd century B.C., was a center of learning where books and documents from all over the world had been collected. Today, in the 21st century, we have access to 320 times more information than people living in Ptolemy’s age, due to the flood of digital information. Furthermore, the speed of growth of information storage is four times greater than the speed of growth of the world economy, and the increase in the speed of computer processing is nine times greater than the growth of the world economy.

The 21st century will be a century of paradigm shifts for businesses and the global market. During the 20th century, there was a shift in the most developed countries from economies based on manufactured products to economies based on software and service industries. As mentioned above, value shifted from land, factories and capital to brands and intellectual property. However, in the 21st century a new shift is expected from the “computer hardware” to data, where data and methods of data analysis will become the new source of value. Data sets will become major assets and important resources for domestic and global businesses

and are sure to become the new business platform. We need to take this paradigm shift into serious consideration, so that we can make the best use of information in our study, research, businesses and daily life. It is our destiny to live in the information flood of the 21st century.

It is said that Google handles and manages 24 petabytes of data and information daily, a huge amount, equivalent to thousands of times the entire printed materials of the US Library of Congress. Approximately 10 million photos are uploaded to Facebook hourly, and the number of monthly YouTube users is about 800 million. Such huge amounts of information are changing the foundations of our societies. I recommend that we make a concerted effort to collect at least three times more information than we currently have, and analyze, evaluate, and utilize it for the betterment of society, because in the future, those who control information will control the world.

4. The Global Age

In 1989, the Berlin Wall was torn down, and the economic borders between the democratic free market countries and the communist bloc disappeared. This accelerated the globalization of the world economy and as a result, fierce trade competition between the former communist, developed and developing countries of the world has accelerated and intensified. The information network of the Internet has also expedited globalization. Thanks to information and communication technology (ICT), the world has become more connected and the construction of networks for finance, transportation, logistics and supply chains has been accelerated. At the beginning of the 21st century, the world is rapidly changing due to the advent of an Information and Knowledge Society, while the creation of a global market has been accelerated by ICT, the Internet, smart phones, tablets, 3D printers and the big data revolution.

At the same time, we must recognize that the nexus of economic development of the world has been moving to Asia. China introduced market-oriented economic Policies in 1978.

India, Vietnam, and most recently Myanmar have followed suit. Consequently, economic development in Asia has accelerated and the nexus of economic development of the world is rapidly shifting to Asia.

The following phenomena have expedited this shift:

- Communist countries have shifted to market economies, accelerating globalization of world economy since 1989.

- At the end of the 1990s and during the early 2000s, an Information Society led by ICT and the Internet has emerged.
- The terrorist attack against the United States on September 11, 2001 and destruction of the World Trade Center in New York, which led to the occupations of Afghanistan and Iraq by the US have changed the world.
- The US subprime loan crisis in 2007 and Lehman Shock in September 2008 triggered a world financial and banking crisis.
- The recent sovereign debt crisis in Greece and Spain has weakened the euro and severely damaged the EU economy.
- In the meantime, the BRICS countries and other developing countries have made great progress in economic development. The Next Four countries (Korea, Indonesia, Mexico, and Turkey) will soon emulate the BRICS and the weakest members of the G20 will follow.
- The Next 11, which includes Korea, Indonesia, Vietnam, the Philippines, Bangladesh, Pakistan, Iran, Egypt, Turkey, Nigeria and Mexico have been steadily developing and will emerge as economic powers in the 21st century. Due to ICT and the big data revolution, these newly developing countries will play an important role in the world economy.
- The G20 countries have continued to show rapid economic progress.
- The ASEAN 10 countries, which include the Mekong River states of Thailand, Vietnam, Cambodia, Laos, and Myanmar; the SCO states, which include China, Russia, Tajikistan, Kyrgyzstan, Kazakhstan, and Uzbekistan; and Africa, which consists of 54 countries are all projected to experience rapid growth between the 2020s and 2030s.
- The EU's Asia–Europe Meeting (ASEM), which includes 41 member countries, and the U.S.-negotiated Trans-Pacific Partnership (TPP) are aimed at tapping into the large, developing Asian market of the 21st century.

Thus, the highly developed, more developed and developing countries are competing fiercely to gain a competitive advantage in the global market through free trade agreements (FTA) and regional integration. The EU, with 28 member states, and the U.S., with the North American Free Trade Agreement (NAFTA) (with Canada and Mexico) and the TPP (with 12 countries of the Asia-Pacific region), are both reaching out to the lucrative Asian market.

Under such circumstances, Japan must cooperate with the Association of Southeast Asian Nations (ASEAN) countries, which will be forming an ASEAN free trade area (AFTA) in 2015. Japan should also do its utmost to realize ASEAN+3 (+

Japan, China, and Korea) and ASEAN+6 (the +3 countries, India, Australia, and New Zealand), which is known as the Regional Comprehensive Economic Partnership (RCEP). Furthermore, Japan must cooperate to build free trade areas such as ASEAN+8 (including Russia and the U.S.) and the Free Trade Area of the Asia Pacific (FTAAP), made up of the 21 Asia-Pacific Economic Cooperation (APEC) nations and regions by 2020. By doing so, economic cooperation and regional economic integration in the Asia-Pacific region can continue to be deepened and diversified multilaterally.

An ASEAN+3- and ASEAN+6-based Japan must also strengthen cooperation with the Shanghai Cooperation Organization (SCO) in Central Asia, which is becoming a large energy cooperation community and economic and free trade area. The GDP of the SCO is over US\$10.5 trillion, just behind the US and EU. At the same time, Japan should cooperate with the 40 million overseas Chinese who live in Asia, a community which has substantial economic power and political influence. I call these expatriate Chinese “The Invisible China”, “Virtual China” or “The Third China.” According to Professor Jaffrey Sacks of Columbia University, there are one million Chinese who work for 1,000 Chinese companies in Africa mainly in the development of natural resources. Africa’s economy will continue to grow by 6 to 8% annually. He estimates that the population of Africa will reach two billion in 2050 and three billion at the beginning of the 22nd century. Thus, Africa will become a huge market in the 21st and the 22nd centuries.

The UN predicts that the population of the world will reach 9.6 billion in 2050. In 2028, the population of India will reach 1.45 billion and will exceed that of China. Shortages of water, food, and energy and increasing environmental pollution will result in serious problems in the future, however, in developing countries such as China, India, and Africa. We must not wait to deal with these issues until it is too late. There are some 24 million Indians living abroad in the world, 2.5 million in Africa alone. We should therefore explore business cooperation with Indians living around the world, especially in Africa. The total population of the Mekong River states is 240 million equivalent to that of Indonesia, whose population ranks 4th in the world. The Mekong River states are expected to become “the World’s Factory” after China in around 2030. Japan must also endeavor to cooperate with the SCO, which consists of 1.5 billion people.

Oil experts suspect that there are huge reserves of gas and oil equivalent to those of the Middle East under Russia’s Barents Sea. Even without these reserves, Russia is rich in natural gas and oil especially in Siberia and the Sakhalin Islands. Therefore, Russia will likely become one of the suppliers of energy resources to

Japan from the viewpoint of geopolitics as well as supplying China and India. Furthermore, with regard to marine transportation, it may be possible in the future to make voyages from Europe to Asia via the Arctic Ocean during the summers when the ice melts. This will revolutionize logistics in the 21st century, possibly equaling the importance of the Suez Canal in the 19th century and the Panama Canal in the 20th century. Meanwhile, in the US, a revolution in shale gas and shale oil production is occurring.

This is why cooperation between the SCO and ASEAN is important for the Asian community, and Japan must be at the core of, as a connecting point for trade in these two areas. The most recent SCO Summit Meeting was held in Dushanbe, Tajikistan, from September 11th to 12th, 2014. At this meeting, Narendra Modi, the new Prime Minister of India who took office in May 2014 applied for full SCO membership for his country. Interest in the abundant energy and other natural resources of Central Asia and Eurasia is said to have induced Modi's government to apply for full membership. It is also said that the SCO might accept Pakistan as a member as well. If India and Pakistan are both admitted as full members at the summit meeting in 2015, the population of the SCO will exceed 40% of the total world population, which will make the SCO the most powerful economic organization in Eurasia.

Mongolia, which has abundant coal and copper resources, is an observer member of the SCO along with India, Iran, Pakistan and Afghanistan, and recently participated in a three-nation summit with China and Russia. The countries' three heads of state agreed to strengthen economic cooperation, especially in the fields of railway and power line construction. Furthermore, China and Russia agreed to promote natural resource development in the Russian Far East and oil resources in the Arctic Ocean. In May 2014, both countries agreed to the export of Russian natural gas to China for 30 years at an annual volume of 38 billion cubic meters. On September 1st, 2014, construction began on a gas pipeline from Russia to China. High-speed railway construction in the Russian Far East is now being negotiated between China and Russia. The two countries will also jointly construct the Zarbino port complex in the Far East with an annual transport capacity of 60 million tons.

Due to climate change, the Arctic Ocean ice cap has begun melting during the summer and commercial transport, as mentioned above, is being conducted on a limited basis. In response, the Japanese shipping company Shosen Mitsui Line has decided to participate in a joint venture project to transport liquefied natural gas (LNG) to Japan from plants in Yamal, Siberia via the Arctic Ocean. In 2018,

year-round commercial transport across the Arctic Ocean will occur for the first time. Shosen Mitsui and its Chinese shipping partner signed a contract with Daewoo Shipbuilding & Marine Engineering of South Korea to build three ice breakers to transport LNG.

As noted above, SCO member countries such as China, Russia, and BRICS member India will strengthen strategic cooperation in international business frontiers such as Eurasia, Central Asia, and the Arctic Ocean, where large-scale economic development is expected to occur in the 21st century. Accordingly, the SCO has decided to establish the Shanghai Cooperation Organization Development Bank and Development Fund and BRICS members also decided to create a BRICS Development Bank and Foreign Reserve Fund at their recent summit meeting in Brasilia, Brazil. The BRICS Development Bank Headquarters will be located in Shanghai and the Governor of the Bank will be from India. These banks and funds will make valuable contributions to the development of the infrastructure of South America, Africa, Central Asia, and Eurasia.

Taking all of this into consideration, it is imperative that Japan become the nucleus of a combination of the SCO led by China and Russia and of ASEAN, which will be the dominant subregions of the future Asian community.

5. Conclusion

The European and American financial systems went through a severe crisis as a result of the sub-prime loan problem in 2007 and the Lehman shock in 2008, followed by the sovereign debt default crisis in Greece and Spain. The US government's recent NSA Internet spying scandal has also been criticized worldwide from the standpoint of governance, human rights and ethics. Therefore, it is up to Japan to establish a new Asian standard for business and ethics, departing from European and American "casino capitalism," and instead embracing the spirit described by Baron Eiichi Shibusawa, a prominent Japanese industrialist in the Meiji Era, in his book, "The Analects and the Abacus."

Japan must connect ASEAN in East Asia and the SCO in Central Asia and establish a broadened Asian community in order to realize prosperity and happiness in Asia and throughout the world. The Japanese scholar Tenshin Okakura proclaimed, "Asia is one." He urged Japan to contribute to uniting Asia, and to promote, strengthen and deepen the cultural and diplomatic relations between India, China, Korea and Japan, which have enjoyed a history of friendship since ancient times. Chinese leader Sun Yat-sen insisted that Asia should proceed along its own "Royal Road" of benevolence, justice and morality.

It is high time that Asia united. The axis of economic power, culture and ethics is shifting to Asian countries such as China, India, Korea, and Japan and Japan should make the very best use of this precious and golden opportunity.

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Correspondence to: Juro Nakagawa

22nd Century Institute, Nagoya City University

1 Kawasumi, Mizuho-cho, Mizuho-ku, Nagoya, Aichi 467-8601 JAPAN

e-mail: jm-naka @ mvb.biglobe.ne.jp (remove space characters when using)

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