

Toward homogeneous and balanced Chinese Economic Prosperity

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Abstract

Chinese economic prosperity strategies are discussed in detail in this paper. By examine Chinese economic present situation, 5 major strategies are demonstrated thoroughly: 1) Speed-maintaining strategies, 2) Healthy economy strategy, 3) Competitiveness strategy, 4) People's quality enhancement, 5) Balanced development strategy. All economic related factors must be balanced for a sustainable growth. The eventual goal is to achieve a homogeneous and balanced Chinese Economic Prosperity .The detail procedures and methods are outlined and discussed. Finally, the evidences for these strategies are investigated to support the theory.

JEL classification numbers: C1

Keywords: Chinese economic prosperity, strategies, economic growth, competitiveness, reform

1 Introduction

It is a well-known fact that China has made an economic miracle for the past 30 years with an average more than 9.8% GDP growth rate. Now China is the second largest economy which past Japan in 2010. But still China is a developing country with the average GDP per capita 6747\$ of 2 thirds of the average GDP per capita of the world which ranked as 84 in the world [1,2,6]. Now, as the largest

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driving engine for the world economic growth, China has a very long way to go for its completion of the modernization era [3, 4, 5, 8]. The key success strategies for the past 30 years for China are: 1) Free its economy. China has been striving to reshape its economic system to fulfill the free market requirements by reducing government controlled planning economy; forming all kinds of merchandise, capital and financial markets; releasing human resource potential; and enhancing people living standards, etc. Now China is recognized by most of the countries of the world as a free market system. 2) Participation the international markets. By integrating Chinese economy to the international economy for foreign investors and traders, China keep exchange its goods and services for foreign investments to enhance its economic modernization level. As a matter of fact China now is the largest FDI country. 3) Political system modernization. Chinese government is striving to raise its governing efficiency by restructuring its government systems although it is very long way to change for Chinese political system to be fully supportive for the modernized free economy. 4) Information super high way revolution. By building up the high speed information network, China can achieve two major goals: 1) Make its economic system more efficient, 2) Open up people's understanding the Chinese role in the world. This is a major way to keep Chinese people up to the frontier of the fast changing world. With all this efforts for the past 30 years, now China is the second largest economy in the world, but the bigger challenges are lying ahead[2,8,9,10]: 1) The bigger the economy, the harder the GDP grows. This year Chinese GDP growth rate is just 6.9% along the trends of last year low growth rate of 7.4% which is lowest rate for the past 25 years, although it is still one of the fastest economy in the world big economies. What are those key strategies for China to grow as fast as it should be? 2) The system reform. Concentrating on the economic aspects, free economic reform must keep pushing to the center part of the economy and all economic aspects. 3) With the oversaturation of low level manufacturing industry and low growth rate of its population, Chinese needs more driving forces to grow its economy. 4) Chinese people's quality cannot sustain its economic growth for the long run due to its low level education, culture, scientific and all other aspects of the its people's quality. How to sustain Chinese economic high growth for a long run is a huge challenge facing 1.3 billion Chinese people and the world [3, 4, 5]. This paper is striving to answer all these challenges.

The structure of this paper is as follow: the second part is to detail the strategies; the third part is the evidence analysis and modelling, and the fourth part is the conclusions.

2 The strategies

2.1 Speed-maintaining strategies

In order to be successfully complete its run for the modernized economy, China must be able to maintain a high growth rate [Figure.1]. The reasons are: 1) To release the potential of the biggest human resources of the world, China needs to maintain a high level employment rate which needs Chinese economy to grow a high speed around 7% at least. 2) The world is changing very fast, in order to grasp the best opportunities since world II, China has to move fast before the world shifts its conditions. 3) To compete for the world resource utilization, Chinese economy must be attractive to the foreign investors and international resources, and the key is to keep Chinese economy as fast as it can be for the best return of the foreign investments. 4) There are other big economies which are developing fast which will put a pressure on Chinese economy to hold on a high speed growth rate in order to be a winner instead of a loser of the century. The following are the objective approaches for this strategies [3, 4].



Figure 1: Chinese GDP growth rate for the past 1978-2014 years with the average growth rate 9.8% per year. There is an obvious slow down after 2008.

a) Mid-west-homogenous

Due to historic reasons, Chinese eastern part is moving faster than its mid and western provinces. In average, Chinese eastern part is 10 years ahead of the mid part of China and the mid part is 10 years ahead of western part in the modernization level. But now Chinese eastern part is slowing down because its completion of its infrastructure and information network. Also, the relative bigger GDP scope leads to the eastern part growth rate slowing. To maintain the high

speed, China must put more emphasis on mid part of the country for the next 10 years which will compensate for the loss of the speed of the eastern provinces. Also for the healthy growth of the whole economy, this is necessary. After mid provinces 10 years, the western part will provide another 10 years' growth speed compensation to hold on China for at least 20 years high growth rate around 8%. The eastern part can shift its low level manufacturing to the mid and western with its concentration to the field for attracting more advanced foreign investments, high tech manufacturing and services, and technology innovation markets.

b) County-level management

After 20 years mid-western high speed development, the key growth point for Chinese economy will shift to the county-level regional enhancement of the modernization for the next 40 years starting now. Historically, China is a farmer-dominated country. Although eastern-mid-western can reach the same level of the living standard after 20 years, but the countryside economy is still very much lagging behind. In order to raise 0.8 billion Chinese farmers to the modern level of living conditions, China must use its huge accumulated capital and technology power to complete industrialization of its countryside economy and modernization of farmers' living conditions. In this strategy, all counties can be regarded as big cities, and all resources in each county must be coordinated and industrialized for the big city people's life and work. This will take China another 40 years starting from now. After 40 years, China will be fully developed as a modernized country. The eventual goal is toward a homogenous prosperity for all Chinese people.

c) Technology driving mechanism

As all we know, 60% growth for the world economy is from technology innovation, and the rest is from the capital and labor growth. Chinese economy is mostly in the first phase of expansion by manufacturing others 'high tech products to earn a high growth rate. But with the modernization completion level moving higher, it will be very hard to grow a high speed in that way. China needs to develop its own research and development (RD) mechanism to create new markets to expand its economy further. Chinese government must push all its universities to become research oriented institutions; encourage all industries to form their own RD centers; facilitate the corporation between universities, RD centers and enterprises; protect people's innovation; market RD resources; attract international innovation resources; build up the solid engagement between Chinese and foreign high tech integration; educate its people to higher level forming the pool of innovation.

d) Infrastructure modernization

Chinese infrastructure investment is a vital way to push its GDP growth rate to a higher level. But still Chinese infrastructure is still not as good as it should be. For example, China can still make enormous investment to build up the high speed train network between 340 big cities, construct airfield for all 3400 counties, complete its highway network for all 340000 villages and towns, finish all household information super high way for 1.3 billion people, modernize all water flow channel networks and reservoirs, building more better schools and hospitals, etc. Altogether, China has a huge investment job to do for the next 20 years.

3 Healthy economy strategy

To be sustainable for next 20 years or more, Chinese economy must be put into a healthy condition constantly. To be healthy, the economy must be a suitable speed around 8-7%; controllable CPI around 1-3%; unemployment rate sound around 3-5%; consumption, investment and export in suitable ratio[Figure 2]; all resources with a safe stock level. All other economic indicators must be good for the economy to grow for a long run. In order to be healthy, Chinese economy must take the following procedures:

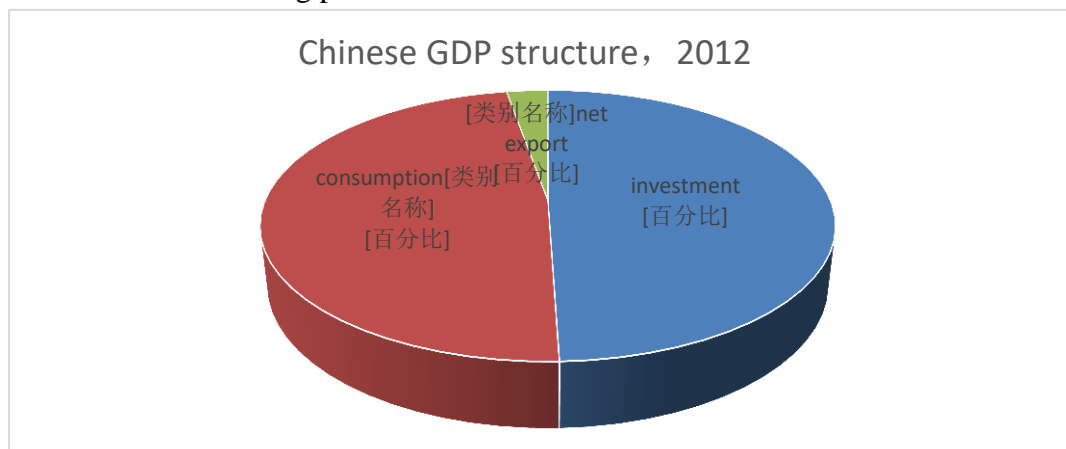


Figure 2: Chinese economic structure for 2012. The investment and consumption occupies around 50% each with investment little bigger. China's goal is to increase the portion of the consumption to 60% around in next 20 years.

a) Complete laws for free economy

To protect a free economy, China needs to legalize all the rules for the economy, for example, antimonopoly, anticorruption, prevent government control, protect private enterprises, protect the free capital flows, facilitate international

corporation, protect copyright and patent right, etc.

b) Reduce government intervention

Chinese economy is reformed from the government controlled planning economy, still now all level governments are playing a big role in the country's economy. How to reduce the government intervention is still a challenge reforming task for China to complete. For example, the central government enterprises are still in different positions from private enterprises in loaning, pricing, competition, and management. How to wipe out these differences are the major direction for the economic reforms. The house industry is another example to be free. Also, the government still controls too many production factor prices which should be free to the market mechanism, such as oil, electricity, gas, interest rates, exchange rates and so on. It is still a long way to go to modernize Chinese market-oriented economy.

c) Wipe out corruptions

How to wipe out all kinds of corruption in Chinese economy is vitally important for China to be successful for this century. Corruption causes many problems for the economy to be efficient, such as abuse powers, wrong decisions, stupid investments, waste of the national resources, failure managements, etc. Corruptions are mostly from the governing power monopoly due to old style Chinese governing mechanism. One way to control corruptions is to go transparency of all money flows, another way is to report personal properties to the supervision institutions. Although these are still a goal for China but it has to be completed in order to control the corruption to the minimum level for a healthy economy.

d) Enterprise management enhancement

Healthy Chinese economy needs all enterprises to be healthy. Obviously, all enterprises must be managed well. China should learn from all other advanced countries for the high level enterprises management. The education and training system must be enhanced for obtaining qualified management personnel; the enterprise management selection process must be transparent and efficient; Chinese enterprise management structures must be modernized to the level of the advanced country, such as USA; The international competition must be encouraged and protected. Chinese enterprises should be able to compete on the stage of the world eventually without any protection from the government.

e) Diversification

Chinese economy must be diversified through: 1) Encouraging foreign investors to participate Chinese economy; 2) Attracting all high level human resources from other countries; 3) Absorbing all other countries' advanced management ideas, thoughts, theories, etc. 4) Respect foreigners' living styles, languages, habits, cultures. 5) Facilitate the exchange of students with foreign countries. The diversification can generate creative ideas and innovations. It will keep pumping new things into Chinese economy for it to be energetic.

f) International engagement

International engagement is another way to keep China from lagging behind again. From history, each every time China closes to the outside, Chinese people will lag behind the world and eventually get into huge problems. China must form the engagement mechanism not just some examples. It is vital for China to keep in the frontier of the world not the opposite. The engagement should include: 1) Education and research exchange mechanism. By exchanging scholars and students, China can learn from other countries. 2) Enterprise engagement. Attracting foreign capitals and human resources to China, at the same time, China invest in foreign countries, which will lead the economic benefits to both sides and the international competition. Especially, the latter should put pressures on those who are lagging behind and wants to stop progressive movements. 3) People engagement. China should open to the foreign people visit and living in China. Foreigners will bring new culture and thoughts to China which will be healthy to Chinese economy development.

g) Supportive culture

Chinese culture is very old. It is supportive for old Chinese economic systems. But now, with modernization, Chinese culture is lagging behind. Its ways of thoughts and innovations are not efficient. China should look around the world, especially those advanced countries for the direction to modernize its cultures, such as religions, science, habits, foods, learning, thoughts, relationships, communications, movies, ideas, openness, and so on. China should absorbing other countries supportive culture for innovation and openness, and rebuild a modernized new culture from its lovely old culture for a new century.

If China can fulfil all these strategies, China economy will be very sustainable for a long high speed growth in the next 20-40 years.

4 Competiveness strategy

To compete on the world stage as the second largest economy, China must prepare itself as a strong innovation center not just a manufacturing center of the world. The following methods are vital for this goal.

a) RD marketization

To market RD, China is able to use the market mechanism to stimulate the RD growth. By marketing, RD resources will be able to trade in the market, and RD products and technologies can be exchanged through market. The first step is to make policies to force or encourage all enterprises to build up their RD centers, and encourage all colleges to be integrated into enterprises. Therefore, through the capital and human resources free flow, the RD resources will be raised and used to become the major way to drive Chinese economy to a higher level.

b) Information technology break through and popularization

The information technology is the new revolution for this century. It changes the ways of living and the thinking styles of humankind. To be competitive in this century, China should be able to generate breakthroughs and occupy a center role in the information technology field all the way for the whole century. Also, Chinese people must be educated to handle and utilize the new information technology for the enhancement of their life, work and business.

c) New techs

Besides information technology, there are all other technologies which are or become very important, such as biotechnology, life technology, environmental technology, material technology, space technology, etc. with enormous population in the world, China is sufficient to make big contributions to all these new techs and use them to drive Chinese economy with a suitable speed ahead.

d) Pool of human resources formation

To be sustainable for a long run in the new century, China must form its own human resource pool, such as college students, scholars, RD population, management personnel. Of course, through expanding the old education system, reforming the universities to research oriented institutions, exchanging people with foreign countries, attracting foreign scholars, China is going to build up sufficient human resources for the completion of its modernization process for the new century.

5 People's quality enhancement

Most of Chinese people are farmers. Their education level is too low in average. In China, only one college student for every 20 people. But in the United States, it is 1 for three people. It is almost 10 times lower than USA. Not to say, the education system are too much lagging behind USA. People's quality will decide a nation's potential for a long run growth of its economy. In order to raise the level of Chinese people's average quality, the following ways should be used [5].

a) Scientific knowledge education and popularization

The most important part of a people's quality is the master of the scientific knowledge. To enhance Chinese people's scientific knowledge, the expansion of the education system must be taken. Although, in China, the public funding universities are growing slow due to the shortage for the funds, but the private schools can grow faster due to the sufficient funds for the private sectors. As a matter of the fact, in the United States, the private universities are the most important part of USA education systems which takes account of 60% of the college-level institutions. But in China it is only 5% from zero. Also, by building up the popularization mechanism for the science, more and more people will get the scientific knowledge for their living and working.

b) Legal habits formation

Another important quality factor for Chinese people is the law knowledge. Most Chinese people are using the old ways, such as power, relationships, relatives, etc. to protect their interests instead of laws. To popularize law knowledge, such as, how to make laws, how to use laws, what law to use, where to get help for law protection, people can be more rational and more orderly for their life and works. The country will be more stable. The economic efficient will be higher and will lower risk. It will take a long time to form the legal habits instead of the irrational ways for protection of rights.

c) Culture modernization for openness and innovation

The third major factor for people's quality is the openness and innovation ability. To form an environment for openness and innovation, China should seek the culture modernization. Through the information super high way, and all level exchanges of the people with foreign countries, business engagements, and participation in the international organizations, such the UN, APEC, AIIB, and G20, etc., Chinese people should learn how to be open and innovative. Through

long term diversification procedure as above section, China will eventually form a new culture to support for the new era.

6 Balanced development strategies

In order to grow Chinese economy with a suitable high speed for a long term, China must take a balanced development strategies: 1) Balance the urban and farming



Figure 3: Chinese Gini coefficient, it shows Chinese income inequality is getting smaller although it is still very big. The goal is to reduce the Gini coefficient to 0.35 or below in next 20 years.

area development. The modernization difference between this two areas must be balanced to be controllable. 2) Balance the income between the poor and rich [Figure 3]. Policies must be made to raise the income of poor to narrow the gap between this two. 3) Balance the culture and the economy. The culture should be modernized gradually to be supportive for the economic development; 4) Balance the political system and economic system. Political system also should be reformed to release the potential of the Chinese economy. 5) Balance the openness and the national reform. The economic reform should be controllable and openness are compatible with the national economic reform. ; 6) Balance the people's quality and the country modernization speed. Raising people's quality is a long term task and it should be balanced with the nation's modernization steps in order to make a smooth movement to the modern era.

7 Evidence analysis and modelling

7.1 Chinese western, middle, and eastern economic homogeneity process

Chinese economy is normally classified for three regions geographically: eastern 12 provinces which is relatively advanced, middle 8 provinces which is in the medium rich region, and western 11 provinces which is relatively less developed. By analyzing the economic structure such as GDP, GDP growth rate and average income, we can see the supporting evidences for the strategies above.

a) The evolution of weight structure of the three region for the past 30 years.

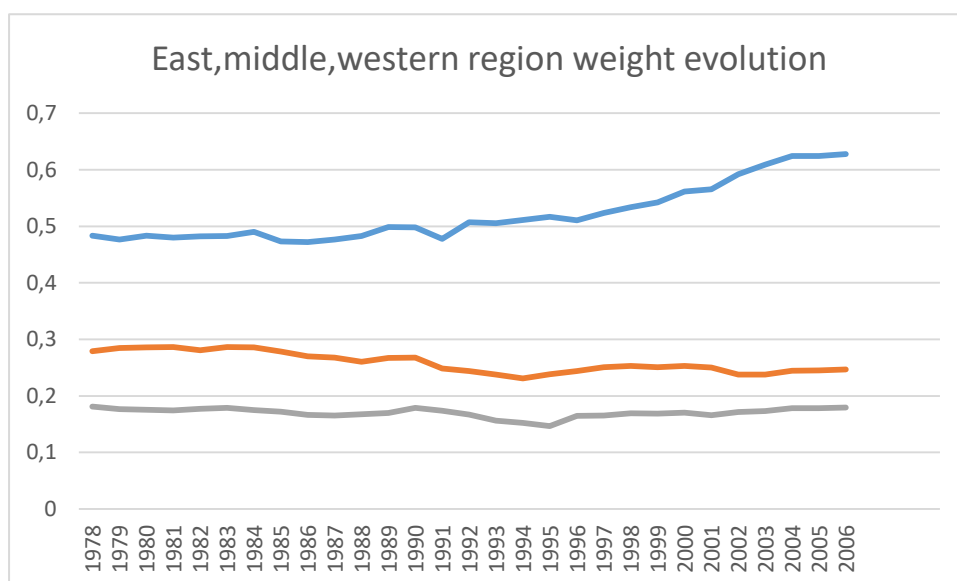


Figure 4: GDP weight in the Chinese economy for the three regions.

This figure shows that Eastern is leading the portion of Chinese economy, as middle and western follows, but this is for the fact before 2006. Since 2006, the growth rates for these three regions are changed as western the fast, middle follows and the east slows down as show in the following figure 5.

b) The change of the growth rate structure for the three region for the past 30 years.

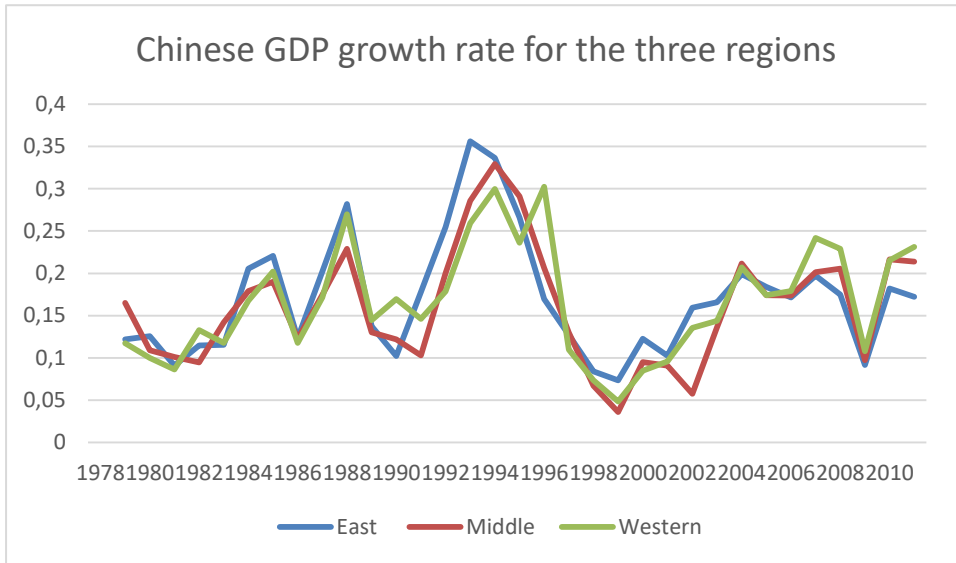


Figure 5: Chinese GDP growth rate for the three regions

In this figure, east is the fast growing economy before 1994 for most of the time, but since western starts take off as the fastest growing region, middle follows. Now, Chinese is targeting to revive middle region which is a balance strategy in the real development.

7.2 Chinese urban and countryside balance process

a) **The change of the growth rate structure for the two economies for the past 20 years.**

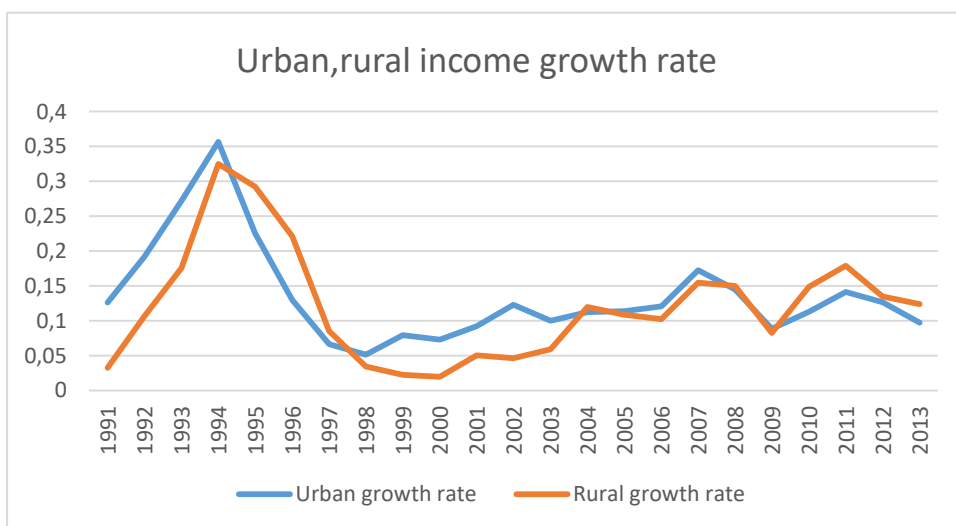


Figure 6: Urban and rural income per capita

Obviously, from this figure 6, before 1994, urban income is growing faster than rural area, but the trend is switching since in order to be sustainable for Chinese social and economy. So the balanced strategy is also effective this matter.

b) The change of the average income structure for the two economies the past 30 years.

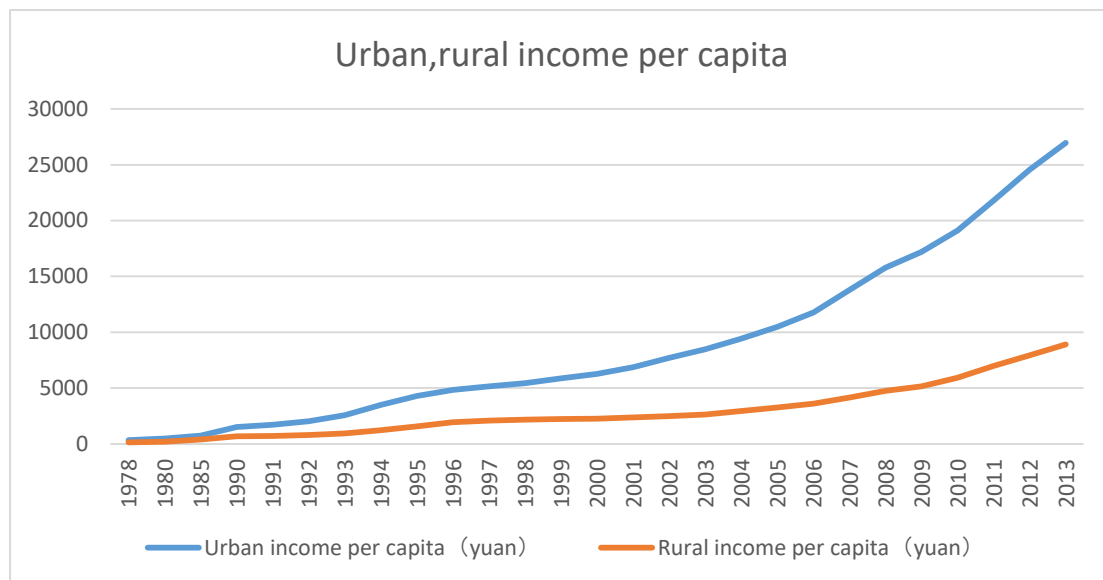


Figure 7: Urban and rural income per capita

Figure 7 shows the income difference is become larger for the past 30 years in absolute value, but as show in Figure 6, the growth rates are faster for rural income since 1994 which means china starts to use homogenous and balanced economy strategy for a long healthy development.

b) The homogeneous and balanced process for the whole country

a) The GINI coefficient for the past 30 years.

Table 1: past 30 year's Chinese GINI coefficient

Year	GINI coefficient	Eastern GDP growth rate	Middle GDP growth rate	Western GDP growth rate
1981	0.288	0.090765857	0.100967157	0.086276802
1982	0.2494	0.114853867	0.094682448	0.132984509
1983	0.2641	0.115276046	0.141811896	0.117567404
1984	0.297	0.205520086	0.179099975	0.167854236
1985	0.2656	0.220796605	0.190013883	0.201962014
1986	0.2968	0.123223881	0.122521461	0.117723223
1987	0.3052	0.202003447	0.174537471	0.171636544
1988	0.382	0.281995592	0.229045555	0.26969448
1989	0.349	0.137305825	0.130242272	0.144456067
1990	0.343	0.102111594	0.12175588	0.169478042
1991	0.324	0.178064481	0.103036481	0.146092882
1992	0.376	0.254805326	0.200325744	0.178611568
1993	0.3592	0.356131696	0.285771581	0.259103464
1994	0.436	0.336419561	0.329149244	0.299698593
1995	0.445	0.265925715	0.291164112	0.236351161
1996	0.485	0.169636883	0.206172826	0.302357208
1997	0.403	0.127008756	0.129812312	0.109743958
1998	0.403	0.083857243	0.067089062	0.073390542
1999	0.397	0.073563074	0.035800698	0.048274162
2000	0.417	0.122525701	0.095084588	0.084675928
2001	0.49	0.102417602	0.090869457	0.095698108
2002	0.454	0.159357908	0.057362197	0.135350585
2003	0.479	0.165654675	0.136321695	0.143734379
2004	0.473	0.199202556	0.211676091	0.207085576
2005	0.485	0.183936258	0.17405126	0.174190089
2006	0.487	0.171346744	0.173577452	0.179135132
2007	0.484	0.197238034	0.201257024	0.241908119
2008	0.491	0.174892035	0.205343899	0.229050873
2009	0.49	0.09172134	0.097260888	0.107956174
2010	0.481	0.182177567	0.216352775	0.215533223
2011	0.477	0.172038263	0.213790673	0.231259295

From this table 1 and figure 3 as above, Chinese GINI coefficient is getting to the biggest during 2007-2009, since then it is reducing slowly which is obviously due to the fact: starting from 1994, China is speeding up western and rural

economy to get more homogeneous economy.

b) The developing model for the balance process

To see quantitatively, how GINI coefficient is affected by the balanced strategies, the model is developed by using the data in table 1. In model 1, The GINI coefficient, which is a major homogenous indices for an economy, is used to do regression with the growth rate for the three regions. From this model, one can see how to reduce the GINI coefficient by making the adjustment for the GDP growth rates for the three regions.

The results is in the equation (1)

$$\text{GINI} = 0.358 - 0.567g_E + 0.172g_M + 0.655 g_W \quad (1)$$

Here, g_E is the growth rate for the east economy, and g_M for the middle, g_W for the west. These geographical development strategy is outlined above which is very important to get the low GINI for a homogenous and sustainable economic prosperity from the model. The results show it is the fast growth of eastern economy that cuts down GINI coefficient to make more homogenous economy for the past 30 years. More analysis shows between 1981-1993, Eastern and western growth makes GINI increase with middle growth reducing the GINI which is obviously the balanced effects. But between 1993-2001, it is eastern growth reducing the GINI. After 2001, only middle growth increase the GINI. By considering the mobility of the labor, it is easy to understand this contradict results as poorer labor seek jobs in the fast growth region which eventually change the GINI as a whole. But with the labor mobility decrease, eventually the middle and western economies speed up shall make the whole economy more balanced later on.

From equation (1), one can design a growth pattern to keep the GINI at 0.35 of below. For example, with $g_E=8\%$, $g_M = 9\%$, $g_W = 4\%$, $\text{GINI}=0.35$, these could be a good choice for the policy to make. But this will generate massive labor motion due to the economic slowdown in the western region.

Also, the regression results demonstrate GINI has little correlation with east, middle western and even GDP as whole individually for the past 30 years. GINI is the combined growth effects of the three regions. To make a homogenous economy, the three region should make a joint effort.

In model 2, the regression is made between GINI, urban and rural income

growth rate, the results are in equation (2) below

$$\text{GINI} = 0.464 - 0.648g_U + 0.575g_R \quad (2)$$

Here, g_U is the growth rate for the urban economy which is related to the regional strategy, and g_R for the rural growth which is determined by the county scope economic modernization and industrialization discussed above. The equations points to the balance strategy in which by speeding up the urbanization, the economy will be more balanced and even.

Similarly, from equation (2), one can design a growth pattern to keep the GINI at 0.4 or below. For example, with $g_U = 13\%$, $g_R = 5\%$, and $\text{GINI} = 0.4$.

More analysis shows that between 1991-2001, urban growth decreases the GINI, while after 2001, urban and rural growth increases the GINI. These results seem to contradict with the intuition of the balance policy. Again if we consider the mobility of the labor, it is obvious that only poorer region labor will move to the fast growth urban to earn income to compensate with their low income of the rural area without moving that makes the GINI more homogenous as a whole nation. It should be noted that here statistical methods [7] can only explain about half of the change of GINI coefficients, there are more noneconomic policy such as the social security policy and donation policy that also change the GINI coefficients since China is a socialism country from the start.

8 Conclusions

China is determined to be a completely modernized nation in the new century. The key for the goal to be successful is that Chinese economy must be able to take a fast and healthy way to grow to the new level-the innovation driving level. In about 10 years, China will become the world No.1 economy, but still there is a long way to go for China to become the top real quality driving engine as discussed above. For the next 20 years, the above strategies, especially, throw balanced and homogenous strategies the economy will lead China into a brand new level of its modernization era, although in about 40 years, Chinese economy will have many jobs to finish. But as the world economic leading engine, China should continue to exhibit a huge impact to the world economy in next 40 years. The healthy, sustainable, homogenous and balanced economic way is vitally important to Chinese economy and world economic growth.

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