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# Analysis of Structural Problem of Chinese Economy to Realize the Future Scope

Author

**Sampreet Singh Goraya**

LMT School of Management, Thapar University, Patiala, Punjab, India

NEI ltd, Khatipura Road, Hasanpura, Jaipur, Rajasthan, India,

Email: *Sampreet123@yahoo.com*

**Executive Summary**

This report is a reflection on structural problem of Chinese economy and reforms needed for future growth. The main focus is on the value addition and the industrial restructuring. Reports shows how china can diversify its manufacturing base to become less susceptible to external shocks and at same time caters its huge population. China is investment driven economy and share of consumption to GDP has to increase, for that industry diversification in non-durable consumer goods, etc is necessary. Report also discusses the value addition by Chinese worker to the each sector mainly agriculture, manufacturing and service and their trends. It is found that manufacturing is already stressed and further increase in the availability of labor force will suppress the income more hence service sector needs to be enhanced.

## Overview of Chinese Economy

### World inflation was dipping down after China's entry in the WTO

The abundance of labor acts as the core competency for China and they leverage it to gain a major share of world trade. The last decade of growth was funded by its exports. But after the financial crisis of 2008 and the Europe debt crisis, every one becomes more cautious about the Chinese growth. The Chinese exports were no more a boon for the developed economies. On the other hand China relied on investment to boost its growth after the decline in exports start coming into the picture. In the advanced economies, share of consumption in their respective GDP'S rises and the export start to vanish. The savings from China which the developed world was consuming freely before;became the major source of concern. In the last decade Chinaearned huge current account surpluses and maintained high level of foreign exchange reserves. China purposely subdued its consumption prospects and depended heavily on exports and investment to boost its growth.

## PRESENT SCENARIO AND STRUCTURAL PROBLEM

Where China is leveraging the labor competence, countries like Germany are using technology as a spearhead weapon. As a result Chinese growth is slowing down and the economy has started to cripple under its own weight of investment. China's current account surpluses have fallen sharply from its peak in 2007. As a result the growth rate of foreign exchange reserves have fallen considerably as shown in figure1. In 2011,

**China's current account surplus fell to 2.8% of GDP, from a peak of 10.1% in 2007**. Real appreciation in RMB is one of the reasons.RMB has appreciated 11.5% since August 2008, and, on this basis, the exchange rate now looks to be much closer to equilibrium. Commodity stockpiling and a structural shift towards greater dependence on foreign energy reserves have also driven adjustment. China's extraordinary saving rates jumped sharply after 2003 and now they are far more than the other big developing economies. The world is rejecting the consumption of Chinese savings after financial crisis of 2008.

**The rising asset prices has shown some sign** of cooling but still it is the major danger and it is going to persist until government creates new channels of investment income for Chinese investos. The share of household in total savings is rising. The great divide between rich and poor is created due to the policies of Chinese government. Low compensation for land acquired by government is one of them. The situation is even worse in the rural areas. The population living under the poverty needs an immediate boost. Also the massive migration in the economy has left many middle class people on the verge of bankruptcy. During the construction of three gorges dam on Yangtzee River, state authorities migrated 3 million people to well-constructed societies. But employment was not guaranteed. Demographic effect- Ageing population is also considered to be reason for higher savings in China Modigliani and Cao (2004). People are trying to save more for future. Wei and Zhang (2011) also blame one child policy of Chinese government for such high saving rates.

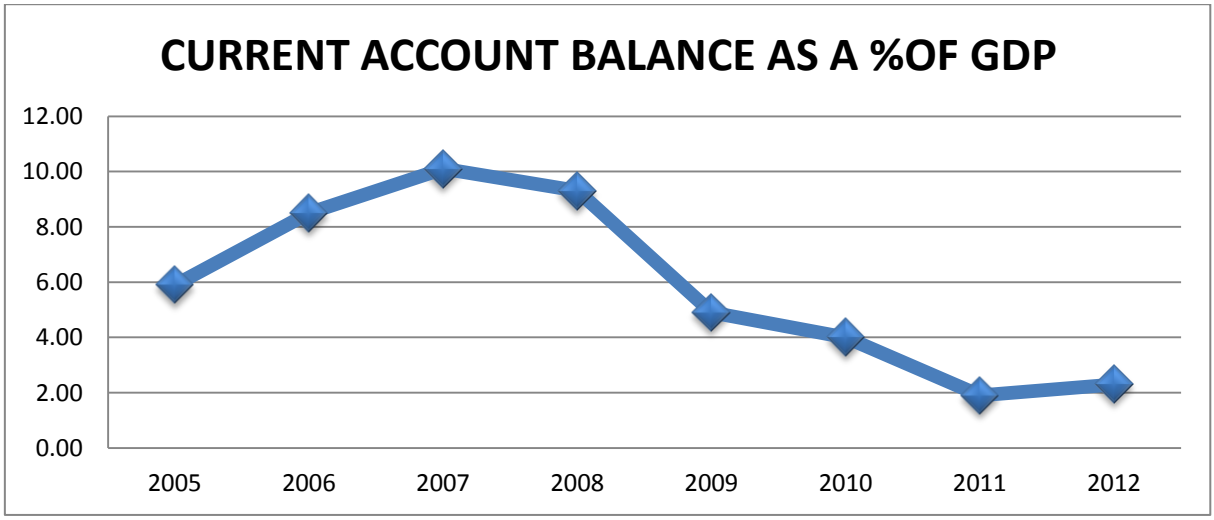



**Figure 1** Source - financial stability report 2012, LIU Shiyu, PBoC and National, China statistical year book

The rising problem of bad debts and overinvestment are now the topmost priority of the next elected government. **The state owned enterprise's debt obligations are increasing**. With the less demand for Chinese exports and subdued consumption the difficulties for the state owned enterprises will further increased.

The share of service in the total GDP is around 40-46% (approx) in the last decade as shown in the figure4. Also the share of public services like health, social, education, community services, insurance and pension services is very low due to which people are forced to save more for safe present and future uncertainties. With rising income level of average Chinese need for social security is increasing. The recent trends of protests are cause of concern for economic development. A politically unstable state is the most unwanted situation for any economy. The situation of justice in China is very poor. Even the clerk of the courts can become the judge.

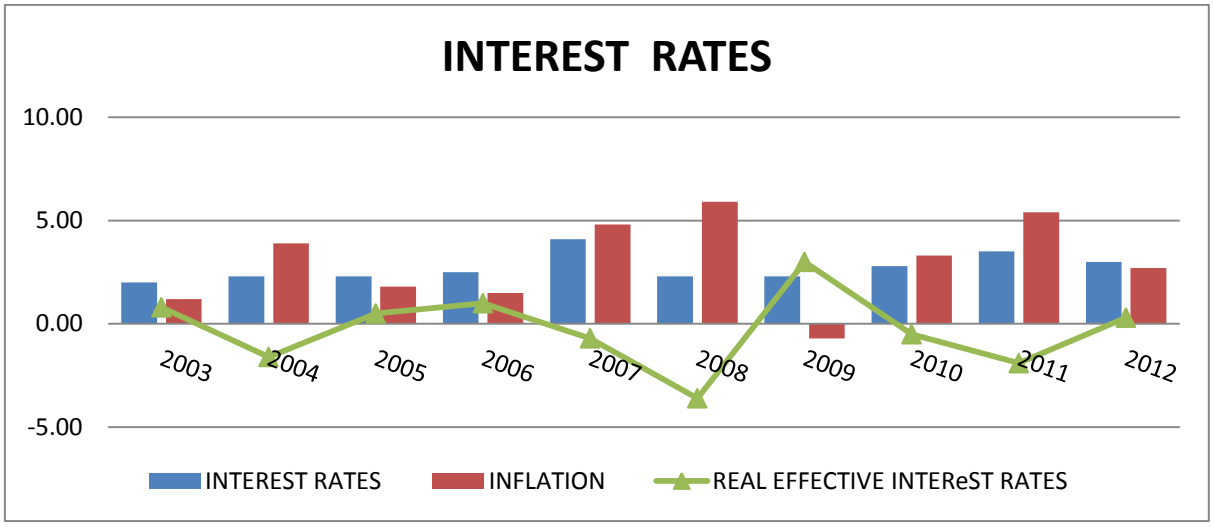



**Figure 2** Source: Author's own calculations and World Bank database on China

In figure 3 fixed asset investment is on constant rise but growth of retail sale is decreasing as a %age of GDP. Another important point is that, retail sales of consumer goods in country side and village has decreased from 28,799(in 100 million Yuan) in 2007 to 24,367(in 100 million Yuan) in 2011.Growth rate of exports minus imports is almost stagnated over the past 5 years. As shown in figure 3 the gap between rural income and urban income. Also the social net is much stronger in urban areas than in rural China. The graph clearly shows the need of structural shift, where consumption is much higher.

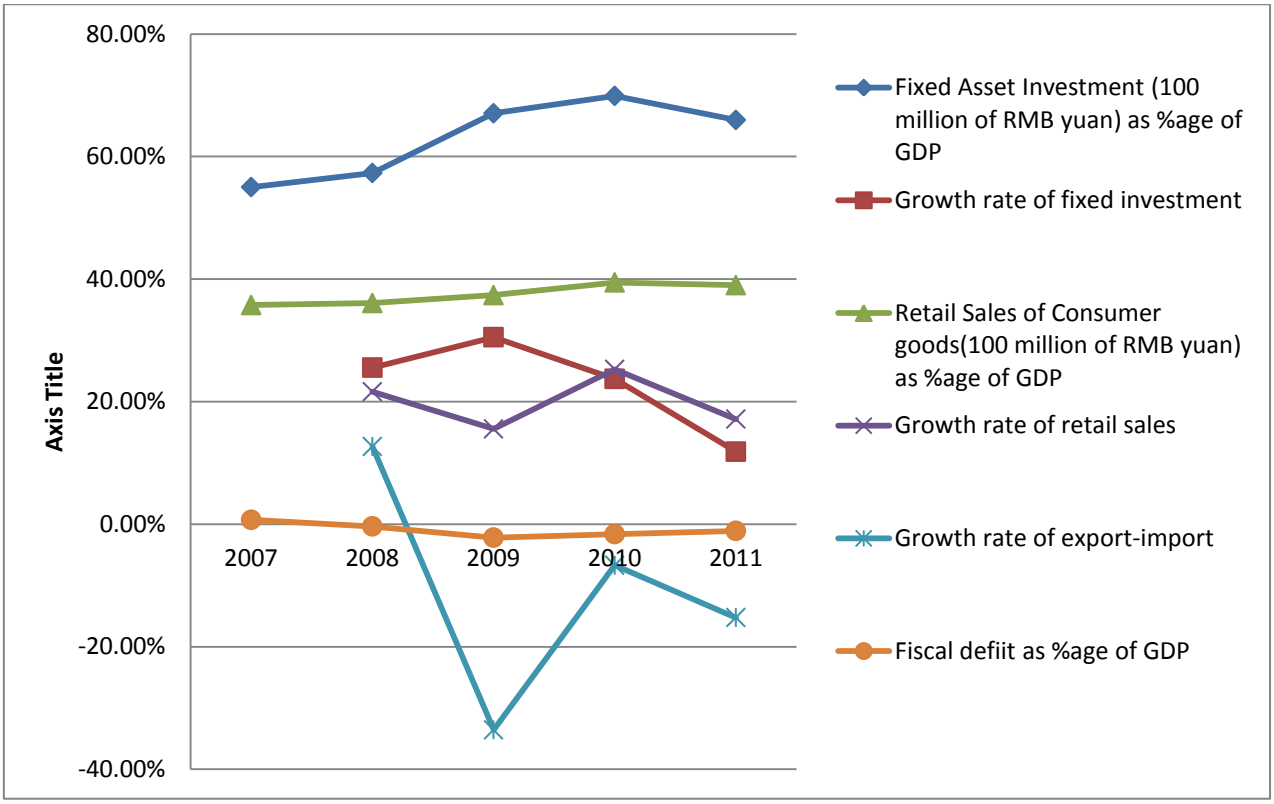
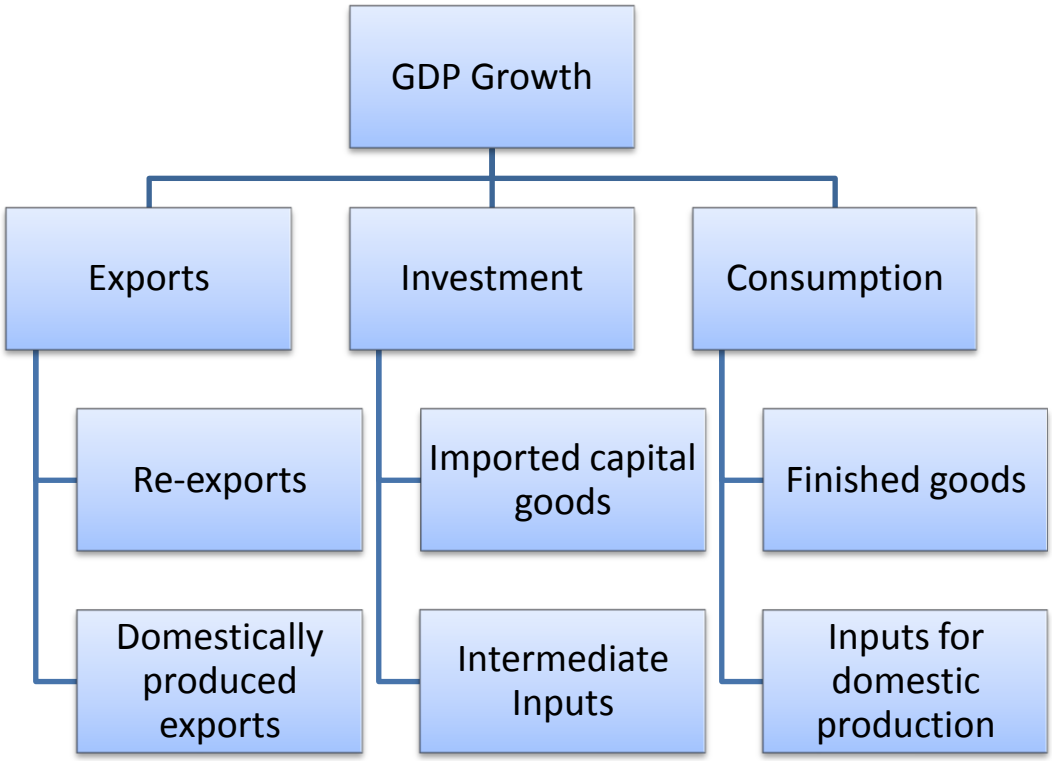



**Figure 3** China GDP's constituents- Net exports, Investment and consumption, Source---Financial stability report 2012, PBoC and national bureau of statistics, China statistical year book and author's own calculations

**DOMESTIC CONTENT OF EXPORTS, CONSUMPTION AND INVESTMENT**

Wilma Akuz(2011) has clearly shown;how import content of Chinese export is higher in comparison to its consumption. We assign different import intensities to consumption(C), investment (T) and exports (X).

Y=C+I+X-M




China has to emphasize on three aspects –which are domestically produced exports, intermediate inputs for investment and domestically produced goods for consumption. In exports only some value addition belongs to China rest is with Japan, South-Korea, etc.The consumption has to be fueled by the goods produce within the country. The import content is susceptible to consumer preference, technology and the structure of production. Free market economies are govern by competitiveness so domestic firms tend to be more innovative.

As China's domestic value added to exports will increase, the share of income with Chinese will also rise. This will increase the purchasing power of Chinese business or in other terms Chinese consumer.

**INDUSTRIAL RESTRUCTURING**

Important part of Chinese exports are specific to foreign markets with little domestic demand. The factor of production such as skills, capital equipment, and organizational structure are industry specific and even product specific. The transformation of industry is required in order to accommodate domestic demand.

A similar point is made by Blanchard and Giavazzi (2006, p. 2), who argue that "the country's capital stock is misallocated: too much in manufacturing, too little in the domestic service industry – The service industry has to increase in order to boost consumption. The services sector growth is very crucial. Services will create non-agricultural jobs. New advanced technology intensive industry is require

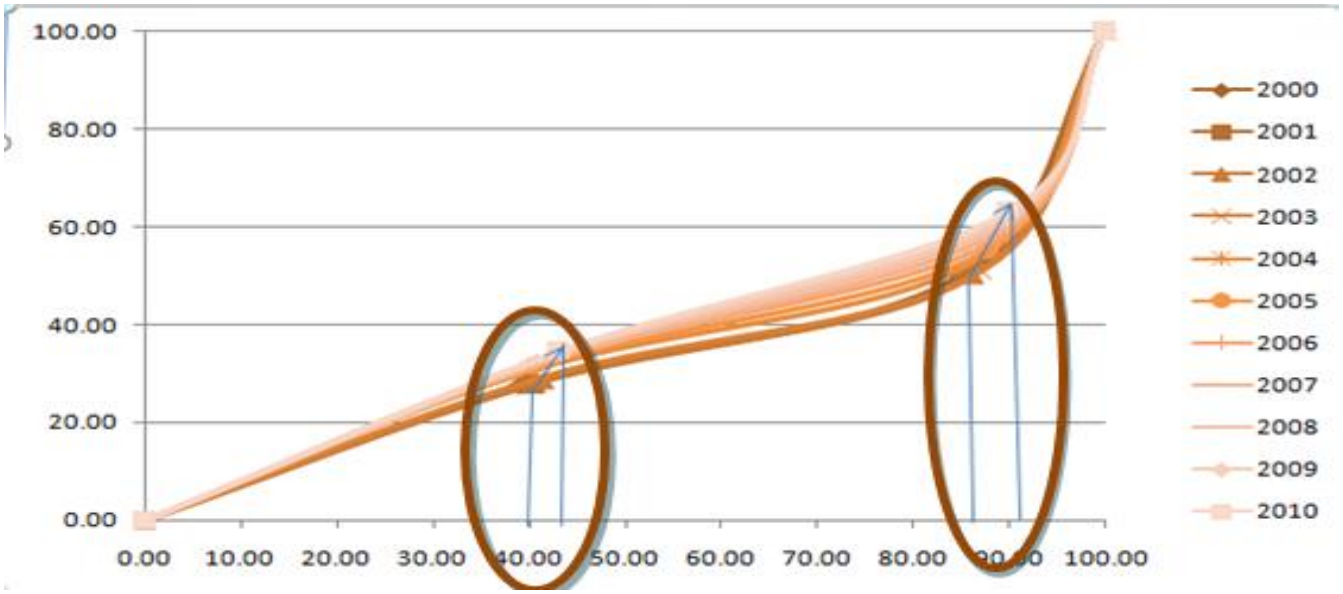



**Figure 4** X axis- shows the cumulative %age value addition by service sector, manufacturing and agriculture respectively. Y-axis shows the cumulative %age of employment in service sector, manufacturing and agriculture sector. The figure depicts the data from 2000-2010, Source- World bank database on China and Author's own calculations.

Look at the figure 4 which is the plot of value addition in GDP by service, manufacturing and agriculture sector to total employment in service, manufacturing and agriculture sector. Smaller circumscribes the changes happening in employment and contribution to GDP with respect to service sector. Whereas bigger circle encloses the changes in employment and contribution to GDP with respect to manufacturing sector. Clearly it is seen that the arrow line which is representing the movement of service sector's contribution to employment and GDP has a slope greater than 45 degrees. This means that the change in employment is greater to the corresponding change in 'contribution to GDP'. Hence we can say that the marginal revenue product of labor in services is also decreasing. So it improvises one thing that, even though China expands its existing service sector, most probably wages will remain depressed. The only solution is innovation in services which can create more avenues of employment in service sector without creating the over-abundance of labor. Same is the case with manufacturing. Even though there has been decrease in the employment in agriculture sector, still marginal contribution to GDP by agriculture sector employer decreases.

To understand this point more clearly we can see figure5 which shows the contribution to GDP by 1%of the employees in service sector, manufacturing sector and agriculture. We can see that the Marginal GDP contribution of labor is negative in all the cases from year 2000-2010. In manufacturing we can say that there is overabundance of labor which migrating from villages to cities in search of employment. Without diversifying its manufacturing base with exhaustive research and development programs,China cannot increase this marginal contribution because wages will not rise until the supply of labor is greater than demand of labor. Even though China has tried to control the supply of labor by its one child policy but still huge number is left behind and at one point in the near future, China has to give up its policy. Also the changes IN demographics may decrease the supply in the future, but right now, what it can control is "demand". How to increase it? Firstlydiversify the sector, secondly with more liberty to individual entrepreneurs and thirdly raising government expenditure on R&D

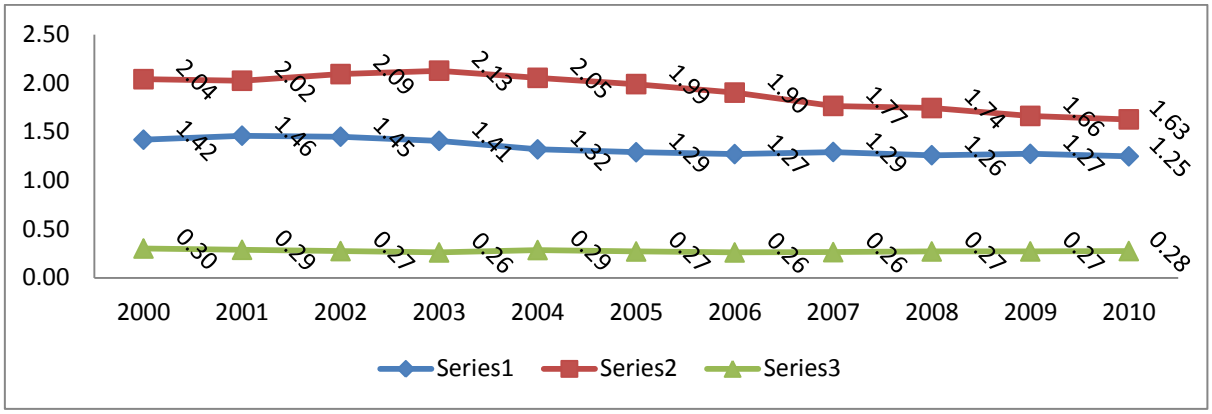



**Figure 5** Series-1 Contribution to GDP by 1% of total employees in service sector, Series-2 contribution to GDP by 1% of employees in manufacturing sector, Series-3 Contribution to GDP by 1% of employees working in agriculture sector. Source world bank database and Author's own calculations

It is so evident that new sources of employment have to be discovered with more and more innovations and inventions as time passes, as efficiency and sophistication in the prior businesses increases which subdues demand of labor in those businesses and overburden or oversupply of labor, which will depress the wages and the livelihood of the employers.

In figure below shows the China's categorical view of manufacturing output. Consumer durable comes out to be most depressed just 3.4% of total output of China and 1.3% of GDP of China and 0.35% of world output. Just imagine a country having an almost 20% of world's population only produce 0.35% of world output of consumer durables.

Whereas the intermediate goods and investment goods counts for 41.74% and 25% respectively of total manufacturing output.

Investment in intermediate inputs should increase in order to increase the value share of imports.

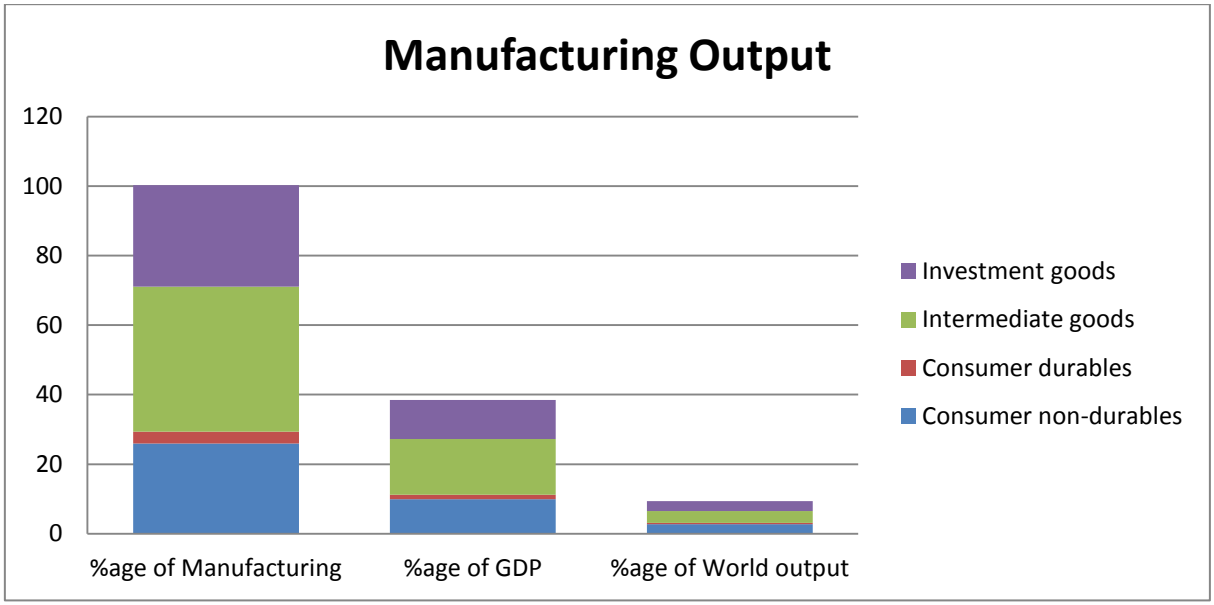



**Figure 6** Manufacturing outputs of investment goods, intermediate goods, consumer durables, consumer non- durables, Source- Oxford research

Consumer non-durable goods accounts for 25.93% of total manufacturing output of China, 9.94% of GDP of China and 2.78 of world' output. In this we have some underdeveloped sectors where China can excel to open new avenues of employments so that abundance of labor should not suffer from depresses wages. Like **Pharmaceuticals** accounts for only 2.14 % of manufacturing output.

**In intermediate goods China should focus on following sectors-**

- **Rubber & plastics**1.64% of total output of manufacturing.
- **Electric components**0.58% of total output of manufacturing.

**In investment goods China should focus on-**

- **Computers & office equipment is** 0.46% of total output of manufacturing.
- **Motors, generators & transformers is**0.29% of total output of manufacturing.
- **Precision & optical instruments**is 1.27% of total output of manufacturing.

Slowest growing sectors in China (Annual growth)

| Industry | 2011 |
|---|---|
| Ceramics (excluding tiles) | 5.8 |
| Motors,generators&transformers | -4.2 |
| Machine tools | -2 |
| Electric components | -0.7 |
| Medical & surgical equipment | 0.2 |
| Other precision equipment | 0.2 |
| Electric fittings | 1.9 |
| Glass | 3.1 |
| Agriculture, forestry & fisheries | 4.1 |
| Textiles | 4.2 |

**Figure 7** SLOWEST GROWING MANUFACTURING SECTORS, Source-Oxford research

Above figure shows the slowest growing sectors in China which can provide the employment to China's burgeoning population. The motors, generators and transformers sectors show negative growth rate in 2011. The medical equipment, ceramic industry, machine tools(which is one of the most sophisticated form of industry requires skilled labor and offer huge wages) are areas to look upon .The areas in red shows negative growth rates and orange boxes show near zero growth rates.

## CONCLUSION

China's growth has been a miraculous journey, possible only with the commitment of communist party of China. The wonder which Chinese economy has achieved was unimaginable some 3 decades ago. Pulling almost 600 million people out of poverty is absolute serenity. This vast burgeoning middle class, who has emerged as the result of this growth, now demand some livelihood without which growth's future is opaque. The industrial restructuring is inevitable step which china has to take in order to prevent a downfall. The transfer of labor force to more productive industries is most visible way to increase their standard of living

| | |
|---|---|
| 2005 | 5.90 |
| 2006 | 8.50 |
| 2007 | 10.10 |
| 2008 | 9.30 |
| 2009 | 4.90 |
| 2010 | 4.00 |
| 2011 | 1.90 |
| 2012 | 2.30 |

**Table 1** Current account balance as %age of GDP, Sources - World bank database

| Item | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| Gross Domestic Product (100 million of RMB yuan) | ¥ 249,530.00 | ¥ 300,670.00 | ¥ 335,353.00 | ¥ 397,983.00 | ¥ 471,564.00 |
| Industrial Value Added | ¥ 107,367.00 | ¥ 129,112.00 | ¥ 134,625.00 | ¥ 160,030.00 | ¥ 188,572.00 |
| Fixed Asset Investment (100 million of RMB yuan) | ¥ 137,239.00 | ¥ 172,291.00 | ¥ 224,846.00 | ¥ 278,140.00 | ¥ 311,022.00 |
| Fixed Asset Investment (100 million of RMB yuan) as %age of GDP | 55.00% | 57.30% | 67.05% | 69.89% | 65.96% |
| Growth rate of fixed investment | | 25.54% | 30.50% | 23.70% | 11.82% |
| Retail Sales of Consumer goods(100 million of RMB yuan) | ¥ 89,210.00 | ¥ 108,488.00 | ¥ 125,343.00 | ¥ 156,998.00 | ¥ 183,919.00 |
| Growth rate of retail sales | | 21.61% | 15.54% | 25.25% | 17.15% |
| Retail Sales of Consumer goods(100 million of RMB yuan) as %age of GDP | 35.75% | 36.08% | 37.38% | 39.45% | 39.00% |
| Urban Retail sales (100 million of RMB yuan) | ¥ 60,411.00 | ¥ 73,735.00 | ¥ 85,133.00 | ¥ 136,123.00 | ¥ 159,552.00 |
| Country & Below (Rural)retail sale (100 million of RMB yuan( | ¥ 28,799.00 | ¥ 34,753.00 | ¥ 40,210.00 | ¥ 20,875.00 | ¥ 24,367.00 |
| Export & Import (100 million of USD) | $ 21,738.00 | $ 25,616.00 | $ 22,072.00 | $ 29,728.00 | $ 36,421.00 |
| Export (100 million of USD) | $ 12,180.00 | $ 14,285.00 | $ 12,017.00 | $ 15,779.00 | $ 18,986.00 |
| Import | $ 9,558.00 | $ 11,331.00 | $ 10,055.00 | $ 13,949.00 | $ 17,435.00 |
| Balance | $ 2,622.00 | $ 2,954.00 | $ 1,962.00 | $ 1,830.00 | $ 1,551.00 |
| Growth rate of export-import | | 12.66% | -33.58% | -6.73% | -15.25% |
| Fiscal Revenue(100 million of RMB yuan) | ¥ 51,304.00 | ¥ 61,316.90 | ¥ 68,476.90 | ¥ 83,080.30 | ¥ 103,740.00 |
| | | | | | |
| Fiscal Expenditure(100 million of RMB yua | ¥ 49,565.40 | ¥ 62,427.00 | ¥ 75,873.60 | ¥ 89,575.40 | ¥ 108,929.70 |
| Balance | ¥ 1,738.60 | ¥ -1,110.10 | ¥ -7,396.70 | ¥ -6,495.10 | ¥ -5,189.70 |
| Fiscal defiit as %age of GDP | 0.70% | -0.37% | -2.21% | -1.63% | -1.10% |
| Per Capita Urban Residents Dispensable Income (yuan) | ¥ 13,786.00 | ¥ 15,781.00 | ¥ 17,175.00 | ¥ 19,109.00 | ¥ 21,810.00 |
| Per Capita Rural Residents Net Income (yuan) | ¥ 4,140.00 | ¥ 4,761.00 | ¥ 5,153.00 | ¥ 5,919.00 | ¥ 6,977.00 |

**Table 2** Macroeconomic data for China (in 100 million Yuan), Source---Financial stability report 2012, PBoC and National, China statistical year book

| Different industry share of Chinese economy | | | |
|---|---|---|---|
| | %age of Manufacturing | %age of GDP | %age of World output |
| Consumer non-durables | 25.93 | 9.94 | 2.780108 |
| Consumer durables | 3.4 | 1.3 | 0.353084 |
| Intermediate goods | 41.74 | 16.02 | 3.383436 |
| Investment goods | 29.15 | 11.18 | 2.86238 |

**Table 3** Manufacturing output of China in some industries, Source-Oxford research

| Category | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Employment in services (% of total employment) | 27.50 | 27.70 | 28.60 | 29.30 | 30.60 | 31.40 | 32.20 | 32.40 | 33.20 | 34.10 | 34.60 |
| Employment in industry (% of total employment) | 22.50 | 22.30 | 21.40 | 21.60 | 22.50 | 23.80 | 25.20 | 26.80 | 27.20 | 27.80 | 28.70 |
| Employment in agriculture (% of total employment) | 50.00 | 50.00 | 50.00 | 49.10 | 46.90 | 44.80 | 42.60 | 40.80 | 39.60 | 38.10 | 36.70 |
| Services, etc., value added (% of GDP) | 39.02 | 40.46 | 41.47 | 41.23 | 40.38 | 40.51 | 40.94 | 41.89 | 41.82 | 43.43 | 43.19 |
| Industry, value added (% of GDP) | 45.92 | 45.15 | 44.79 | 45.97 | 46.23 | 47.37 | 47.95 | 47.34 | 47.45 | 46.24 | 46.72 |
| Agriculture, value added (% of GDP) | 15.06 | 14.39 | 13.74 | 12.80 | 13.39 | 12.12 | 11.11 | 10.77 | 10.73 | 10.33 | 10.10 |

**Table 4** Contribution to GDP and employment by service sector, manufacturing sector and agricultural sector from 2000-2010, Source- World bank database

| YEAR | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|---|---|---|---|
| INTEREST RATES | 2.00 | 2.30 | 2.30 | 2.50 | 4.10 | 2.30 | 2.30 | 2.80 | 3.50 | 3.00 |
| INFLATION | 1.2 | 3.9 | 1.8 | 1.5 | 4.8 | 5.9 | -0.7 | 3.3 | 5.4 | 2.7 |
| REAL EFFECTIVE INTEReST RATES | 0.80 | -1.60 | 0.50 | 1.00 | -0.70 | -3.60 | 3.00 | -0.50 | -1.90 | 0.30 |

**Table 5** Year wise interest rates and inflations rates %ages, Source- World bank database and Author's own calculations

**Paper studied**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