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Title: GDP Growth

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Abstract

This paper aims to explore the effect of the exponential economic growth in China and its impact on the income of the population. It is a well-known fact that high economic growth tends to have positive impact on the welfare of each residing citizen of any particularly country. However, this paper will further explore the impact level of economic growth in term of incremental income per capita and the emergence of income disparity. So this paper will examine the possible sources of incremental income disparity among different regional cohorts, specifically rural and urban cohort.

Quantitative and qualitative methodologies will be additionally used to analyze the policies proposed by the government in order to cope with the disparity across selected cohorts using measurements such as Gini Coefficient and Lorenz Curve. The concluded findings will enhance the understanding and analysis of the impact of economic growth on income disparity. Exogenous factors that might alter the livelihood and quality of life will be recognized in this paper. The methodologies designed for the interpretation are subjected to aggregation.

1. Introduction

Economic growth is defined as an improvement in economic performances in term of efficiency and effectiveness of many sectors in the economy (Sach, 2005). China, in the last twenty years, has redefined a new term of economic growth with average annual growth rate of 9% (Khin, 2010; Lin, 1992). The poverty level is reduced from 250 million in 1978 to 37 million in 1999. Furthermore, life expectancy at birth was 70.3 years and the adult illiteracy rate significantly dropped to only 15.9% in 2000 from with 34.5% in 1980 (Biggeri, 2003). This major growth is influenced by many restructurings in the market system and financial institutions commenced by Deng Xiao Ping's economic reform, which lead to significant improvements across all sectors (Khin, 2010; Lin, 1992; Sachs & Wing Thye, 2000).

Khin (2010) asserts that the economic reform has rapidly developed the country especially around the coastal and central region cohorts hence creating strong regional income inequalities. The uneven economic growth characterized by the emergence of

income disparity across regional cohorts should also be emphasized (Olivia, Gibson, Rozelle, Huang, & Deng, 2011).

2. Literature Review

The issues of economic growth and income disparity are commonly generated consensus among numerous economists and local governments because of relevant testing and physical nature of the matter (Khin, 2010). This paper aims to improve and integrate all previous studies and present the issues in simpler prospect. Income disparity emerges from uneven distribution of wealth. Hence even with strong economic growth, China is unlikely to experience a monolithic capitalistic market in the near future (Guo, 2009). Thus this paper will look at all potential factors that contribute to the economic growth, and further explore the sources of income disparity.

2.1 Factors of Economic Growth in China

TABLE 1

Table 6.1 Decomposition of Chinese economic growth (%)

	1953–60	1961–78	1979–90	1991–99
Average annual GDP growth rate	9.40	4.70	9.00	10.30
Average annual GDP growth rate (adj.)	6.63	3.31	8.50	8.10
Factor contribution to average annual GDP growth rate (adj.)				
Capital contribution	2.90	2.40	4.85	5.45
Labor contribution	0.84	0.84	0.99	0.48
Human capital contribution	0.58	1.32	1.32	0.40
TFP contribution	2.31	−1.25	1.34	1.77

Notes: GDP = gross domestic product; TFP = total factor productivity.
Source: Wang (2000).

Source: Wang (2000) as cited in Guo (2009)

In accordance to table 1, physical capital contribution makes up the largest input of the economic growth in the pre-1978 era. The physical contribution has essentially doubled after the economic reform post-1978 era thus elevates rapid economics growth in the last twenty years (Guo, 2009). Guo (2009) states that the growth does not solely compose from the increase of input from physical and labor capital, but in conjunction to

efficiency of individual's saving rate, foreign direct investment, and improved expenditures as partially described by the total factor productivity (TFP).

In the prospect of Yasheng (2010), who is in favor of the standpoint of Washington Consensus[1] than the established Beijing Consensus[2], advocates that the realized economic growth in some degree was the result of financial liberalization, private entrepreneurship and political transparency. Zhou (2010) concurs and states, "the reform and opening up laid the institutional foundation for the rapid growth of China's economy and promoted China's participation in global economic competition(Zhou, 2010)." Wei & Xiaohui (2009) further concludes that decreasing government intervention and allowance of market to pursue the role in resource allocation contribute the growth further. Nonetheless, the market has yet to reach an optimal point thus in conjunction with the ownership reform and privatization, more incentives are provided to management and workers. Structural and institutional reforms engage important roles in the pace of the economic development during China's transition from a fully planned collective economy to a market-oriented economy with redefined property right and privatization of enterprise.

Another contributing factor of the Chinese economic growth that worths consideration is the integration into the globalization. Through large scale of foreign capital influx in which China gained tremendous opportunities in four aspects: access to internationalized labor market, contemporary technological and capital gains, foreign direct investment (FDI), and international competition (Woo, 1998). FDI has tremendously important benefits beyond its initial investment gains for all involving parties. FDI promotes domestic employment, optimizes the structure of export goods, and motivates increasing numbers of manufacturers and entrepreneurs to compete globally (Ping, Chen, & Xiaojin, 2010). It is important to underline that FDI enables direct gains including inflow of foreign capital assets, access to advanced technologies, remarkable progress in R&D capabilities, as well as indirectly provides positive simulative such as introduction of efficient management, labor specializations, and improved international distribution networks (Gang & Ruifang, 2007; Ping, et al., 2010; Wei & Xiaohui, 2009).

1. Washington Consensus: http://www.cid.harvard.edu/cidtrade/issues/washington.html
2. Beijing Consensus: http://fpc.org.uk/publications/TheBeijingConsensus

These spillovers from FDI and low labor cost benefit both vertical and horizontal aspect of business (Wang & Zhao, 2009).

2.2 Growths and Inequality

Focusing on urban area, annual wage can be seen to have increased from 343 RMB ($50 AUD in current exchange rate) in 1978 to over 10,000 RMB ($1462 AUD) in 2005 thus transforming consuming general expenditure pattern as well (Brajer, Mead, & Xiao, 2010). Drastic economic growth in China is an important factor that yields an understanding of differential results between aggregate Gross Domestic Product (GDP) growth and the economic growth disparity across regions (Zhang, 2001). The key focus of this paper is the analysis of favorable policies of the government in the 1980s toward coastal regions. The decentralization of policy promotes industrialization thus raises average regional income, hence becoming the primary source of increasing regional as well as individual income disparity. Overall, the aggregate GDP has increased income per capita but the disparity between urban and rural fluctuates based on policies that aim at specific regional cohorts (Walder, 1987).

The reformation in urban wage has brought about numerous consequences in the state industry and bureaucratic in respect to increased bonus spending, unethical and deceptive business conducts, and increased transaction and implementation cost (Walder, 1987). As strongly emphasized by Chinese president Wen Jiabao's description of the Chinese economy, "unstable, unbalanced, uncoordinated and unsustainable (The Economist, 2011). Another issue of income disparity is the depopulation and migration of rural cohort to the urban cohort, which contribute highly to the disparity (Chan & Kulkarni, 2006).

A probable source that may have a deep impact on income disparity may partly due to the rural taxation system and the procurement system. The tax system directly tax agricultural output after procurement, which create heavy burden on the rural cohort thus reduce the amount of consumption, labor, and ultimately, the growth of rural agriculturalists (Tao, 2002). Tao (2002) states that rural cohort is most vulnerable to local bureaucratic expansion and corruption, where implementation cost may be increased due

to unethical bureaucratic gain. The severity of this issue is lessened by the fact that almost 90 percent of the rural cohorts obtain the ability to obtain basic necessities, and the expenditures, consumption pattern have increased by 14% (Khin, 2010; Gao, Wailes, & Cramer, 1996). But in contrast to urban cohorts, the rural cohorts are these regions are distant from the Special Economic Zones (SEZs), in fact these regions also face uneven poverty reduction (Ravallion & Chauduri, 2006).

Ravallion & Chen (2007) describe that growth in economy will contain less impact on equity of income if the poverty reduction program is not aimed to reduce the poverty level evenly. Economic growth generally raises the level of income, however, if the distribution of wealth is not efficient then the income disparity will still be on the rising trend. Economic growth has indeed increased the wellbeing and income cohorts China, however, not all cohorts have experienced equal growth, particularly rural areas. So the disparity of rural and urban cohorts is based on many factors including advantageous policies toward urban cohort, diverse burdens from taxation system, poverty reduction program, availability of alternatives works, and access to capital and loans.

3. Measurement of inequality

This section will briefly review the existing literatures on methods of measuring inequality, especially in terms of income disparity between rural and urban areas within China, and highlighting several data and conceptual issues that will be focused on in our work.

3.1. Income Disparity

Figure.1

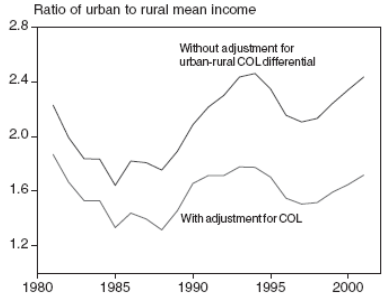

Fig. 3. Relative inequality between urban and rural China.

Figure.2

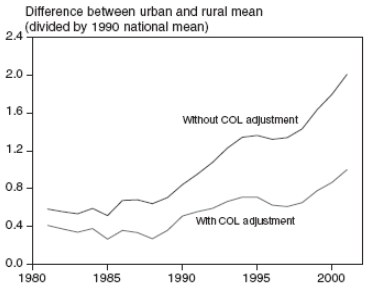

Fig. 4. Absolute inequality between urban and rural China.

Source: Ravallion & Chen (2007)

The figures are drawn from the Rural Household Surveys (RHS) and the Urban Household Surveys (UHS) from China's National Bureau of Statistics (NBS) (Ravallion & Chen, 2007). Ravallion and Chen (2007) provide an intuitive concept by illustrating the disparity chart using income difference between rural and urban cohorts in relative and absolute term. Differentiating average incremental wage will lead to increase in inequalities. Figure.1 provides relative inequality (the ratio of urban mean income to rural mean income) from 1980 to 2000. There is a clear overall increasing trend in the ratio whether adjustments are created for the cost-of-living difference. However, the ratio dropped around mid 1980s and late 1990s. Figure.2 illustrates trends of income in absolute term are generally upward sloping, nevertheless, there are two periods (early 80s and mid 90s) that the trends go against the general pattern (Ravallion & Chen, 2007).

3.2. Gini Coefficient

Economists use Gini coefficient as an indicator to show the equity level of the distribution of wealth. The measurement is standardized to range between 0 and 1, where 0 means complete equitable distribution of income and 1 means complete inequitable distribution of income (Hindriks & Myles, 2006). According to the international standard[3], if the coefficient below 0.3 means "optimal state"; the figure between 0.3 and 0.4 means "normal state"; the one above 0.4 refers to "warning state" and the one reaching 0.6 refers to the "dangerous state" where a social turmoil could occur anytime. The formula of Gini coefficient is as followed:

$$\text{Gini} = \frac{\sum\sum\sqrt{(x_i - x_j)^2}}{2n^2\bar{x}}$$

[3] China Economic Net, "China's Rich-Poor Gap have been Closed to the Warning Level" < http://en.ce.cn/Insight/200408/05/t20040805_1425648.shtml >

Table 2

Table 6.2 China's income Gini coefficients, selected years

Year	Rural area	Urban area	China as a whole
1952	0.230	0.165	0.255
1979/80	0.310	0.160	0.330
1988	0.338	0.233	0.382
1995	0.381	0.280	0.437
2002	0.366	0.319	0.454
2007	0.370	0.399	0.496

Sources: (1) World Bank (1983, pp. 83 and 92) for 1979/80; (2) Zhao (2001) for 1988 and 1995; (3) Li (2004) for 2002 and (4) www.ahpc.gov.cn for 2007.

Source: Guo (2009)

In Table 2, the Gini coefficient displays a moderate inequitable distribution of income in the rural cohorts in 1952. The trend of rural inequity has drastically increased as shown in the table where the 2007 gini coefficient reaches 0.37 thus showing that the disparity in income is greatly deviated in the rural cohorts. The urban gini coefficient is vastly better than the rural in the 1950s, however, its rising trend exceeds the rural cohort in 2007, where the urban gini coefficient is technically 0.4. So Guo (2009) states that there is income disparity in both regional cohorts, however, real income for urban is larger than that of rural cohorts in addition to migration of rural peasants into urban area. The overall measurement of China as a whole is 0.496, which implies that the disparity of distribution of wealth is high while still being on a rising trend.

Table 2

Table 10
Gini indices of income inequality

	Rural	Urban	National	
			Without adjustment for COL difference	With adjustment for COL difference
1980	24.99	n.a.	n.a.	n.a.
1981	24.73	18.46	30.95	27.98
1982	24.40	16.27	28.53	25.91
1983	25.73	16.59	28.28	26.02
1984	26.69	17.79	29.11	26.89
1985	26.80	17.06	28.95	26.45
1986	28.48	20.66	32.41	29.20
1987	28.53	20.20	32.38	28.90
1988	29.71	21.08	33.01	29.50
1989	30.96	24.21	35.15	31.78
1990	29.87	23.42	34.85	31.55
1991	31.32	23.21	37.06	33.10
1992	32.03	24.18	39.01	34.24
1993	33.70	27.18	41.95	36.74
1994	34.00	29.22	43.31	37.60
1995	33.98	28.27	41.50	36.53
1996	32.98	28.52	39.75	35.05
1997	33.12	29.35	39.78	35.00
1998	33.07	29.94	40.33	35.37
1999	33.91	29.71	41.61	36.37
2000	35.75	31.86	43.82	38.49
2001	36.48	32.32	44.73	39.45
2002	n.a.	32.65	n.a.	n.a.

Figure.3

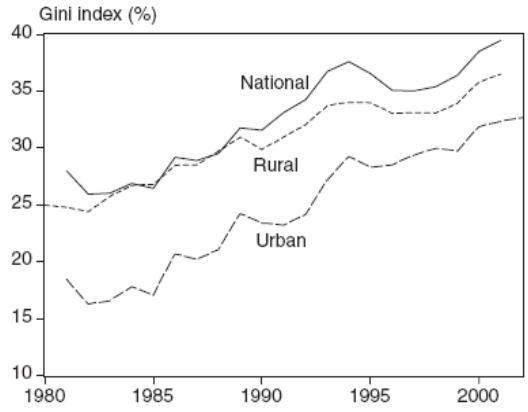

Fig. 5. Income inequality in rural and urban areas and nationally.

Source: Ravallion & Chen (2007)

Ravallion and Chen (2007) use Rural Household Surveys (RHS) and the Urban Household Surveys (UHS) from China's National Bureau of Statistics (NBS) to construct

the Gini index as seen on table 2 and Figure.5 (Ravallion & Chen, 2007). Both rural and urban Gini coefficient increase gradually with the rural figures significantly higher than urban figures in 1980. Equivalently, inequity in rural cohort is not significantly larger than urban cohort in later date (Guo, 2009; Ravallion & Chen, 2007). Nationwide inequity, as expected, is much larger than the figure in either rural or urban areas.

3.3 Lorenz curve

Lorenz curve is a graphical analysis of cumulative income distribution function. It displays what portion of the total income (y-axis) is received by the bottom percentage of population (x-axis) (Chotikapanich & Griffiths, 2005; Shahrestani & Bidabad, 2010; Chan & Kulkarni, 2006). The perfect equality line will be the 45 degree line going through the origin. Any deviation from this line means the existence of inequality.

Figure. 4

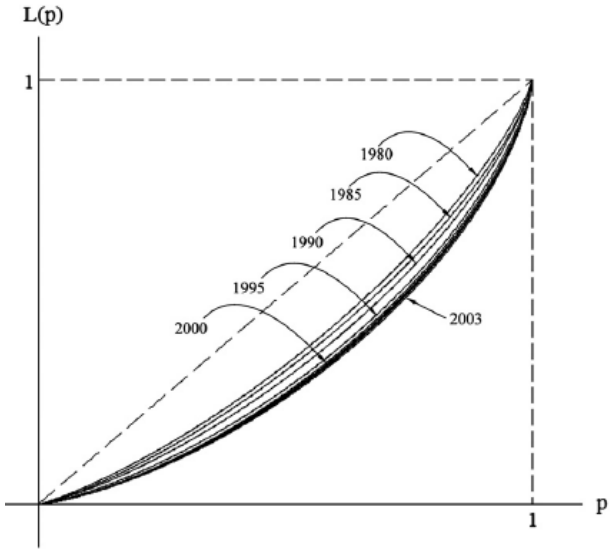

Fig. 1. Lorenz curves for rural China 1980 to 2006.

Table 3

Table 3
Income shares at the lower part of the distributions for rural China 1980 to 2006.

P	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005	2006
0.30	0.1671	0.1572	0.1454	0.1290	0.1210	0.1197	0.1179	0.1147	0.1180	0.1164	0.1154
0.20	0.1003	0.0927	0.0849	0.0733	0.0675	0.0668	0.0659	0.0638	0.0656	0.0647	0.0638
0.10	0.0430	0.0383	0.0348	0.0285	0.0256	0.0254	0.0251	0.0241	0.0247	0.0244	0.0238
0.05	0.0187	0.0161	0.0145	0.0113	0.0099	0.0098	0.0098	0.0093	0.0095	0.0093	0.0090

Source: Wang et al., (2009)

Wang, Smyth, & Ng (2009) utilize grouped data on net income compiled by State Statistics Bureau (SSB) to estimate the Lorenz curves for rural area from 1980 to 2006. Figure.4 displays the cumulative income percentage of the population is getting smaller from 1980 onwards, and it is especially clear on the lower part of the distribution. Wang et al (2009) lists the values at population shares where p = 0.3, 0.2, 0.1, 0.05 in table 3 to demonstrate this observation. For instance, the income share of low-income cohorts with population share p=0.2 decreases from 10.03% in 1980 to 6.38% in 2006, and that with population share p=0.05 decreases from 1.87% in 1980 to 0.90% in 2006. Wang et al (2009) points out that this implies "the rural poor have not been able to catch up and share the benefit of economic growth".

4. Conclusion

Economic growth in China has tremendously positive effect on the incomes of rural and urban cohorts. Economic growth is derived from many factors including economic reform, remarkable inflow of foreign indirect investment, access to advance technology and international labor market, and improved competition. Rapid growth in the economy is the likely cause of emerging income disparity between rural and urban cohorts due to the advantageous policies toward coastal regions thus allowing uneven economic growth. Factors that affect rural cohorts' income disparity relative to urban cohorts are the tax system and unethical bureaucratic conduct that reduce the distribution of wealth. The Gini coefficient measures China as a whole at 0.5, which mean the income disparity is quite vast and the trend is rising. The Lorenz curve and Gini coefficient effectively reflects the disparity graphically thus proving to be good measurement of income disparity. This paper recognizes that there are other exogenous factors that cannot be measured thus the sources of income disparity might be reflected slightly different from the data solely.