ACCUMULATION, DISTRIBUTION AND GROWTH

The Chinese Experience

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I. Introduction

China's remarkable growth during the last three decades has not only surpassed the historical peak growth record of the East Asian pioneers like the Republic of Korea and Taiwan but has also been unique in that it has by and large been self-financed, in the sense that domestic savings matched or exceeded domestic investment, right from the beginning of current growth surge that dates back to the launching of reforms at the end of 1978. Prior to 1990 domestic investment often exceeded domestic savings although their difference rarely exceeded one per cent of GDP. Since 1990 domestic savings have exceeded domestic investment in all years except one. The excess of savings over investment, i.e., of exports over imports, has been substantial since the mid 1990s, leading to China's massive accumulation of foreign reserves. In the years since 2005 the excess of savings over investment has grown from more than five per cent of GDP to a peak of close to ten per cent, an unprecedented phenomenon for a developing country that is not a large exporter of oil or minerals.

Much discussion has been going on about the international implications of this phenomenon, especially the exchange rate policies that underlie this. It has been alleged that China's exchange rate policy has pursued an extreme kind of export-led industrialization which has led to its emergence as the principal creditor to the US, thereby creating a huge imbalance in the world economy: the largest and one of the richest of the countries, the U.S.A, spending far more than it produces and the relatively poor China producing far more than it spends. Some analysts in advanced countries have gone as far as blaming this policy on the part of China as being largely responsible for the assets bubbles that led to the financial crisis and the long recession of 2008-09.

This paper has very little to say about this alleged consequence of China's accumulation and exchange rate policies although the writer remains skeptical about the

prospect of the international imbalance and the U.S. deficit being substantially cured by the adjustment of China's exchange rate. The massive US deficit is due to reasons of which the role of the undervalued Yuan is at most one, the quantitative contribution of it being uncertain. China is one of many countries with which the US trade runs a deficit. Admittedly the deficit with China is the largest of US's bilateral deficits, but, on the evidence of the first ten months of 2009, just 30 per cent of the total US deficit. The deficit with the OPEC countries is three-quarters of the deficit with China and the deficit with the two NAFTA partners 58 per cent of the same. Europe, Japan and numerous other Asian countries are the other trading partners with whom the US runs large deficits.[1] No more than a third of the voracious appetite for US capital imports can be met by China's capital export even if all of it is diverted to acquire US assets. Secondly, it is beyond doubt that an appreciation in the US$ value of the Yuan would not reduce US trade deficit by anything like the amount by which China's net exports would decline. Given the composition of US-China trade, it is highly likely that for much of it comparative advantage would turn not toward the US but towards other emerging economies – e.g., Vietnam, Thailand, Indonesia – in goods that are currently exported by China to the USA and to other industrial countries in goods that are China's "marginal" import substitutes. US external imbalance will have to be solved by US policies - e.g., some form of regulation of capital inflow leading to exchange rate depreciation; and energy policy reform that reduces the demand for energy imports - not by China's exchange rate adjustment.

This does not mean that China should continue to pursue its policies for restraining consumption and promoting accumulation, of which the undervalued Yuan is a consequence. The paper discusses the effects of China's strategy of capital accumulation on the living standard of the masses, the distribution of income and inequalities of different kinds. It argues that excessive emphasis on accumulation has resulted not only in a lower rate of improvement in the average living standard but also a faster increase in inequality in the distribution of income. The domestic imperative of transferring an adequate proportion of the growth of output to the improvement of the

[1] These data are from The Bureau of Economic Analysis News, FT-900 release, December 10, 2009.

living standard of the masses constitutes a strong case for the dismantling of the current regime of massive excess of domestic savings over domestic investment.

II. Capital Accumulation and Growth in China

Principal Features

Some broad features of China's capital accumulation in the period since the beginning of reforms may be summarized as follows (see Table 1):[2]

(a) China emerged from the Maoist period with very high rates of domestic saving and investment, the two rates being very close, with an insignificant rate of net capital inflow.

(b) During the first half decade of reforms, the rates of saving and investment steadily declined. Between 1978 and 1982 the rate of investment fell by 6.3 percentage points, i.e., by more than a sixth. While much of this was due to the fall in the rate of domestic saving, some of the decline was also due to the replacement of the small rate of net capital inflow by a small rate of net capital outflow. China's investment rate bottomed out at 32 per cent of GDP which is high by most standards. The decline in the rates of saving and investment in the early 1980s did not bring the rate of growth down to any unacceptable level: during the first five years after the launching of reforms the rate of growth averaged at higher than 8 per cent per year which is not only comparable to the highest historical rates of growth ever sustained over a reasonable period of time in any group of countries, but was also high enough to provide a sound basis for rapid poverty reduction.

[2] China's income accounting did not conform to the standard international method in the past. This resulted in some overstatement of the savings and investment rates because the excluded items of income, most importantly the rental value of owner-occupied housing, were predominantly elements of consumption. National accounts were revised in 2005 to conform to international methods. It is not entirely certain how far back in the past the method was applied to obtain revised estimates. This paper assumes that the data, which are from the 2008 Statistical Yearbook or more recent sources, are based on the revised estimates. Note that if revisions were limited to recent years, and not incorporated in the estimates for earlier years, then the estimated rise in the rates of saving and investment between earlier and recent years, as measured in Table 1, would *understate* the actual rise.

Table 1: Consumption, Saving, Investment and Net Capital Outflow
(Per Cent of GDP)

Year	C	G	S	I	(E-M)
1978	48.8	13.3	37.9	38.2	-0.3
1979	49.2	15.2	35.6	36.1	-0.5
1980	50.8	14.7	34.5	34.8	-0.3
1981	52.5	14.7	32.9	32.5	0.4
1982	51.9	14.5	33.6	31.9	1.7
1983	52.0	14.4	33.6	32.8	0.8
1984	50.8	15.0	34.2	34.2	0.0
1985	51.6	14.3	34.1	38.1	-4.0
1986	50.5	14.5	35.0	37.5	-2.5
1987	49.9	13.7	36.4	36.3	0.1
1988	51.1	12.8	36.1	37.0	-0.9
1989	50.9	13.6	35.5	36.6	-1.1
1990	48.8	13.6	37.6	34.9	2.7
1991	47.5	14.9	37.6	34.8	2.8
1992	47.2	15.2	37.6	36.6	1.0
1993	44.4	14.9	40.7	42.6	-1.9
1994	43.5	14.7	41.8	40.5	1.3
1995	44.9	13.3	41.8	40.3	1.5
1996	45.8	13.4	40.8	38.8	2.0
1997	45.2	13.7	41.1	36.7	4.4
1998	45.3	14.3	40.4	36.2	4.2
1999	46.0	15.1	38.9	36.2	2.7
2000	46.4	15.9	37.7	35.3	2.4
2001	45.2	16.2	38.6	36.5	2.1
2002	43.7	15.9	40.4	37.9	2.5
2003	41.7	15.1	43.2	41.0	2.2
2004	39.8	14.5	45.7	43.2	2.4
2005	37.7	14.1	48.2	42.7	5.5
2006	36.3	13.6	50.1	42.6	7.5
2007	35.4	13.3	51.3	42.3	9.0
2008	35.3	13.3	51.4	43.5	7.9

Note: C = Private consumption; G = Government consumption, S = (100 – C – G) = Saving, I = Gross capital formation, (E-M) = net capital outflow (where E = Exports, M = Imports) all as percentages of GDP. Data are from *China Statistical Yearbook 2008* except for 2008 which are preliminary from CEIC.

(c) It, however, appears that public policy in China found this reduction in the rate of accumulation unacceptable and embarked on policies to reverse the trend. It was not before the early 1990s that China regained the rates of saving and investment that prevailed at the time of launching reforms (in 1978). By 1993 domestic savings had reached close to 41 per cent of GDP and the investment rate had become close to 43 per cent.

(d) There has been no trend increase in the investment rate after the peak reached in the early 1990s and the average rate during the most recent half decade has roughly been similar after a significant dip during the late 1990s and the early years of the new century. The saving rate, however, continued to increase and, except for a short-lived dip at the turn of the century, its inexorable upward climb continued until aggregate saving exceeded aggregate consumption in 2006. Since that year China has saved a higher proportion of its GDP than the proportion of aggregate consumption (private and public) to GDP! This is a phenomenon that is unknown not only in contemporary development experience but perhaps in the entire history of modern mainstream development (there being occasional exceptions in some oil-exporting economies).

(e) Foreign capital inflow has been very low throughout the period under review. Only in two years, 1985 and 1986, did it exceed 2 per cent of GDP. Since 1990 China has steadily experienced a net capital outflow – a net increase in external asset holding – in every year with the exception of 1993 when net capital inflow was less than 2 per cent of GDP. Note that during this period foreign direct investment gradually became a major source of investment in China, from less than 1 per cent of GDP in 1985 to 4.7 per cent in 1995 and 7.8 per cent in 2004 before falling to 4 per cent of GDP in 2007. The fact that the gap between the rates of domestic saving and investment has been positive and rising throughout this period means that FDI inflow did not enhance China's investible resources however crucial it may have been in China's technology acquisition from abroad. China's acquisition of foreign assets has

far exceeded the foreigners' acquisition of Chinese assets of which the inward FDI was a component. By the end of 2008 China's *net* external assets reached $1.52 trillion. Over the last two decades China's domestic savings have not only financed a nearly unprecedented rate of domestic capital formation, but also capital exports to acquire foreign assets at an accelerating rate. This is exact opposite of what development theory foresaw to be the role of a developing economy.

Table 2: Savings and Investment (Per cent of GDP)

Category	1990	1995	2000	2001	2003
		Savings			
Households	20.0	20.0	16.4	16.0	16.6
Government	7.3	4.8	6.3	7.5	7.0
Enterprises	11.5	16.4	15.5	15.0	18.9
		Investment			
Households	6.4	5.2	5.5	5.7	6.7
Government	3.6	2.7	3.5	3.8	3.3
Enterprises	24.7	32.9	27.3	29.0	33.8

Source: Louis Kuijs, *Investment and Saving in China*, World Bank Policy Research Paper Series No. 3633, June 2005, NBS and Kuijs' own estimates. For 2003 the estimates are preliminary. The aggregate saving and investment rates from this Table are slightly different from the ones shown in Table 1 due no doubt to slightly different methodologies used.

Household, Government and Enterprise Savings and Investment

High savings in China is due to high propensities to save on the part of all three actors: households, government and enterprises. All three categories of savers have much higher rates of saving than their counterparts in the rest of the world, both developed and

developing. For selected years the rates of saving and investment by the three categories are shown in Table 2.

Before reforms, in Maoist China, households saved about 5 per cent of their disposable income. Household saving rate increased rapidly after the beginning of reforms: it is estimated to have reached close to 25 per cent by the turn of the century.[3] Rural households, poorer than the urban households, have saved at a higher rate than the urban households. Despite a rise in the household saving rate over time, the share of the households in aggregate domestic savings has fallen due to the fall in household income as a proportion of GDP. Households have used between a quarter (in the early 1990s) to about two-fifths (in recent years) of their savings to finance their own investment, mostly in dwelling houses. The rest has been lent to the enterprises through the intermediation of financial institutions.

The government has also saved at a very high rate and, after using about a half of its savings to finance investment in public administration and defense, has made the rest available to finance investment in power, transport and other infrastructure activities.[4]

Enterprises have steadily increased their share of aggregate *domestic* savings, from less than 30 per cent in the early 1990s to about 45 per cent by the early years of the new century. It still remains dependent on borrowing from households and the government to finance 45 per cent of its *own* investment.

III. Inequality in the Reform Period and the Impetus behind Its Increase

Basic Facts about Inequality

Basic facts about the evolution of China's income distribution are by now well known and their broad features may be summarized as follows (Table 3):

[3] Kouijs (2005)

[4] Note that according to the classification underlying Table 2, public enterprises are included under the enterprise sector.

Table 3: Some Basic Indicators of Inequality and its Change

	Circa 1978	1988	1995	2002
		Gini Ratios		
Rural	0.25 – 0.28	0.338	0.416	0.375
Urban (Excluding Floating Migrants)	<0.20	0.233	0.332	0.318
China (Excluding Floating Migrants)	Approx 0.30	0.382	0.452	0.450
Floating Migrants	-	-	-	0.380
Urban (Including Floating Migrants)	-	-	-	0.338
China (Including Floating Migrants)	-	-	-	0.448
		Indicators of Spatial Inequality		
Urban Income/Rural Income (Excluding Migrants)	-	2.42	2.47	2.96
Coefficient of Variation of Per Capita Provincial Income				
Rural		0.33	0.53	0.47
Urban		0.37	0.39	0.31
		Annual Per cent Rates of Increase in Real Per Capita Personal Income Since the Preceding Period		
Rural		…	4.71	4.07
Urban (Excluding Migrants)		…	4.48	6.44

Note: Inequality and related estimates for 1988, 1995 and 2002 are based on the Chinese Academy of Social Sciences (CASS) surveys. For 1978 and for other years (shown elsewhere in the text) estimates are from a variety of sources which are not strictly comparable to the estimates from the CASS surveys. This paper, focusing on broad trends, does not discuss the details of methodology and provides only the barest minimum of data in the tables, in the text and in the annex. The details of methodology and more detailed numerical estimates of inequality and related data can be found in Khan et al., 1992; and Khan and Riskin, 1998, 2001 and 2005.

1. At the beginning of reforms China had about the lowest rural income inequality of all developing countries. Estimates of Gini ratio for 1978 range between 0.25 and 0.28. Inequality may have remained low for the very early years of reform, but it increased sharply since the mid-1980s, the Gini ratio reaching 0.34 in 1988 and 0.42 in 1995. Thereafter it fell to 0.38 in 2002.
2. Inequality in urban China at the beginning of reforms was even lower than inequality in rural China, estimates of urban Gini ratio ranging between 0.16 and 0.18. It increased rather modestly to 0.23 by 1988 and thereafter sharply to 0.33 in 1995. It leveled off or declined slightly thereafter to 0.32 in 2002. It is worth noting that unlike the other developing countries, the distribution in China is less unequal in urban areas than in rural areas, although the gap between the two has tended to decline over time. Also, by the standard of the other developing countries, urban inequality in China is not yet particularly high.[5]
3. Overall inequality of income distribution for China as a whole has always been higher than either rural or urban inequality, signifying a high disparity between rural and urban income. The Gini ratio for China as a whole at the beginning of reforms, for which estimates are unavailable, was almost certainly below 0.3. It increased to 0.38 in 1988 and 0.45 in 1995 where it stood in 2002.[6]
4. Urban-rural inequality fell for a period after the beginning of reforms but increased thereafter so that average personal income in urban China was 2.42 times the average personal income in rural China in 1988. The ratio increased to 2.47 in 1995 and to 2.96 in 2002.
5. Another indicator of spatial inequality, the inequality of the distribution of regional income, measured by the inequality of income between provinces,

[5] This, however, needs to be seen in the context of the inevitability that in urban areas, much more than in rural areas, extremely high and low incomes have more often been missed out by the surveys.

[6] It appears that after 2002 the Gini ratio for China as a whole increased further to 0.47 (the CIA Fact Book).

had a somewhat different pattern of change: it increased until 1995 but was lower in 2002 than in 1995.[7]

Dismantling Inefficient and Arbitrary Egalitarianism

At the beginning the reformers sounded as if they were trying to overcome the extremes of Maoist excesses in a command economy, not to challenge the socialist system itself. As reforms unfolded it gradually became clear that the reformers' vision was to establish a capitalist market economy. This transition unleashed forces of inequality inherent in market capitalism and removed much of the arbitrary egalitarianism in the distribution of income that was incompatible with the emerging system.

By the time of the Cultural Revolution (1966-76) China had come to adopt a system of distribution that was overwhelmingly inconsistent with the organization of incentives for efficient production. In *agriculture* it took the form of the distribution of income in the communes which was increasingly based on "needs" (i.e. equal for every person within a "basic accounting unit"); and a highly egalitarian method of allocating work points which determined the distribution of the remaining income. *State-owned enterprises in industries and services* had adopted a wage structure which allowed little variation in earnings for differences in skills and productivity. Employment in state and collective enterprises was not dictated by the demand for labor but by the need to provide livelihood to the entire labor force. State enterprises carried far more labor on their payroll than was needed for the efficient organization of production to conform to the doctrine that unemployment was inconsistent with socialism. A significant portion of the labor force in these enterprises represented *concealed unemployment* which was a substitute for unemployment insurance. A good part of income was paid in kind or in the form of subsidies: rationed food and other consumer goods; and housing provided by work units. The distribution of income that resulted from this system was both extremely

[7] This is shown by the change in the coefficient of variation of per capita provincial personal incomes: for rural areas (i.e., rural households in different provinces) this increased from 0.33 in 1988 to 0.53 in 1995 but fell modestly to 0.47 in 2002 and for urban areas it increased from 0.37 in 1988 to 0.39 in 1995 and then fell rather sharply to 0.31 in 2002.

egalitarian and a serious obstacle to productive efficiency. The reform program unleashed forces of inequality by abolishing the economic institutions and policies that promoted this arbitrary egalitarianism.

Chinese reforms began in the rural economy. As the communes were replaced by an agrarian system that resembled *individual peasant farming*, the differences in labor and skill endowments between households started being reflected in the distribution of earnings making it more unequal than the distribution of collective income under the commune system. As limits on individual ownership of *rural housing* and *non-farm activities* were abolished, households came to acquire these assets and incomes from their services in unequal amounts per capita, reflecting their unequal resource endowment. These changes soon led to a substantial increase in rural inequality.[8] Thus by the year 1988, a decade after the launching of reforms, the distribution of income from these sources – individual wages, net income from farm and non-farm activities; and rental value of owned housing – had become more unequal than the overall distribution of rural income at the time reforms began (Annex Table 2).[9]

Inequality of distribution was particularly high for wages which had largely come to consist of wages in non-farm enterprises, dominated by the so-called township and village enterprises (TVEs). The process accelerated over time and by 1995 all these components, with one exception discussed later, came to be even more unequal and the overall rural inequality in China became one of the highest in Asia.

[8] There is some evidence that in the very early years after the institution of rural household responsibility system, inequality in rural China fell mainly because the associated reforms of procurement prices, leading to a sharp improvement in agriculture's terms of trade, provided proportionately greater benefit to poor areas. This effect was soon overwhelmed by the forces of inequality listed above.

[9] The distribution of a particular component of income is measured by the so-called pseudo-Gini ratio which is calculated exactly the same way as the Gini ratio from the so-called pseudo-Lorenz distribution of the component of income. The latter is obtained by plotting the cumulative shares of the given component of income against the cumulative proportions of population based on their ranking according to *par capita overall income* rather than per capita income from the given component. The Gini ratio is the weighted average of the pseudo-Gini ratios of all the components of income where the weights are the shares of the respective components of overall income. By 1988 the pseudo-Gini ratio of each of these components had exceeded the upper bound of the range of estimates for rural Gini ratio for 1978.

The same process began in urban areas with a time lag which was due to the lag between rural reforms and urban industrial reforms. A decade after the launching of reforms, in the year 1988, overall urban inequality had increased significantly but was still very low, as indicated by the Gini ratio of 0.23 (Annex Table 3). The distribution of wages, still mostly earned in state enterprises which had made no more than minimal changes in the egalitarian wage structure of the past, was in all probability only a little higher than what it was at the beginning of reforms and perhaps no higher than overall urban inequality at the time reforms began. But incomes earned in emerging individual enterprises and private housing, all of them still quite small proportions of total income, had become very unequally distributed. By 1995 the distribution of wages itself became much more unequal as the share of state enterprises in urban employment gradually declined and the state enterprises themselves started changing the past undifferentiated structure of wages. Rental value of private housing also became very unequally distributed as private ownership of urban housing expanded.

Reform of the State Enterprises and Impediments to Migration

A major impetus for urban inequality came from the reform of state and collective enterprises. By the early 1980s they were opened up to competition from other forms of domestic enterprise and from competitors abroad as China became increasingly integrated with the global economy. These enterprises started shedding the surplus labor that they had been carrying even as their outputs increased. The number of workers laid off by these enterprises often exceeded the number of new jobs created by the incremental components of the rapidly-growing industrial sector. Thus the observed overall output elasticity of employment in industries became very low, often negative. Real wages of the employed workers continued to rise at a steady rate while large numbers of the laid-off workers, without an adequate system of protection, sank into poverty.

Table 4: Employment in Agriculture and in Urban Industries

(Millions)

Year	Agriculture	Urban Industries
1991	391.0	140.2
1992	387.0	143.6
1993	376.8	149.7
1994	366.3	153.1
1995	355.3	156.6
1996	348.2	162.0
1997	348.4	165.5
1998	351.8	166.0
1999	357.7	164.2
2000	360.4	162.2
2001	365.1	162.8
2002	368.7	157.8
2003	365.5	160.8
2004	352.7	169.2
2005	339.7	180.8
2006	325.6	192.3
2007	314	206.3

Source: *China Statistical Yearbook 2005 and 2008*

This had a critically important effect on the entire pattern of China's development as can be found by comparing China's performance with that of the Republic of Korea, an illustrative case of the East Asian pioneers, at a comparable stage of its development. In Korea during the 1970s the secondary industries had an output elasticity of employment – per cent growth in employment induced by a per cent growth in value added - of approximately 0.7. This led to a rapid growth in employment in the secondary industries. With similar employment growth in the tertiary sector, the result was a rapid shift in the composition of employment, agriculture's share of work force falling from 50 per cent in 1970 to 34 per cent in 1980 and 18 per cent in 1990. Absolute employment in agriculture fell at an annual average rate of 2.3 per cent. During a comparable period in China, the 1990s, the output elasticity of employment in industries hovered around 0.2

between 1991 and 1995 thereafter becoming negative (hitting the amazing figure of -1.5 in 1998) and remaining negative until 2001.[10] The slow growth of employment in industries is symptomatic of the low employment intensity of growth in the entire non-agricultural sector. As a consequence agriculture continued to "employ" a disproportionately high share of total work force: agriculture's share of total employment changed from 69 per cent in 1980 to 60 per cent in 1990 and 50 per cent in 2000, a far slower rate of decline than in the East Asian pioneers. Absolute employment in agriculture peaked in 1991 and fell thereafter for five years at an annual rate of 2.3 per cent. After 1996 this trend was reversed and agriculture's absolute employment increased at an annual rate of one per cent per year for the next six years!

This did not happen due to a an increase in agriculture's labor demand but a failure of the rest of the economy to absorb labor: during the same period employment in the entire secondary sector fell absolutely by close to half a per cent per year despite an annual growth in value added of 10 per cent per year. This seriously aggravated the productivity difference between agriculture and the rest of the economy which in turn contributed to the worsening of the urban/rural inequality. The absolute increase in agriculture's burden of employment continued until 2002 and the absolute decline in industrial employment was reversed only in 2003. The favorable consequence of these changes in the early years of the 21st century on inequality and poverty reduction in China is discussed later.

Migration of labor out of agriculture started in the 1980s and accelerated in the 1990s. These migrants were denied official urban residence without which entry into formal employment was severely restricted and access to official education, health, housing and other urban services denied. It is difficult to know if and where these migrants were captured in the official statistical system. Of the three CASS surveys only the latest one included them (Annex Table 1). Discrimination against the migrants was on the whole unfavorable for rural and overall distribution of income.

[10] These estimates are from an unpublished paper by Cai Fang, 2006.

Few Countervailing Measures Adopted

The increase in inequality due to most of the above forces was unavoidable and many of the changes that led to their emergence were indeed desirable in so far as they were necessary conditions for higher growth and greater efficiency. But the disequalizing effects of the changes did not have to be as great as they were. Appropriate policy responses could have mitigated their effect. Indeed in the case of one very important component, income from farming, policies did limit the increase in inequality. China's rural reforms instituted an egalitarian access to land. In any given community or ecologically homogeneous area all members were granted equal access to land, in the form of the right to use, the duration of which was soon made indefinite and heritable. The sale of land was not permitted. The local government reserved, and periodically exercised, the right to redistribute land in response to demographic changes. This served to limit the inequality of distribution of farm income and guaranteed basic food security to all except the most labor-poor households. Over time the inequality of access to land was virtually completely eliminated and farm income came to be increasingly more equally distributed (Table 5).

Table 5: Distribution of Landholdings among Rural Individuals

	1988	1995	2002
Gini Ratio			
Unadjusted Land	0.499	0.431	0.488 (0.478)
Adjusted Land	0.465	0.414	0.458 (0.443)
"Pseudo-Gini Ratio"			
Unadjusted Land	0.021	0.001	-0.013 (-0.019)
Adjusted Land	0.063	0.051	0.018 (0.012)

Note: "Unadjusted" Land is total land area irrespective of the proportion irrigated, while "adjusted" land counts an irrigated hectare as equivalent of two hectares of unirrigated land. The Gini ratio is estimated from the Lorenz distribution of per capita land, in which individuals are ranked according to per capita landholding. The "pseudo Gini ratio" is estimated from the Lorenz distribution of per capita land, in which individuals are ranked according to per capita income. Figures in parentheses for 2002 are estimates based on the same 19 provinces that were in the 1995 sample (i.e., excluding Xinjiang and Guangxi). For sources of the 1988 and 1995 estimates see Khan and Riskin 2001, p. 108.

Source: Khan and Riskin, 2005.

The problem however is that, as expected to happen in a rapidly-growing economy as China's, farm income became progressively smaller as a source of personal income and the components that became larger over time also came to be more unequally distributed. Among them are wage income in both rural and urban areas, income from rural non-farm enterprises and the rental value of privately-owned housing.[11] It would be wrong to avoid the reform that freed the wage system from its inflexible structure, to deny private enterprise to develop or to prevent the privatization of housing. But it would be possible to take measures to dampen the disequalizing consequence of each of them. Thus making the structure of wages responsive to skill and productivity differential might have been accompanied by improved and more egalitarian access to skill acquisition; freedom of private enterprise could have been accompanied by the provision of credit and other forms of assistance to small producers; and privatization of housing could have been carried out more equitably. Rather the evidence suggests that the access to basic education and skills became more inequitable as emphasis of reforms was strongly focused on cost recovery even in primary education and basic health services. There is little evidence that an active program for the development of small enterprises existed in the early decades of reform. At least in the early years the benefits of privatization of housing were skewed in favor of the higher-income groups. Finally, the workers laid off by the state and collective enterprises were protected neither by the institution of a transparent system of unemployment insurance; nor by the provision of opportunity for employment in public works programs.

Taxes and Subsidies

Taxes and subsidies are often recommended as instruments to offset the disequalizing effects of efficient economic policies like the ones that reforms in China instituted. At the time reforms began, subsidies were extensive in China, especially in the

[11] The CASS surveys have not captured urban individual enterprises well and the effect of this particular source of income is perhaps understated in the results except for 2002.

urban economy, once account is taken of taxes and subsidies in both cash and kind.[12] Estimates are not available for 1978, but in 1988, net subsidies of all kinds accounted for 39 per cent of income of an average urban household and 17 per cent of income of an average household in all China. Rather than using these net payments to make the distribution of income more equal, Chinese policy makers allowed them to hugely exacerbate the inequality that was unleashed by reforms.

There were several ways in which the redistributive effects of taxes and subsidies aggravated inequality. First, the system discriminated against the rural households who were much poorer than the urban households: the rural households were subjected to an average net tax of 2 per cent of their income while the urban households received a net subsidy of 39 per cent of their income in the year 1988. Secondly, net taxes in rural China were highly regressive: to illustrate, the richest 10 per cent of rural residents received 26 per cent of all income but paid only 13 per cent of all net taxes; and the poorest 10 per cent of rural residents received 2 per cent of all income but paid 11 per cent of all net taxes. In urban areas subsidies on non-food, non-essential goods and services amounted to almost 34 per cent of urban personal income in 1988 and they were significantly more unequally distributed than total income.[13] The truly disequalizing effect of these subsidies is brought out by the fact that for China as a whole they account for less than 15 per cent of income but more than 28 per cent overall inequality.[14] By 1995 average rate of net taxes on rural households fell, but they became even more regressive than in 1988: the top two deciles of population received net subsidies while the remaining eight deciles paid net taxes. Urban net subsidies also fell sharply to 11 per cent of income; but the subsidies that were abolished, those on food and essential supplies, had been least disequalizing. The retained subsidies had a stronger disequalizing effect in 1995 than the same subsidies had in 1988.

[12] Taxes and subsidies include payments to and from work unit which was either state owned or collectively owned enterprise both in cash and kind.

[13] The single largest component of these was housing subsidy. The breakdown is shown in Khan et al., 1992.

[14] The contribution of a component of income to inequality is the product of its income share and its pseudo-Gini ratio.

Simply by allowing net taxes and subsidies to be proportional, i.e. without any redistributive effect at all, Chinese policy makers could have offset much of the disequalizing effects of the desirable reforms for both urban China and China as a whole. For rural China this offsetting effect would however be modest for the simple reason that average net taxes had become very low.

Spatial Inequality

At the beginning of reforms China already had a high disparity between urban and rural living standards. According to official estimates, urban personal income per capita was 2.57 times the rural personal income per capita in 1978. It reached the bottom of 1.82 at current prices in 1983. Thereafter it has increased, with occasional minor reversals, to reach 2.79 in 2000, 3.21 in 2004 and 3.33 in 2007.[15] Urban/rural inequality has increased more or less steadily since the mid 1980s both at current and constant prices though the increase at constant prices has been somewhat lower. [16] The few years in which it fell temporarily – notably the mid 1990s – have been the years that followed a rise in agricultural purchase prices.

High urban/rural inequality has been the reason why the overall Gini ratio for China has been higher than the Gini ratios of both rural and urban China. Without a rise in urban/rural inequality the rate of increase in the overall Gini ratio for China would have been slower. It is thus important to understand the causes behind the sharp rise in urban/rural income disparity.

Agriculture's share of GDP fell by a half from 30 per cent in 1980 to 15 per cent in 2004 and thereafter to 11 per cent in 2007. Over the same period agriculture's share of employment fell from 69 per cent in 1980 to 47 per cent - by less than a third – by 2004

[15] These are all at current prices. Estimates at constant prices also show a steady, though a somewhat slower, increase.

[16] CASS survey estimates of this ratio are different for the three years for which they are available. For 1988 it is higher (2.42) because CASS estimates make a more comprehensive accounting of net subsidies which were more numerous in urban China in that year. For the later years the CASS estimate is lower than the official ratio, respectively 2.47 and 2.96, due to the progressive dismantling of urban subsidies and a better accounting of certain components of rural income. Even so the ratio shows a rise over time.

and thereafter to 41 per cent in 2007. Thus the difference in productivity per person has widened greatly between agriculture and the rest of the economy during the reform period and this is the principal explanation of the widening urban/rural disparity.

To reverse this it would be necessary to reduce agriculture's share of employment and to increase agriculture's share of investment. Indeed the widening income differential has acted as a strong impetus for rural workers to migrate to urban areas, a process that has been strongly discouraged by the official policy of denying to the migrants the benefits – access to education, health, housing and other public services; and much of employment in organized industries – that all registered urban residents are entitled to.

The fall in the disparity in the initial years of reform was largely due to the sharp increase in agricultural procurement prices in 1979 and the improvement in agriculture's terms of trade that followed this. This directly increased the income of the agricultural and rural population and also improved their ability to make productive investment in agriculture. The improvement in agriculture's terms of trade was soon halted and reversed, leading to the widening of the urban/rural disparity. There was another temporary increase in agricultural purchase prices in 1994 which also appears to have dampened the increase in urban/rural inequality for a period according to official survey data. The publication of the index of agricultural purchase prices has been discontinued for more than a decade making it impossible to monitor the change in agriculture's terms of trade. Everything suggests that the failure to continue the initial improvement in agriculture's terms of trade has been a major cause of the increased urban/rural inequality. As discussed later, a number of measures were taken around the turn of the century to blunt sources of inequality with at least a temporary favorable effect. The most important element of national inequality that continued unabated was, however, urban/rural inequality. Urban/rural inequality remains the single largest source of overall inequality in China and its increase has been steady throughout the last quarter century.

A second kind of spatial inequality is that between regions, the richer coastal provinces versus the poorer central and eastern provinces. In the post-reform period the 11 coastal provinces together with Beijing achieved a rate of growth that was nearly four-fifths higher than the growth rate of the remaining provinces of China. The result was an

increase in inter-provincial inequality in the distribution of income.[17] Other things remaining the same, a rise in inter-provincial inequality leads to an increase in the overall Gini ratio. Increased inter-provincial inequality also can make individual components of income more disequalizing. Thus a good part of the much greater disequalizing effect of the distribution of wage income in rural China in 1995, as compared to 1988, was due to the faster growth of wage employment in richer provinces than in poorer provinces.

Much of the increased inter-provincial inequality was either due to government policies or due to lack of policies to promote a greater regional balance in development. The export-led development strategy initiated in the 1980s proved to be disproportionately beneficial to the coastal provinces which, together representing 40 per cent of China's population, accounted for 80 per cent of its exports. Foreign direct investment, which surged in the early1990s, was primarily located in the urban areas of the coastal provinces which already had better infrastructural facilities. Public resources and incentives were heavily tilted in favor of these richer and faster-growing provinces. The artificial depression of producers' prices of grains was much more detrimental to the growth of the central and western provinces the rural areas of which have comparative advantage in their production. Another example of discrimination against poor regions is the pricing of their natural resources: to give an example, vast quantities of coal, whose extraction uses up the scarce supply of fresh water, were taken out of poor areas of Shanxi at extremely low ex-factory prices.

(Temporary) Break in Trend around the Turn of the Century and Its Lessons

The CASS survey of 2002 indicated a fall in the rural Gini ratio, a slight fall or a leveling off of the urban Gini ratio and a leveling off of the national Gini ratio. For rural China the fall in inequality was robust: it fell in 14 of the 19 provinces in the sample and the Gini ratio fell significantly for rural China as a whole. This was brought about principally by three things: (a) a further equalization of the distribution of farm income associated with a greater equalization of access to land; (b) a sharp reduction in the

[17] Thus the coefficient of variation of provincial personal income per capita increased between 1988 and 1995 from 0.33 to 0.55 for rural China and from 0.37 to 0.46 for urban China according to the data for the provinces included in the CASS sample.

inequality of distribution of income from wage employment, a change that was mainly due to a much *better regional balance in the incremental income from wages* and to a better supply-demand balance for employment facilitated by the state policy of grudging tolerance of migration; and (c) a reduction in the regressivity of the system of taxes and subsidies (which remained regressive though much less so than in the past) (Annex Table 2 shows most of the changes).

In urban China inequality fell in only two of the eleven provinces in the sample. In eight of them inequality increased. Even so for urban China as a whole inequality fell slightly and this appears to have been driven by the *reduction in inter-provincial inequality within urban China*. In terms of components of income the effect was due to three elements: (a) there was a sharp fall in the magnitude of disequalizing net subsidies, especially on housing, and the retained subsidies became less disequalizing than before; (b) the conclusion of housing reform gave widespread access to homeownership which made the rental value of owned housing less disequalizing than before (though still having a disequalizing effect on the distribution of income); and (c) certain steps were taken to provide limited benefits to the laid-off workers leading to a better distribution of pensions and retirees' income (Annex Table 3 shows the changes).

For China as a whole the Gini ratio remained unchanged between 1995 and 2002 despite the fall in rural and urban Gini ratios (Annex Table 4). This is because of the very substantial *increase in urban/rural inequality* over this period.

Overall the better distributional outcome in 2002, as compared to 1995, was due to changes in government policy with respect to taxes on and subsidies for households and a variety of policies and programs to promote greater regional balance in development largely to counter the consequences of the Asian financial crisis of 1997. The "Great Western Development Strategy", adopted in 2000, led to a large increase in infrastructure development in the western and poorer central provinces.[18] This must have expanded wage employment in poor regions thereby making wage as a source of rural income less disequalizing for rural China as a whole and reduced inequality between poorer regions and richer regions generally for both rural and urban China. The effect of

[18] The timing of these programs leads one to surmise that the arresting of the rising inequality has occurred in the early years of the new millennium rather than in the late 1990s.

these policy changes was strengthened by the continuation of the policy of ensuring egalitarian access of rural households to land. Not only was a possible polarization of landownership that a private land market might have led to was avoided, the distribution of access to land actually became more equitable (Table 5). That overall inequality for China remained undiminished is largely due to the failure of public policy to reduce the other kind of spatial inequality, that between urban and rural areas, which in fact increased.

It is worth noting that the arrest of the rising trend in inequality in the early years of the new millennium is unlikely to be captured by the inequality estimates made from the official data because some of the sources of reduced inequality (e.g. much of net taxes/subsidies and rental value of housing) do not feature in the income estimates made by official surveys. It is also useful to note that we are unable to determine how long the break in the trend rise in inequality continued. In all probability it did not last long.

Poverty Reduction before and after the Asian Crisis

Additional insights on marginalization can be obtained by comparing the extent of poverty reduction in China during two time periods: the period between 1988 and 2005 (called the earlier period) and the period between 1995 and 2002 (called the later period) for which the basic data are shown in Annex Tables 5 and 6:

(a) Growth rate in per capita GDP was higher in the earlier period than in the later period.

(b) Growth rate in per capita personal income, per capita consumption and per capita personal consumption were higher during the second period than during the first period. This is reflected in the change in the rates of saving and investment during the two periods. During the earlier period these rates steadily increased while during the second period these rates actually fell.[19]

(c) As discussed in some detail above, inequality increased rather sharply during the first period while it fell or remained unchanged during the second period

[19] The investment rate in 2002 was 2.4 percentage points lower than in 1995 and the saving rate was 1.4 percentage point lower. Note, however, that the saving rate in 2001 was 3.2 percentage points lower than in 1995.

(d) As is well known, the change in poverty is completely determined by the change in per capita income (consumption) and the change in inequality in the distribution of income (consumption). Since income growth was higher in the second period (due to higher elasticity of personal income with respect to GDP, despite lower GDP growth rate) and inequality declined in the second period (as compared to an increase in the first period), poverty reduction was much faster in the second period than in the first period: for each per cent growth in per capita personal income in the second period per cent reduction in poverty was 4.4 times as much in the rural area and 32.6 times as much in the urban area as during the first period.

Accumulation Policies as a Determinant of Inequality and Poverty

If China's development were less single-mindedly focused on accumulation, it would have succeeded in reducing poverty quicker. First, a higher elasticity of personal income and consumption would reduce poverty quicker by means of a faster rate of increase in personal income and consumption. But a less extreme emphasis on accumulation would have made the increase in inequality itself slower, thereby making a given growth in income and consumption more poverty alleviating. We shall now summarize some of the major ways in which the preoccupation with accumulation exacerbated inequality in China.

This paper has argued that some increase in inequality over what it was at the beginning of reforms was inevitable and almost certainly desirable; but its increase to the levels reached at the end of the 1990s was neither desirable nor unavoidable. Indeed the disequalizing effects of dismantling most of the inefficient and arbitrary systems, institutions and policies of the past could have been offset by countervailing actions. A few such actions, notably the egalitarian access to land, were actually implemented with very good effects on income distribution. Similar actions were possible to mitigate the disequalizing effects of other reforms:

(a) Freeing of the wage structure from the shackles of Maoist egalitarianism could be combined with wider provision of skills especially to the disadvantaged;

(b) Laying off the concealed unemployed in state enterprises could be offset by public works programs for capital construction in poor areas and the institution of a transparent system of unemployment insurance;

(c) Legalizing private and individual enterprise could be combined with programs for credit and other forms of support for small entrepreneurs;

(d) The increase in urban/rural inequality could be contained by continuing with the early policy of improved terms of trade and larger investment in agriculture;

(e) The shift of public investment in infrastructure development to western and central provinces could start much earlier as incentives could be devised to direct other forms of investment to those areas; and

(f) The regressivity of the extreme kind that characterized the system of taxes and subsidies could be replaced by at least a moderately progressive structure.

Why did the Chinese policy makers not implement these countervailing actions? They must have considered these alternatives and rejected them, with some exceptions over short durations, as inconsistent with their primary objective, namely the single-minded pursuit of growth led by a high rate of accumulation and the allocation of investment in activities and locations of high productivity.

Each one of the countervailing measures could be interpreted as a potential source of reduction in accumulation. Measures to help the laid off workers with the acquisition of new skills and the institution of safety nets for them would reduce public savings. Assistance to small private producers might also have been similarly interpreted. But nowhere is this explanation more clearly borne out than by the consequences of one of the countervailing measures that they actually adopted in the beginning of reforms and then reversed later. The formal launching of reforms at the end of December 1978 was quickly followed by a sharp upward adjustment in agricultural procurement prices in July 1979. Together with the institution of the household responsibility system this led to an unprecedented growth of agriculture which spearheaded the post-reform growth spurt, sharply reduced urban/rural inequality and almost certainly reduced overall national inequality. This was halted and reversed in the mid 1980s. The principal reason for this reversal must have been the heavy burden imposed by the financing of the higher procurement prices on the state budget and the reduction that it caused in the overall

saving and investment rates: between 1978 and 1981 the gross domestic saving rate fell by nearly five percentage points. The policy makers must have decided that this would reduce the capacity of China to accelerate its growth rate, a price that they deemed not worth paying. Similar consideration must have led to the avoidance of other countervailing actions which might have diverted resources from current fixed investment.

The break in inequality around the turn of the century demonstrates how an increased elasticity of personal income and a willingness to increase public expenditure to improve the urban safety net enabled China implement some of the countervailing measures. It seems unlikely that this was steadily reinforced or even continued for long. The domestic saving rate started climbing upwards after only a brief break and exceeded 50 per cent of GDP in 2006, continuing to climb upwards thereafter until 2008, the last year for which data are shown in Table 2.

IV. Capital Export, Accumulation and Growth

Our argument above suggests and there was a trade off between certain inequality-averse policies – notably the reduction of urban-rural and regional inequality and an adequate safety net for the unemployed and the migrants – and growth because those policies would have reduced the rate of investment. It is, however, hard to make the same argument for the period since 1990 whence China started having a significant excess of domestic savings over domestic investment leading to capital export, an acquisition of net foreign assets. Can one find a justification for this?

Let us consider the magnitudes involved. Until 2004 China's capital export – the difference between domestic savings and domestic investment – rarely exceeded 2-3 per cent of GDP. Thereafter it went up sharply, to 5.5 per cent of GDP in 2005, peaking at 9 per cent in 2007 and remaining as high as 8 per cent in 2008. Using the WDI figures for GDP it turns out to be $ 281 billion for 2007. This was just over a third of the net capital inflow into the USA for the year. To make another kind of comparison, this was more than six times the capital inflow into Sub-Saharan Africa (SSA), two-thirds as much more than the entire capital formation in SSA and 37 per cent of the entire GDP of SSA. This

also amounted to 2.67 times the entire net official development assistance received by all the developing countries of the world.

Another way to look at the phenomenon is to consider China's external asset balance constructed from the balance of payments and international asset holding data (Table 6).[20] By the end of 2008, China's net foreign assets were over $ 1.5 trillion which accounted for a net holding of foreign reserves of nearly $ 2 trillion and a negative net balance of about $ 450 billion on FDI, portfolio and other assets. While China's foreign asset acquisition has mainly taken the form of foreign exchange reserves, in recent years it has also emerged as a major foreign direct investor. Little is known about the rate of return on these investment projects; but it seems that the motivation behind them is wider than the economic rate of return. China is directing much of this investment to access sources of energy and natural resources in Africa, Middle East and Central Asia.

Table 6: China's External Asset Position (Billion US$)

	Level at end 2008	Change Dec 2007-2008
Assets: Total	2,920	546
Reserves	1,966	419
Outward FDI	169	53
Portfolio Investment	252	- 33
Other	533	107
Liabilities: Total	1,401	189
Inward FDI	876	173
Portfolio Investment	161	15
Other	364	2
Net Assets	1,519	357

Source: CEIC

[20] The discrepancy between estimates based on the GDP accounts and balance of payments accounts is ubiquitous. While they may reflect so-called "errors and omissions", which are usually very large, they may also be due to methodological differences, e.g., change in the value of assets in the latter may include changes in valuation of assets (e.g., accumulated FDI).

What might be the justification for this policy which is so very out of line with what is expected of a country of China's level of development from the standpoint of development theory, historical experience the behavior of contemporary developing countries?[21] Let us consider some of the arguments that are actually made or may conceivably be made.

One possible argument is that it is all driven by China's high propensity to save. During the reform period households actually increased their saving rate several fold as compared to the pre-reform period. The answer to this is that the savings outcome is very much determined by public policy. China has limited the elasticity of personal income with respect to GDP by means of its direct control over income distribution policies. Also social policies like extremely limited safety net, very limited pension prospects and one-child policy have led households to save at very high rates. These policies can and should be changed. Such changes will not only bring down the rate of household saving but immediately reduce the rate of government saving.

Edmund Phelps has tried to justify China's extraordinary excess of savings over investment by arguing, on the basis of a model that he formulated with Bhidé, that trade surplus early on is central for an optimal growth trajectory:[22]

> The novelty derives from two features of underdevelopment shaping trade between backward economies like China and advanced economies like the U.S. First, the initial comparative disadvantages in China are an artifact of the uneven technical advances made by the U.S., so China should be able to erase those disadvantages through technological transfers brought with surpluses of exports over imports… Furthermore, China may want to squirrel away precautionary balances in order to have the money to take advantage of big-ticket opportunities to buy technologies or whole companies that may present themselves in the future.
>
> Second, the diffusion of new products requires learning, which takes time… The initial dearth of familiarity in China with a wide range of western consumer

[21] It is useful to consider India which is often cited together with China as a contemporary growth leader. India's domestic rate of gross capital formation peaked at 39 per cent of GDP in 2007 which is within three to four percentage points of China's rate. But the big difference is that India's domestic saving rate is three percentage points lower so that there is a three per cent net rate of capital inflow. India also makes foreign direct investment at a significant rate.

[22] Phelps 2006,

goods operates as a drag on import demand for them. Clearly this may also tip the trade balances into surplus.

Writing in 2006 Phelps might have been considering the kind of surplus that China had in years prior to 2005. It is, however, hard to justify the massive surplus that China has had since 2005 by motivations cited by him.

Finally, one could argue that China needs to export capital on a continuing basis to keep making foreign direct investment not so much in search for a higher rate of profit that on domestic investment but to ensure long-term access to strategic resources like energy and minerals. There might also be a valid concern that the FDI inflow might dry up, at least in technologically critical sectors, for non-economic reasons and this could serve as an impetus for the building up of a reserved to replace a future fall in FDI.[23]

None of the above arguments can justify the kind of surplus of savings over investment that China has experienced since 2005. This is particularly senseless when most of the reserves earn China very little, arguably a negative rate of return once the exchange risk is factored in.

V. Conclusions

China should make orderly changes in macroeconomic policies to bring about a closer balance between the rates of saving and investment, stabilize the rate of investment at about the current level and thereby make the elasticity of domestic consumption with respect to GDP higher than it has been in recent decades. Apart from adjustment in exchange rate policies, it would require policies for the "liberalization" of consumption. Private consumption should receive an impetus once incomes policies make the rate of growth of personal income closer to the rate of GDP growth, but a decline in the personal propensity to save would require far-reaching changes in social policies: especially the institution of a more comprehensive social safety net. Results from these changes would be slow to take place. In the short run much will therefore depend on the expansion of

[23] This is actually a variant of the Phelps case.

public consumption which should be targeted to reverse many of the disequalizing trends of the past, e.g., instituting steps to improve agriculture's *single factoral terms of trade*; increasing and improving the distribution of transfers to the rural households; increasing public expenditure on health and education; improving public services in poor regions; and ending discrimination against the migrants.

There are indications that public policy in China may have initiated a change of course in 2009 when, faced with the great world recession and its effects on demand for exports, it opted for the largest fiscal stimulus, in terms of the proportion of GDP, of all nations. China's trade balance in the first ten months of 2009 was 46 per cent lower than the trade balance during the first ten months of 2008! Growth in 2009 was due far more to increment in domestic demand than the growth in net export demand. While not enough is known about the composition of the stimulus, it appears that it will be skewed in favor of less developed regions and in employment-intensive infrastructure and post-earthquake reconstruction projects increasing the prospect for rapid growth in domestic consumption.

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15 December 2009

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Annex Table 1: Composition and Distribution of Income of the Floating Migrants to Urban China, 2002

	Per Capita Income		Gini/Pseudo-Gini Ratio
	Amount	% of Total	
Wages	2,189.18	34.40	0.250
Individual Enterprise	3,758.01	59.04	0.429
Property	18.16	0.29	0.189
Net Subsidies	-60.33	-0.95	0.208
Rental Value of Housing	310.50	4.88	0.658
Other (Including Pensions)	149.15	2.34	0.408
TOTAL INCOME	6,364.68	100.0	0.380

Memo Items:

Urban Gini Ratio including the Migrants	0.338
Overall Gini Ratio for China including the Migrants	0.448

Source: Khan and Riskin, 2005.

Annex Table 2: Rural Gini and Pseudo-Gini Ratios

	Per cent of Income			Gini/ Pseudo Gini Ratio		
	1988	1995	2002	1988	1995	2002
Individual wages	11.13	22.38	29.46	0.66	0.74	0.46
Net farm income	…	46.44	38.97	…	0.24	0.20
Net income from household non-farm activities	…	9.71	11.82	…	0.48	0.56
Net income from farm and Non-farm activities	*74.21*	*56.15*	*50.79*	*0.28*	*0.28*	*0.29*
Property income	0.17	0.43	0.60	0.48	0.54	0.78
Rental value of owned housing	9.67	11.61	13.77	0.28	0.32	0.38
Net transfer from state and collective	-1.90	-0.48	-2.62	0.05	-1.76	0.11
Other income (including private transfer)	6.71	9.91	8.01	0.42	0.46	0.52
TOTAL	100.00	100.00	100.00	0.34	0.42	0.38

Source: Khan et al., 1992 and Khan and Riskin, 2005.

Annex Table 3: Urban Gini and Pseudo-Gini Ratios

	Per Cent of Income			Gini/Pseudo Gini Ratio		
	1988	1995	2002	1988	1995	2002
Wages	44.42	61.30	59.54	0.18	0.25	0.32
Pensions/Retirees' Income	6.83	11.69	14.78	0.34	0.32	0.31
Individual Enterprises	0.74	0.53	2.74	0.41	0.04	0.04
Income from Property	0.49	1.27	0.55	0.44	0.48	0.47
Housing Subsidy in Kind	18.14	9.74	1.87	0.31	0.52	0.32
Other Net Subsidies	20.94	1.25	0.07	0.19	0.30	-2.16
Rental Value of Housing	3.90	11.39	17.65	0.34	0.64	0.38
Other Income	4.53	2.84	2.78	0.38	0.37	0.36
TOTAL INCOME	100.00	100.00	100.00	0.23	0.33	0.32

Note: These estimates exclude the floating migrants. Source: Khan et al., 1992 and Khan and Riskin, 2005.

Annex Table 4: Overall Gini and Pseudo-Gini Rations for China

	Per Cent of Income			Gini/Pseudo-Gini Ratio		
	1988	1995	2002	1988	1995	2002
Total Rural Income	(57.10)	(49.09)	(34.62)	0.12	0.19	0.02
Wages	4.99	10.71	10.67	0.53	0.57	0.10
Net farm income	n.a.	23.04	13.23	n.a.	-	-0.15
Net income from non-farm activities	n.a.	4.80	4.01	n.a.	0.27	0.21
Property income	0.10	0.22	0.20	0.27	0.33	0.49
Rental value of housing	5.52	5.74	4.68	0.07	0.09	0.03
Net Transfer from state	-1.09	-0.26	-0.90	-0.15	-1.92	-0.22
Other income	5.20	4.84	2.73	0.23	0.22	0.17
Total Urban Income	(42.90)	(50.89)	(65.38)	0.74	0.70	0.68
Wages	19.06	31.20	38.85	0.72	0.66	0.68
Income of retirees	3.13	5.95	9.67	0.79	0.70	0.67
Individual enterprise	0.32	0.27	1.81	0.84	0.52	0.52
Property income	0.21	0.64	0.37	0.81	0.78	0.75
Housing subsidy in kind	7.78	4.96	1.22	0.76	0.79	0.68
Other net subsidies	8.99	0.63	0.07	0.72	0.69	-0.27
Rental value of housing	1.67	5.80	11.53	0.77	0.84	0.71
Other income	1.74	1.44	1.86	0.78	0.72	0.70
TOTAL INCOME	100.00	100.00	100.00	0.38	0.45	0.45

Note: - means negligible. The estimates exclude the floating migrants.

Source: Khan et al., 1992 and Khan and Riskin, 2005.

Annex Table 5: A Comparison of Growth, Inequality and Poverty Reduction China between Pre-1995 and Post-1995 Period

	Pre-1995 (Between 1988 and 1995)	Post-1995 (Between 1995 and 2002)
RURAL CHINA		
Annual Increase in Per Capita Income (%)	4.71	4.07
Change in Gini over the Entire Period (%)	+23.08	-9.86
Annual Reduction in Head-count Poverty (%)	2.88	11.36
Gross Elasticity of Headcount Poverty	0.61	2.79
Annual Reduction in PPG Index (%)	4.72	12.58
Gross Elasticity of PPG Index	1.00	3.09
URBAN CHINA		
Annual Increase in Per Capita Income (%)	4.48	6.44
Change in Gini over the Entire Period (%)	+42.49	-4.22
Annual Reduction in Headcount Poverty Rate High Threshold (%)	0.35	16.84
Gross Elasticity of Headcount Poverty: High Threshold	0.08	2.61

Note: Gross Elasticity of poverty reduction is defined as the per cent reduction in the relevant poverty indicator divided by the per cent increase in per capita income.

Annex Table 6: Growth Rates in GDP, Personal Income and Related Data
(Growth rates are annual compounded rates)

Real Growth Rate in Per Capita GDP:	1988-95	8.12
	1995-2002	7.22
Real Growth Rate in Per Capita Personal Income:	1988-95	5.08
	1995-2002	7.06
Final Consumption as % of GDP at Current Price:	1988	0.64
	1995	0.57
	2002	0.58
Household Consumption as % of GDP at Current Price:	1988	0.52
	1995	0.46
	2002	0.45

Note: Real growth rates in per capita GDP are based on GDP and population data in NBS, 2003. Final consumption and household consumption rates are also based on data in NBS, 2003. Real growth rates in per capita personal income are based on weighted averages of rural and urban residents' per capita incomes from CASS surveys. The weights are actual population shares of rural and urban areas. The values on which growth rates are based are at 1995 prices; real growth rates shown in this paper are used to calculate values for other years.