

UNDERSTANDING CHINA'S HIGH SAVING

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Executive Summary

1. At 51.4 percent in 2008, China's national saving rate reached an extraordinarily high level by both world standards and Chinese historical standards.
2. The East Asian model of development stresses high saving to support investment in public infrastructure and the industrial sector. Yet there are limits to how much investment an economy can absorb productively.
3. China's saving has in recent years exceeded its domestic investment by a substantial margin. This domestic imbalance implies a capital outflow and matching trade surplus.
4. But these external imbalances have become unsustainable globally. China's future growth will therefore need to rely less on exports and more on domestic consumption as a driver.
5. Enterprises and households contributed roughly equally to China's high saving rate in 2005. However, while the enterprise share of saving in gross National Disposable Income has been fairly stable since the early 1990s, the household share tracked downward through the 1990s then resurged in the 2000s.
6. Movement in China's household saving rate is consistent with the life cycle hypothesis of saving behavior. This hypothesis starts from the premise that consumption is spread over a lifetime while earning of income is concentrated in working ages.
7. Predictions of the life cycle hypothesis are that the saving rate will rise: (i) as the share of young and elderly dependents in a population falls; and (ii) as the income growth rate rises above a norm value. Both circumstances have held in China since 2000.

8. These circumstances are due to change, however, with China's saving rate likely to head down as a consequence. After decades of decline, the dependency ratio is projected to turn upward in 2012. And, after soaring from 2001 to 2007, the growth rate is likely to return to a more sustainable pace.
9. The potential exists for government policy to further push the saving rate down. Programs include expanding government dividend claims on state-owned enterprises to divert retained earnings to public consumption; building a social welfare system which will reduce the need for private precautionary saving; and developing the financial system so that major expenditures – for example on business start-ups, homes, and education – may be funded through borrowing rather than saving.

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Unsustainability of China's High Saving

- 1.1 China's national saving rate has been on an upward tear since the turn of the decade. From 37.7 percent of GDP in 2000, it climbed to 51.4 percent in 2008, an increase of 13.7 percentage points. The current rate of saving is extraordinarily high both by world standards and by Chinese historical standards. Such sacrifice of current consumption – especially on the part of a people still living at a relatively low standard – begs an understanding.
- 1.2 For the world as a whole, the saving rate has proved remarkably stable over time. Since 1970 it has averaged 23.5 percent of GDP, never falling below 20.9 percent nor rising above 26.5 percent. China's current rate of saving is far out of line with this norm.
- 1.3 High saving has been a hallmark of the East Asian development model. Abundant saving has fueled high investment in public infrastructure and the industrial sector. There are limits, however, to how much investment an economy can absorb productively.
- 1.4 In a closed economy, saving and investment must be equal. Output that is not consumed is invested, even if unintentionally in the form of unsold inventories piling up in warehouses. Too much build up of inventories, however, will lead businesses to cut back production and lay off workers. As workers are laid off, incomes and spending power contract. The economy becomes mired operating below its potential because, as Keynes explained, the propensity to

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consume is insufficient to generate demand for the full-employment level of output.

- 1.5 For an open economy, the way out is to sell surplus production to the rest of the world – in China’s case, particularly to the Americans whose appetites for a while seemed insatiable. China’s over-saving and under-consuming was matched on the U.S. side by under-saving and over-consuming. This arrangement involved lending from China – including the \$2 trillion in reserve asset claims that have accumulated on the balance sheet of the central bank – supporting a large portion of the U.S. trade deficit. Ultimately though, American households and businesses became over-leveraged to the breaking point and a financial crisis ensued.
- 1.6 Now that the bubble has burst, it is clear that for China to maintain strong growth into the future, domestic consumption must become more of a driver. China is simply too big to rely on external demand to propel its growth.

Who Does the Saving?

- 2.1 The increase in China’s saving rate since 2000 has been widely attributed to state-owned enterprises. The explanation has been that SOEs have an incentive to retain rising earnings rather than distribute them in the form of dividends to shareholders who could then decide to save or consume the income. Hoarding earnings provides reserves for future expansion which redounds to the interest of managers. Unlike in an advanced capitalist economy, cash-rich firms do not become targets for takeover by those who would invest idle funds more aggressively. Nor do state shareholders demand the highest return on their portfolios under threat of selling off their positions and driving down share prices.

- 2.2 The view that enterprises are behind the rising saving rate has been advanced through high profile empirical research. Two World Bank papers¹ have taken the position, and come up for energetic defense in Dow Jones media outlets.² More recent work by IMF economists has provided further endorsement of the story.³
- 2.3 Close examination of the flow of funds tables, however, suggests that it was not, in fact, enterprises but rather households that were the driving force behind the run-up in the Chinese saving rate in the 2000-05 period.
- 2.4 The flow of funds tables place households, enterprises, government, and the foreign sector into a matrix for relating the sources and uses of income in a consistent manner. China's National Bureau of Statistics releases annual flow of funds tables with a two-year lag relative to other macroeconomic aggregates. The most recent table available, for 2005, is shown in Appendix I with notes as to how key magnitudes pertaining to income and saving are derived. The earliest table available dates to 1992. However, revisions in GDP measurement technique in 2004 create a discontinuity that interferes with interpretation of time series.
- 2.5 From the flow of funds tables, saving shares for households, enterprises, and government in gross National Disposable Income (NDI) are presented in Chart 1.⁴ The chart shows no discernible trend for the enterprise saving share through 2003. Following an initial swing in 1992-93, the enterprise saving share settles into a narrow range of about 13½ to 15½ percent of NDI for the

¹ Louis Kuijs, 2005. "Investment and Saving in China", World Bank Policy Research Working Paper 3633.

Louis Kuijs, 2006. "How Will China's Saving-Investment Balance Evolve?", World Bank China Office Research Working Paper No. 5.

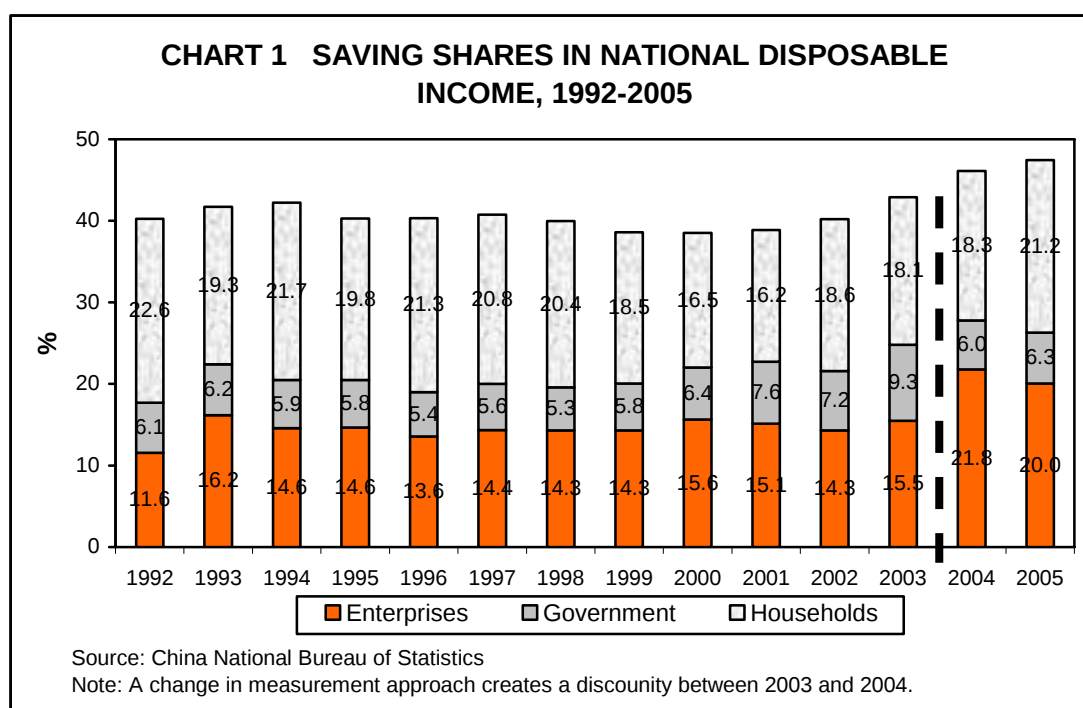
² Bert Hofman and Louis Kuijs, 2006. "Profits Drive China's Boom", *Far Eastern Economic Review*, 169(8): 39-43.

Louis Kuijs and Bert Hofman, 2006. Letters to the Editor, *Wall Street Journal Asia*, 6 Sept.

³ Jahangir Aziz and Li Cui, 2007. "Explaining China's Low Consumption: The Neglected Role of Household Income", IMF Working Paper WP/07/181.

⁴ Gross National Disposable Income is equal to GDP plus net factor payments and net transfers from abroad. It is thus a complete measure of income that affords breakdown by type of earner.

next decade. A discrete upward shift in 2004 is associated with a change in measurement approach which involves a more complete accounting of enterprise activity. The new measurement approach had the effect of raising Gross Domestic Product by 16.8 percent in 2004 relative to the old approach applied for comparison purposes in the same year. The change in measurement increases the income share of enterprises in NDI and reduces the income shares of households and government, with similar effect on the respective saving shares for these entities.

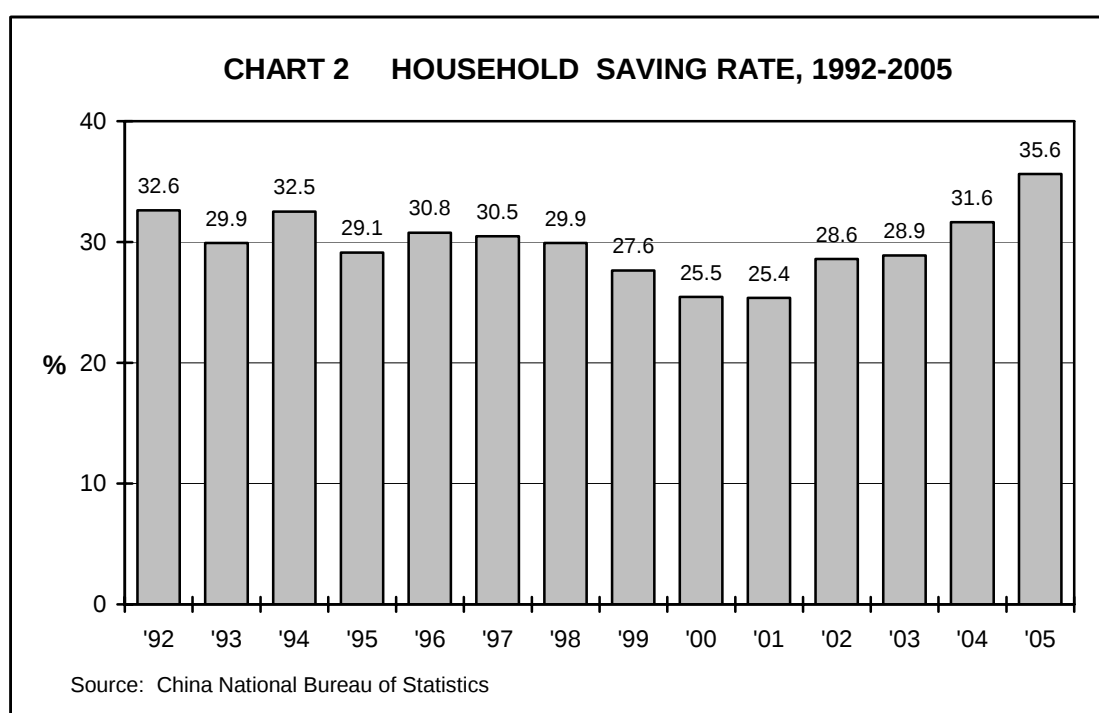


2.6 Though not implicated in the rise of the aggregate saving rate, enterprises do contribute importantly to the high level of saving, their share in NDI standing at 20 percent in 2005. Any strategy to moderate the national saving rate should therefore give due consideration to enterprises. The enterprise income and saving figures reported in Chart 1 are gross of depreciation. Netting out depreciation would result in a lower share of enterprise saving in net NDI relative to the shares of households and government.

2.7 The share of saving by households in NDI clearly rose between 2000 and 2005, more so in fact than appears in the chart due to the measurement

distortion which diminishes the share of households relative to the pre-2004 approach. The saving share of government in NDI behaves more ambiguously.

- 2.8 A change in measurement that more comprehensively captures enterprise activity should not affect measures of the household saving rate within household disposable income. The household saving rate is seen in Chart 2 to increase by a full 10 percentage points between 2000 and 2005.



- 2.9 Economic theory offers a variety of hypotheses for understanding household saving behavior. Some of these serve well to explain the high level of saving in China but not its sharp rise from 2000 onward nor its prior decline in the late 1990s. For example, the precautionary motive for saving is often seen as important in China given the vagaries of life under reform and opening. However, the saving rate fell in the late 1990s even as downsizing of the state sector brought palpable losses in security, and then rose in the 2000s when there was no clear increase in risk factors. Similarly, the absence of well-functioning credit markets in China is often invoked as a motivating factor for saving given the need to self-finance lumpy expenditures – for example on

education, a home, or a small business start-up – but credit markets did not improve through the 1990s and deteriorate thereafter; on the contrary, arguably the opposite happened. Nor would the bequest motive or the cultural basis for saving be subject to the kind of ebb and flow observed.

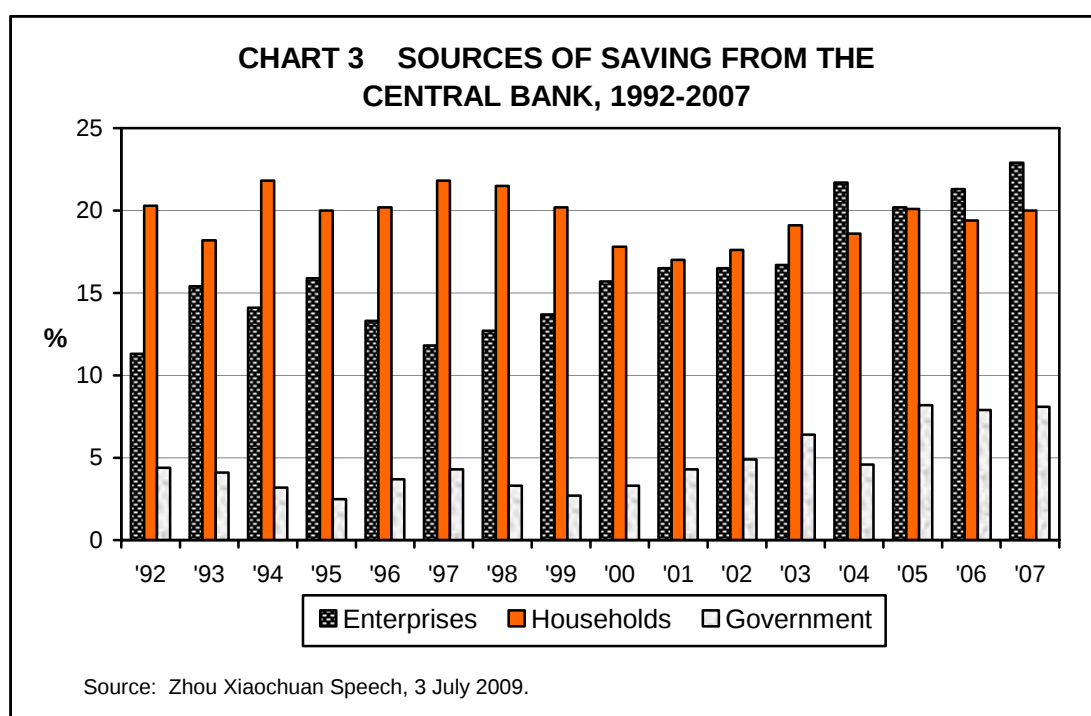
- 2.10 More promising for interpreting the observed pattern in Chinese household saving over the period in question is the life cycle hypothesis proposed by Franco Modigliani. This hypothesis starts with the premise that consumption is spread over a lifetime even as the earning of income is concentrated during working ages. For a society as a whole, this hypothesis yields two predictions. One is that the saving rate will rise as the dependency ratio (the ratio of young and elderly to total population) falls. The other is that the saving rate will rise as the income growth rate rises.
- 2.11 Both explanatory factors apply in the case of China. Due to the steep drop in China's birth rate with the "one-child policy" from the late 1970s, a demographic bulge that has swelled the work force over the last decade has left few young age dependents in its wake even as the number of elderly dependents has also remained small.⁵ Further, the post-2000 period has been one of extraordinarily rapid income growth following a slowdown in the late 1990s. High income growth means that those in their working years are saving to support a higher consumption standard in their own retirement than their predecessors now in retirement who consume at a lower standard associated with the lower income and saving of an earlier era. The two forces of the life cycle hypothesis have thus converged in the Chinese case to yield a rapid run-up in the household saving rate in recent years.⁶
- 2.12 The flow of funds data provide a seemingly clear cut story of: (1) a high but stable rate of enterprise saving in NDI; and (2) a high and rising rate of household saving in NDI for the period 2000-2005 when the aggregate

⁵ See Judith Banister and Calla Wiemer, "China's Demographic Window: The Boom and Bust in Prime-Age Workers," *EAI Background Brief No. 249*, 18 July 2004.

⁶ For an econometric analysis of the relationship, see Calla Wiemer, "The Saving Story behind China's Trade Imbalance," http://www.lkyspp.nus.edu.sg/wp/wp08_08.pdf (accessed 18 August 2009).

national saving rate was also rising. This picture is muddled somewhat, however, by figures presented by central bank Governor Zhou Xiaochuan at a public lecture on 3 July 2009.⁷

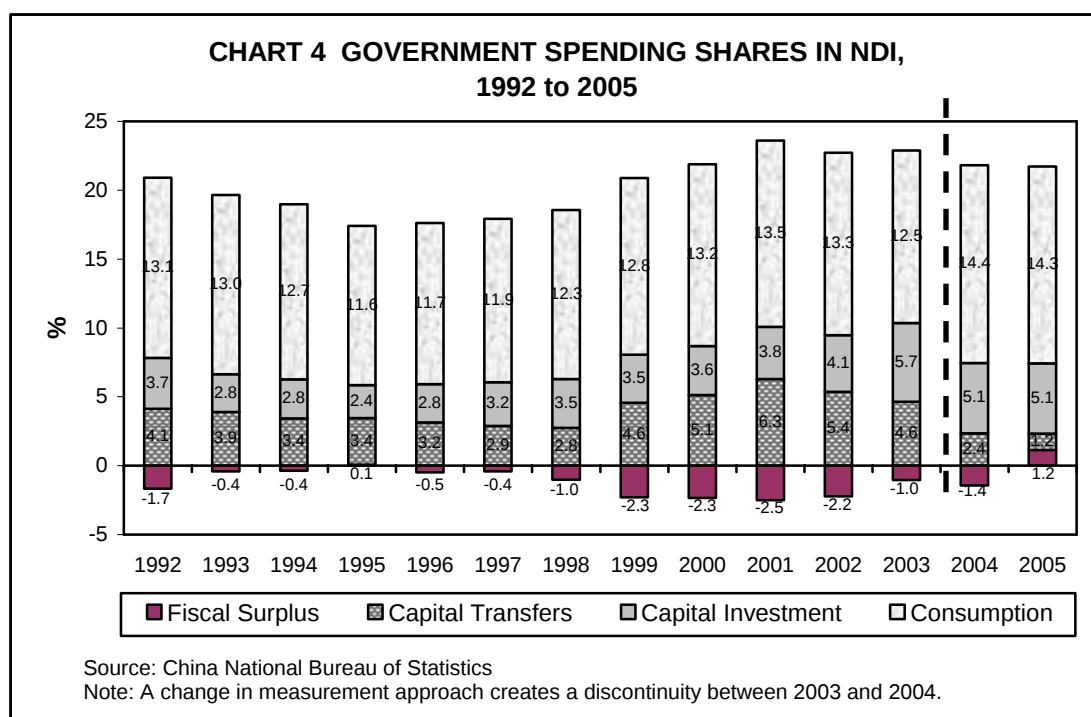
2.13 Governor Zhou's graph is reproduced in Chart 3. The Governor appears to be accessing different numbers from those published in the NBS flow of funds tables. His data indicate a rising trend for the share of saving from enterprises from 1997 onward. He makes no mention of a change in measurement approach in 2004 though his numbers do exhibit a sudden five percentage point jump in the enterprise saving share in that year. The household saving share follows the same pattern as in the flow of funds data of a decline in the late 1990s followed by a resurgence after 2001.



⁷ Zhou Xiaochuan, "Issues Related to the Global Financial Crisis", speech delivered at the Global Think Tank Summit, Beijing, 3 July 2009, <http://www.bis.org/review/r090710b.pdf?noframes=1> (viewed 26 July 2009).

Role of Government in National Saving and Consumption

- 3.1 Government affects the national saving/consumption balance both through its own budgetary activity and through policies that influence household and enterprise behavior.
- 3.2 The government budget contains three channels of saving. The first is government direct spending on capital investment. The second is government transfers of capital to enterprises for support of their spending on investment. And the third is any fiscal surplus, which has the effect of withdrawing income from households and enterprises and withholding it from spending. Conversely, a fiscal deficit constitutes dissaving.
- 3.3 Chinese government spending shares in NDI are presented in Chart 4. The share of government consumption in NDI shows an overall increase between the late 1990s and 2005, more so than reflected in the chart due to the more comprehensively measured NDI that enters the denominator from 2004 onward. The expanding fiscal deficit contributed increasingly to dissaving in the economy through the late 1990s, but this effect reversed after 2001, with a fiscal surplus generating net saving by 2005. An opposing pattern was followed by the share of capital transfers to enterprises in NDI which rose sharply in the late 1990s to peak at 6.3 percent in 2001, then declined to just 1.2 percent (of the more comprehensively measured denominator) in 2005. Meanwhile, government capital investment in NDI generally increased.



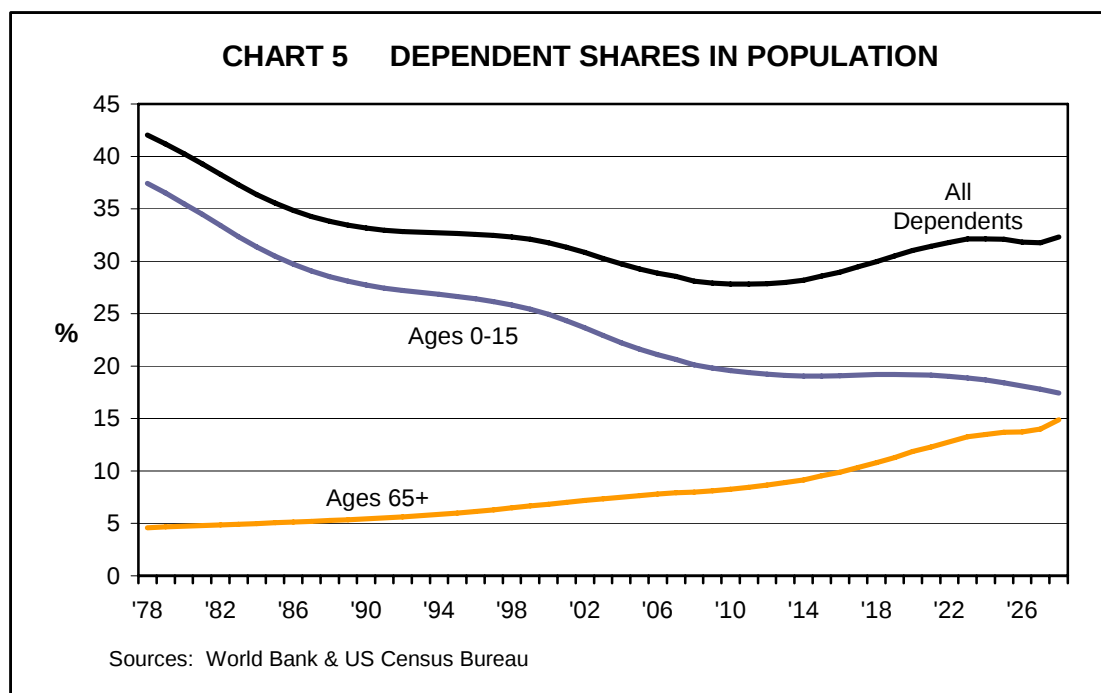
3.4 Beyond its own budgetary contributions to consumption and saving, government can influence the behavior of households and enterprises. The state being the major claimant on enterprise profits in China, the impact is particularly direct on this pool of funds. Only in 2007 did the state begin to collect dividends on enterprise profits, with the assessment rate initially set very low and timed with a reduction in profit taxes such that the state's overall take in enterprise earnings was little altered. Still, having established the principle of state owners claiming dividends, there is latitude to ramp up and divert this source of saving to the public sphere where it could be channeled into consumption. Of even greater consequence would be the privatization of state shares through sale or other form of disbursement. With this, households would gain control over the distribution of enterprise earnings which to some degree they would prefer to allocate to consumption rather than saving. A proposal to transfer SOE shares freely to households has been floated by economist Andy Xie as the way to "ensure another decade of economic prosperity."⁸ The boost to household wealth would create a powerful stimulus to consumption.

⁸ Andy Xie, "Reform, Not Liquidity, Is the Way Out, *Caijing*, 16 March 2009, <http://english.caijing.com.cn/2009-03-16/110122164.html> (viewed 26 July 2009).

- 3.5 Another way that government can deliver an impetus to private consumption is by increasing its own consumption spending on health services and retirement pensions. By spending more in these areas, government reduces the risk that households themselves must bear for uncertain and potentially large future outlays allowing them to save less and consume more in the present.
- 3.6 Finally, government efforts at institution building in the financial sector can also help to restructure the economy toward consumption. Particularly as lending to the underserved private business and household sectors is developed, there will be less need for accumulating savings for the purpose of supporting large outlays.

A Turning Point at Hand

- 4.1 Having risen to the vertiginous height of 51.4 percent in 2008, China's saving rate has seemingly nowhere to go but down. Indeed, a leveling out in 2008 relative to 2007's 51.2 percent figure suggests a turning point may be at hand. A number of factors are likely to act in concert to spur a downward movement in the near to medium term. Key factors bearing on household saving will kick in automatically as they did in pushing the saving rate up for nearly a decade. And relevant policy measures are poised to gain ground.
- 4.2 First to consider are the life cycle effects that have propelled the increase in household saving over the last decade. The dependency ratio, after declining for decades, is about to bottom out and turn abruptly upward as the weight of the population moves into more mature ages with much larger cohorts hitting retirement and relatively small ones entering the labor force. As shown in Chart 5, the turning point is projected for 2010-11. Thereafter, non-working elderly will increasingly consume down the savings accumulated during their working years while slower labor force growth will restrain economic expansion.



- 4.3 The other effect predicted by the life cycle hypothesis is that the saving rate will fall in response to sub-par growth in income. Income growth is already down sharply in China on the heels of the global financial crisis and the collapse in world trade, and most economists are predicting a slow recovery. Consumption tends to move more stably than income along trend so its share in income should rise with the drop in income growth.
- 4.4 Separately, many of the factors that have induced a high rate of saving in the past may be primed for relief. A social safety net is gradually being put in place averting the need for high precautionary saving. Public expenditures on education have been stepped up significantly reducing the need to save for this purpose. Finally, financial development is moving forward, though more slowly than might have been anticipated when the big state banks took on strategic investors and launched initial public offerings meant to reorient banking toward more commercial ends. None of these factors is likely to generate a quick unwinding in the consumption/saving imbalance, but all aim it in a moderating direction.

- 4.5 In gauging how fast China's saving rate might come down, it is worth noting how fast it went up. As a share of GDP, the saving rate rose by 13.5 percentage points in just seven years beginning in 2000, or nearly two percentage points per year. The year 2008 already saw a leveling out with the rate holding at 51.4 percent versus 51.2 percent in the previous year. With a confluence of factors all now pushing in the same direction, the downward slide could be steeper than the upward climb.
- 4.6 A more robust role for domestic consumption would be healthy for the Chinese economy as well as the global economy. For China's growth to be sustainable long term it must rest on internal balance between saving and investment and external balance between exports and imports.

APPENDIX I FLOW OF FUNDS ACCOUNTS (PHYSICAL TRANSACTION), 2005
(In 100 million yuan)

Sectors Items	Non-financial Corporations		Financial Institutions		General Governments		Households		All Domestic Sectors		The Rest of the World		Total	
	Uses	Sources	Uses	Sources	Uses	Sources	Uses	Sources	Uses	Sources	Uses	Sources	Uses	Sources
Net Exports												-10223		-10223
Value Added		109805		6307		15643		51462		183218				183218
Compensation of Employees	42648		2497		12764		34766	92800	92675	92800	273	149	92949	92949
Taxes on Production, Net	25509		767		213	29755	3266		29755	29755			29755	29755
Income from Properties	9236	6859	7374	7280	815	565	1145	4613	18570	19316	2918	2171	21488	21488
Interest	5935	3122	7126	7280	815	565	1145	4053	15020	15020			15020	15020
Distributed Income of Corporations	3301	3631	24					441	3325	4072	2918	2171	6243	6243
Others		106	225					119	225	225			225	225
Total Income from Primary Distribution		39271		2949		32170		109698		184089				184089
Current Transfer	3897	650	1666		7356	13437	9226	10138	22144	24224	2272	192	24416	24416
Taxes on Income	3817		547			6458	2094		6458	6458			6458	6458
Payment to Social Security						6975	6975		6975	6975			6975	6975
Social Security Welfare					5401			5401	5401	5401			5401	5401
Allowances	63				716			779	779	779			779	779
Others	17	650	1119		1239	4	157	3958	2532	4611	2272	192	4804	4804
Total Disposable Income		36024		1283		38251		110610		186168				186168
Final Consumption Expenditure					26605		71218		97823				97823	
Household Consumption							71218		71218				71218	
Government Consumption					26606				26605				26605	
Savings		36024		1283		11646		39392		88345		-13174		75172
Capital Transfers		2194			2198				2198	2194		4	2198	2198
Investment Allowances		2194			2194				2194					
Other					4				4			4		4
Gross Capital Formation	53707		86		9486		17368		80646				80646	
Gross Fixed Capital Formation	50711		86		9486		17021		77305				77305	
Changes in Inventories	2995						346		3342				3342	
Net Acquisition of Other Assets	5884					2184		3700						
Net Financial Investment	-21373		1197		2146		25724		7695		-13169		-5474	

Source: National Bureau of Statistics, *Statistical Yearbook of China, 2008*.

INDENTIFICATION OF KEY MAGNITUDES FROM THE FLOW OF FUNDS ACCOUNTS

Disposable Income, by Source

National (NDI): N16

Enterprises: B16 + D16

Government: F16

Households: H16

Saving, by Source

National: N16 – M17

Enterprises: B16 + D16

Government: F16 – E17

Households: H16 – G17

Government Expenditures, by Component

Government Consumption: E19

Capital Investment: E24

Capital Transfers: E21

Fiscal Balance: E28