Interest Rate Policy in China: The Impact of Suppressed Deposit Rates on Household Income from 2000-2007

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Abstract

An often-overlooked impact of China's policy of maintaining low interest has been the suppression of household interest income, which has increased the propensity of households to save while decreasing their consumption rates. This paper posits that from 2000 to 2007, deposit rates in China were suppressed annually by around 720 basis points, imposing an implicit tax on annual per-capita income of 12.8% on average. Raising deposit rates will increase household income and boost consumption in the medium-term if the Chinese government is able to initiate policy shifts that distribute the gains of economic growth more equitably to households. *Research advised by Stephen Roach.*

Keywords

chinese interest rates, deposit rates, implicit tax

Cover Page Footnote

1. Introduction

The economic development of China over the past three decades is unprecedented in modern economic history. When Deng Xiaoping launched his vision for a new China at the end of the 1970s, China's economy was in shambles. The Cultural Revolution had brought the nation to a standstill and the economy remained entrenched in a centrally-planned socialist regime. Since then, by dismantling the command-and-control economy that defined the socialist state, the Chinese government has methodically instituted a series of reforms that have transformed the nation from a Maoist self-reliant state to today's burgeoning export powerhouse. These reforms—and the subsequent "opening up of China"—are central to the overarching goals of the Chinese central government, which, as it perceives them, are to foster growth and development while simultaneously maintaining social stability.

As part of an implicit social contract between the government and households, the Chinese Communist Party-run government has directed economic development through a series of five-year plans that promulgate an image of pragmatism and across-the-board synchronization. Fiscal and monetary policies are a critical part of these five-year plans. Unlike the United States government, in which the Federal Reserve independently determines monetary policy while the executive and legislative branches determine fiscal policy, the Chinese government blurs the line between the two; as both monetary and fiscal policies are controlled by the central government and used in concert to pursue the state's policy goals. Unfettered by a public system of checks and balances, the Chinese power structure wields significantly more authority in executing policy changes than do the governments of most developed countries.

At its core, any enacted economic policy can be seen as a transfer of wealth from one segment of the economy to another. Economic resources are extracted from one sector through a tax and transferred to another sector through a subsidy. In the aggregate, the decisions made by Chinese policy-makers over time on such tradeoffs reveal that the government has followed the Asian development model and pinned its growth objectives to the rapid development of the nation's export-driven industrial sector. By design, the business sector of China's economy, and specifically the state-owned enterprises (SOEs), has been on the receiving end of much of these transfers. While this has led to significant growth, even Wen Jiabao, China's Premier,

has characterized the outcome as being "unstable, unbalanced, uncoordinated, and ultimately unsustainable."[1]

What is often forgotten is that the transfer of wealth to fund a certain subsidy for one sector has to originate from another sector. In China, that source has, more often than not, been the households. The introductory economics axiom that households benefit from strong economic growth through the disbursement of dividends because firms are owned and/or staffed by households breaks down when analyzing China. As a whole, Chinese households have received a disproportionally small share of the economic gains of the nation's growth compared to the business and government sectors while at the same time bearing a disproportionally large share of the costs of subsidizing this growth. In other words, there has been a continual net transfer of wealth from Chinese households to the business and government sectors over the past few decades. The result has been the persistent suppression of the personal income share of the Chinese economy to around 60%, which is towards the lower end of the OECD countries.[2]

One of the main enablers of this wealth transfer from the households has been the suppression of both lending and deposit rates in China. Through a system of strict capital controls where the state directly manages the banking sector and financial intermediation, the government has been able to maintain a financial system that perpetuates financial repression, which is defined as the suppression of interest rates below market clearing levels. Such a policy reduces the cost of capital for borrowers in the economy, namely enterprises and the government. However, households are forced to pay an implicit tax by being undercompensated on their interest income from their saving deposits.

The strategy of this paper is first to measure the implicit tax that households are forced to pay because of the suppressed interest rate policies. I will then explore the contribution of foregone household interest income to the idiosyncratic behaviors of Chinese households, and specifically that of their high savings rate and low consumption rate. Section 2 recapitulates the relevant literature on interest rate liberalization and financial repression in China. Section 3 lays out the policy and theoretical framework that has guided Chinese decision-making in this area. Section 4 discusses the impact of suppressed interest rates on other segments of the economy. Section 5 outlines the methodology for measuring the net costs borne by households

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[1] Roach, Stephen S. *The Next Asia.* Wiley, 2009. Chapter 3.
[2] Aziz, Jahangir, et al. "Explaining China's Low Consumption: The Neglected Role of Household Income." IMF Working Paper. WP/07/181. July 2007.

and the impact of reduced interest income on per-capita incomes from 2000 to 2007. Section 6 summarizes and analyzes the results. Section 7 examines the impact of the implicit tax on saving and consumption rates and how the liberalization of interest rates may change household behavior. Section 8 discusses policy implications and challenges of reform.   Section 9 concludes.

2. Literature Review

The topic of suppressed interest rates in the Chinese economy has been widely noted in the academic literature. The liberalization of interest rates is often pointed to as a necessary next step for the continued modernization of China's economy.

Bai, et al. (2001) characterized the system of financial repression in China as a type of implicit flat tax levied on the non-state sector by the government.   They argue that a combination of suppressed interest rates, strict capital controls, and state control of the banking system allows the government to increase its net revenue by reducing interest expenses. The authors posit that such a policy is effective in lieu of an income tax in developing countries where tax policies are not well-developed.[3]

Feyzioglu, et al. (2009) explored the potential impact of interest rate liberalization on financial intermediation and the cost of capital in China. They find that liberalization will likely result in higher interest rates, discourage marginal investment, improve the effectiveness of intermediation and monetary transmission, and enhance the financial access of underserved sectors.[4]

A handful of papers have attempted to quantitatively measure the impact of suppressed interest rates on various segments of society. Ferri, et al. (2010) found that the cost of capital for SOEs was unnaturally low even though the SOEs were less profitable and had greater debt burdens compared to other private Chinese enterprises. They calculated that if the SOEs were forced to pay interest at market rates, their existing profits would be wiped out.[5]

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[3] Bai, Chongen, et al. "Financial Repression and Optimal Taxation." Economics Letters. V. 70. Pg. 245-251, 2001.
[4] Feyzioglu, et al. "Interest Rate Liberalization in China." IMF Working Paper. WP/09/171. Aug 2009.
[5] Ferri, Geiovanni. "Honor Thy Creditors Beforan Thy Shareholders: Are the Profits of Chinese State-Owned Enterprises Real?" Asian Economic Papers 9:3. 2010.

Using "back-of-the-envelope" calculations, Pettis (2010) estimated that deposit rates had been repressed by at least 450 basis points for the last decade.[6] For his calculation, Pettis relied on ratios based on the theoretical steady state between nominal GDP growth and interest rates. He then applied the difference in interest rates to total household deposits in 2010 to calculate that households paid approximately 5% of GDP in the form of unpaid interest payments to the banks.

In another analysis, Lardy (2008) calculated the implicit tax imposed on households by the decline in real rates of return on savings deposits due to rising inflation. He estimated how much higher household interest income would have been in the first quarter of 2008 if households had received the same real rate of interest on their net renminbi (RMB)-denominated saving deposits as in 2002. He calculated the figure to equal 4.1% of 2008 GDP.[7]

Although the existing studies shed light on the cost of suppressed deposit rates for households, they do not attempt to measure the net impact on household incomes of such policies over time in an analytically rigorous way. I focus on this issue in the following sections.

3. Theory and Policy

National economies are anchored by monetary policy, which defines the terms of engagement between lenders and borrowers. More specifically, the role of monetary policy is to intermediate the transfer of savings, or foregone consumption, into investments by setting interest rates. Typically, interest rates act as a pricing mechanism for the allocation of capital in liberalized economies; it is a policy lever used as a stabilizing force for the macro-economy. Governments in developed countries adjust interest rates with the goal of promoting sustainable growth and/or price stability.

Prior to the Deng's economic reforms beginning in 1979, interest rates were arbitrarily determined by planning authorities, and thus played no active role in regulating the supply and demand of funds.[8] As the economy slowly shifted towards a market-based system, the government

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[6] Pettis, Michael. "Who will pay for China's bad loans?" China Financial Markets. 11 April 2010. http://mpettis.com/2010/04/who-will-pay-for-chinas-bad-loans/. Accessed 22 March 2011.

[7] Lardy, Nicholas. "Financial Repression in China." Peterson Institute for International Economics. Policy Brief. September 2008.

[8] Chen, Chien-Hsun. "Interest rates, savings and income in the Chinese economy." *Journal of Economic Studies*; 2002; 29, 1; ABI/INFORM Global. Pg. 59.

began to move towards adjusting rates as a counter-cyclical policy tool. The interest rate policy lever was bequeathed to the People's Bank of China (PBC), China's newly designated central bank, when the National People's Congress passed its first central bank law on March 18, 1995. The new law established a mandate for China's monetary policy, which was to maintain currency stability, and it gave the PBC the legal right to formulate and implement such monetary policy.[9] While on paper the PBC had the sole authority to control and supervise the financial system, it was still directly subordinate to the ruling State Council, and thus lacked independence.[10]

Due to the one-party system in China, the government is able to marshal policies across every sector to pursue its fundamental goal of promoting rapid economic growth and development. As such, the interest rate has been commandeered to pursue the fiscal policy of continuously boosting nationwide investment by keeping rates perpetually low—instead of acting as a neutral guide for promoting the efficient allocation of capital. Due in part to this subsidy, investment has accounted for a much larger share of China's recent GDP growth than in that of other countries.[11]

Figure 1: Lending Rates vs. Nominal GDP Growth (2000-2007)

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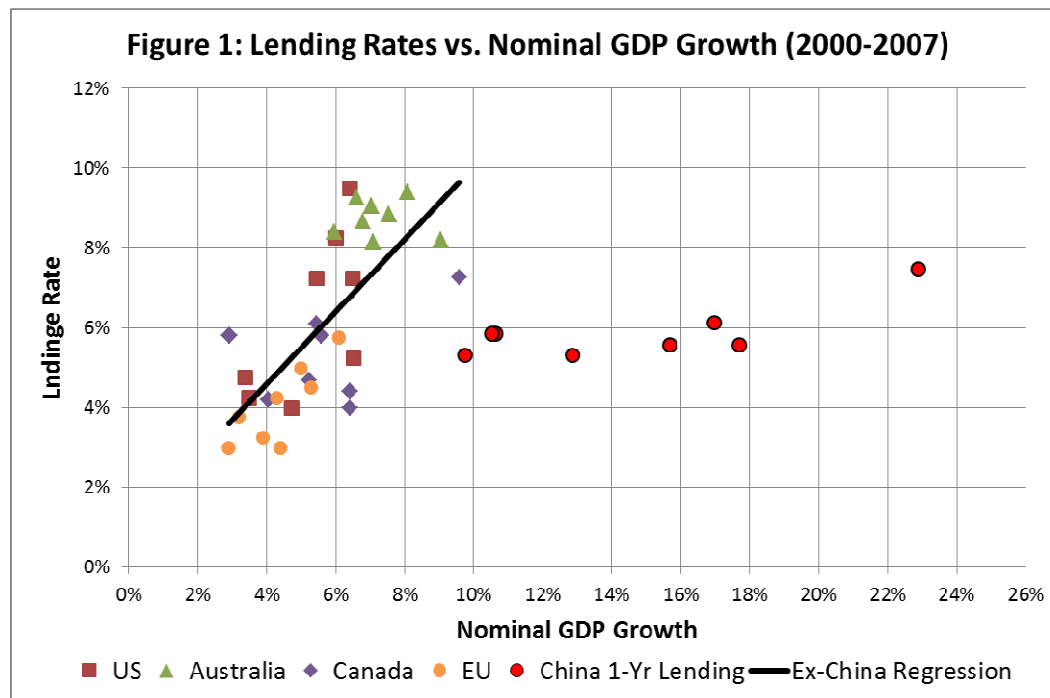
[9] ibid

[10] ibid

[11] Prasad, Eswar. "Is the Chinese growth miracle built to last?" China Economic Review, 20 (2009) 103-123. 28 May 2008.

The PBC controls interest rates in China by setting two benchmark rates: the one-year lending rate and the one-year deposit rate. Both have been suppressed far below what economic theory and sound macro management practices would suggest. According to economic theory, there is a long-term steady-state relationship between lending rates and the nominal GDP growth rate.[12]   This equilibrium construct of interest rates allows for the benefits of economic growth to be shared equitably between lenders and borrowers.   However, according to this theory, interest rates in China have been far too low given China's nominal growth rates, as seen in Figure 1.[13]

Suppressed interest rates have been one of the most significant pro-growth policies implemented by the government to nurture the development of the state sector, which includes SOEs, state-controlled banks (SCBs), and the government itself. Beginning in the late 1990s, low lending rates have reduced the cost of capital for the businesses and government institutions, which have stimulated the pursuit of high investment by businesses and local governments to pursue high investment. Furthermore, the PBC has set the benchmark deposit rate even lower, guaranteeing the SCBs a substantial profit due to the sizeable spread between the amount they pay out as deposit interest and the amount they receive as interest on the loans they underwrite. A study by Avery (2009) found that China's SCBs enjoyed a spread, averaging 343 basis points from 2000 to 2007, which was roughly twice the international average.[14] [15] The Chinese government guarantees this large interest rate spread for its SCBs because the government leans on these banks for policy-driven lending.

While households have experienced the trickle-down benefits of economic growth, they have also been forced to bear the cost of promoting such growth. Households face a policy regime of financial repression where low real rates of return on their savings deposits have suppressed interest incomes while strict capital controls limit alternative investment options. Because of the financial repression, households are forced to pay an unavoidable implicit tax by being severely undercompensated on their savings deposits.[16] The burden of low interest rates borne by households has been further increased due to the rise of inflation in recent years. When

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[12] Feyzioglu, et al. "Interest Rate Liberalization in China."
[13] Data from Bloomberg
[14] Avery, Martha. *China's Emerging Financial Markets: Challenges and Global Impact.* Wiley. 2009. P.Iii.
[15] National Bureau of Statistics of China.
[16] Bai. "Financial Repression and Optimal Taxation."

inflation reached double digits from 1993 to 1996, the Chinese government implemented a policy of fiscal subsidy to ensure a non-negative real interest rate on household deposits.[17] However, such a policy has not been enacted during recent bouts of inflation. Because the consumer price index (CPI) has spiked higher than the suppressed nominal deposit rates on multiple occasions over the past decade, households have at times suffered from a negative real rate of return on their deposits as seen in Figure 2.[18] In June 2007, the benchmark one-year deposit rate was raised to 3.33% while the tax rate on bank interest income was cut from 20% to 5%.[19] However, the effective after-tax deposit rate of 3.16% was still below 4.75%, the CPI at the time. Since inflation produces capital losses by reducing the real value of existing financial asset holdings, households are actually losing money when they deposit their earnings into savings accounts during times of high inflation.[20]

Figure 2: Deposit Rates and CPI

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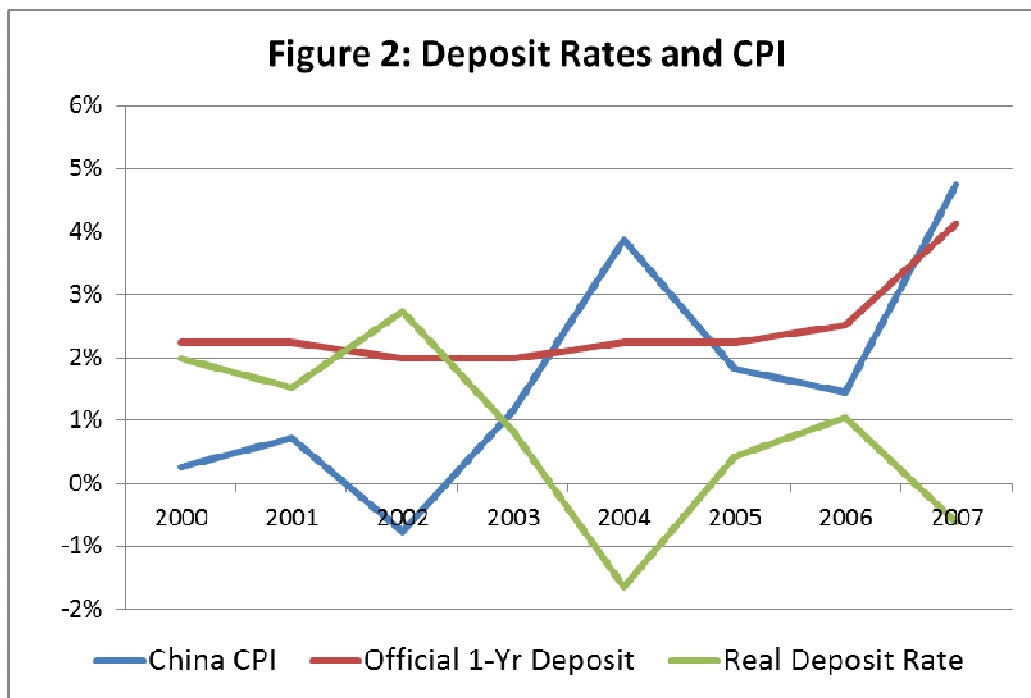
[17] Ma, Guonan, et al. "China's high saving rate: myth and reality." Bank of International Settlements Working Papers. #312. 2010.

[18] Lardy. "Financial Repression in China."

[19] Prasad. "Is the Chinese growth miracle built to last?"

[20] Moore, B.J. "Inflation and Financial Deepening." Journal of Developmental Economics 20 (1986) 125-133. North-Holland.

In a system where the households are severely undercompensated on their savings deposits, it would seem natural that they would be incentivized to reallocate their capital to other investments with more favorable returns. Such a situation occurred in the United States during the 1970s, when US households responded to underperforming bank deposits due to a combination of deposit rate ceilings imposed by Regulation Q and high inflation by moving their assets to non-bank financial institutions.[21] However, banks do not face this problem in China. The average household has limited options for alternative investments due to strict capital controls placed on the economy by the government. Although the government points to the dangers of liquidity flight as the reason for the strict capital controls, in reality, the government depends on the massive pool of household savings deposits, amounting to RMB 17.9 trillion ($2.55 trillion) in 2008, to fund its high level of state-directed investments.[22] The majority of households in China have no choice but to leave their earnings in low-returning and sometimes money-losing savings deposits.

The uneven distribution of the benefits of economic growth caused by inequitable economic policies has restricted household income growth in China. While per-capita personal incomes have increased significantly in absolute terms, its growth rate has not been as fast as that of China's economy.[23] Simultaneously, there has been a steady rise in the cost of living for households. Since the end of the Mao-era policies, the government has privatized social safety net programs, forcing households to allocate more resources to education, medical care, and retirement savings.[24] The combined narratives of stunted household income growth and rising safety net burdens in a society facing the demographic shifts of rapid aging have increased the propensity of households to save while putting downward pressure on discretionary purchasing power and consumption.

The causal link between repressed interest rates and both high savings rates and low consumption rates has stark ramifications for future economic policy in China. The government has previously identified limits on interest rates as a fundamental problem in the economy. It not only suppresses household income, but also perpetuates the inefficient allocation of capital throughout the Chinese economy. Over the past few years, the

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[21] Rolnick, Arthur J. "The Benefits of Bank Deposit Rate Ceilings: New Evidence on Bank Rates and Risk in the 1920s." Federal Reserve Bank of Minneapolis. *Quarterly Review.* Summer 1987.
[22] Lardy. "Financial Repression in China."
[23] Aziz, Jahangir. "Explaining China's Low Consumption."
[24] Ma. "China's high saving rate."

government has repeatedly declared that it will pursue the liberalization of interest rates.[25] The call to action was repeated again by Premier Wen Jiabao in the 12th Five-Year Plan, "We will push forward the market-based reform of interest rates."[26] Raising household interest income will be a positive step towards the 12th Five-Year Plan's central goal of boosting domestic consumption.

However, the obstacles to liberalizing interest rates are sizable and numerous. The large-scale industries and SCBs who currently depend on suppressed interest rates have significant political pull in the current government. These groups will be opposed to any policy shifts that reduce the implicit subsidies businesses and banks have come to depend upon. Regardless, in order to realize the change in focus from export-driven economic growth to consumption-driven growth, the Chinese government must shift its economic policies from a system that heavily favors enterprises and the government over households to a system that distributes the benefits and costs of economic growth more equitably.

4. *Implications on Other Segments of the Economy*

Suppressed interest rates have contributed to the inefficient allocation of capital throughout the Chinese economy and are responsible for a number of hidden costs beyond simply holding down the growth of household income. Specifically, the low-interest rate regime has lessened the flexibility of governmental responses to macroeconomic shocks, subsidized over-investment, perpetuated inefficient operations at SCBs and SOEs, and skewed capital-labor ratios. Liberalizing interest rates would initiate positive reform in all of these sectors. However, because low interest rates also play a critical role in the mechanism through which the government manages the RMB, it is unlikely the liberalization of interest rates will occur as long as the government continues its policy of currency management.

By using interest rates to drive economic growth rather than steer monetary policy, the government has reduced the efficacy of the policy route in controlling rising inflation. The government has been forced to rely instead on other less effective monetary tools such as bank reserve ratios

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[25] "Interest-rate reforms to be continued: PBOC official." China Daily. 8 Nov 2010. http://english.peopledaily.com.cn/90001/90778/90859/7191057.html. Accessed 12 Mar 2010.

[26] Report on the Work of the Government, Delivered at the Fourth Session of the Eleventh National People's Congress on March 5, 2011, Wen Jiabao, Premier of the State Council

and lending quotas to perform the stabilizing role that interest rates play in more developed economies. Policies such as lending quotas are blunter and cause jarring—and potentially distorting—adjustments when utilized. Furthermore, although such tools provide a similar signaling effect as the interest rate does in other countries, the impact of loan quotas on the Chinese economy is uneven and tends to lag behind the immediate response a shift in the interest rate typically brings in a developed economy. This has resulted in adjustments that have never been quick enough to fully reflect the range of cyclical factors.[27]

In a developed economy, the central bank uses interest rates to guide capital allocation so that the market can decide the most efficient level of loan origination. Such has not been the case in China where the remnants of the socialist planned economy remain. Although the practice of the central bank imposing specific loan quotas on the four SCBs officially ended as of December 31, 1997, the central government now predetermines the availability of loans in the economy through annual loan quotas, which was set at RMB 7.5 trillion for 2010.[28] These quotas, however, have historically often been ignored as a result of political pressure to pursue higher GDP growth driven by investment.[29]

Over-investment has been often cited as a looming problem in the Chinese economy. Throughout China, the desire to continue economic expansion has a large impact on local government decisions on resource allocation. Even though the National Development and Reform Commission (NDRC) announced a nationwide GDP growth target of 8% in early 2011, only a fraction of the provincial governments have set targets below 10%.[30] Local Chinese government officials are incentivized to maximize investment projects since promotions are mainly determined by performance indicators such as the economic growth in their jurisdictions.[31] Combined with the fact that projects with negative returns can seem profitable due to below-market rates, the government has invested in many money-losing projects. This incentive structure has resulted in a system where some estimates consider that 20% of loans provided to local governments are now non-performing.[32]

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[27] Naughton, Barry. *The Chinese Economy.* The MIT Press. Cambridge, Massachusetts. 2007.

[28] Xin, et al. "China declares shift to 'prudent' monetary policy." Reuters. 3 Dec 2010.

[29] Xie, Andy. "Rebalancing Cannot Wait." Caixin Online. 11 March 2011. http://english.caing.com/2011-03-11/100235531_1.html. Accessed 18 March 2011.

[30] Kan, Huo. "Local Governments Still Feel Investment Pulse." Caixin Online. 10 Feb 2011. http://english.caing.com/2011-02-10/100224379.html. Accessed 18 March 2011.

[31] Ma.. "China's high savings rate myth/reality."

[32] Dorn, James A. "Financial Repression." 12 Aug 2010. http://www.cato.org/pub_display.php?pub_id=12053. Accessed 18 March 2011.

Given the elevated debt levels of the state sector, higher interest rates would only increase the cost of paying off these loans.

As outlined earlier, the SCBs in China have been kept afloat by the generous government-mandated interest rate spread. Furthermore, because the state owns a majority stake in each of the large commercial banks, the government implicitly guarantees the viability of the banks, allowing the SCBs to make gigantic mistakes without going under when lending to local governments and SOEs. As a result, the screening mechanisms for new loan origination have been overly relaxed; decisions are made to fulfill policy objectives rather than shape economic viability. This process has led to the high percentage of inefficient investments previously mentioned. The SCBs have balked at recent initiatives from the China Banking Regulatory Commission (CBRC) designed to tighten credit restrictions, as branch loan officers are now under pressure to increase both market share and deposits, while simultaneously following stricter lending rules.[33] The privileged position the SCBs hold in the Chinese economy has also stymied the development of competing sources of finance such as that of the corporate bond markets. By reducing their spread slightly, banks are able to discourage firms from issuing debt in the corporate bond market and instead borrow from the bank, thereby keeping the bond market illiquid and unattractive for the private sector.

SOEs have no qualms with allowing banks to continue dominating credit intermediation. The main benefactors in an economy with repressed interest rates are the borrowers, and in China the main borrowers are the SOEs which received 65% of the total bank loans—nearly three times their 25% share of the GDP.[34] SOEs receive the bulk of the bank loans because of good relations with the central government. Loan officers at the SCBs are overly risk-averse and issuing loans to the government-backed SOEs is always perceived to be a safe bet. A 2006 IMF study found that the SCBs did not appear to take enterprise profitability into account when making lending decisions.[35] The politically influenced relationship between SOEs and the SCBs has led to a trend where forbearance on debt has been the rule rather than the exception.[36] Furthermore, net interest payments (as a share of GDP) by the non-financial corporate sector have dropped by 50% from 1992 to

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[33] Xiu, Wen, et al. "Two-Edged Tightening for Bank Credit Controls." Caixin online. 3 Mar 2011. http://english.caing.com/2011-03-03/100231870.html. Accessed 15 Mar 2011.
[34] Ferri. "Honor Thy Creditors."
[35] Podpiera, Richard. "Progress in China's Banking Sector Reform: Has Bank Behavior Changed?" IMF Working Paper. March 2006.
[36] ibid

2007 due to suppressed rates.[37] Low borrowing costs also make it easier for underperforming businesses to roll over their debt, as the low rates effectively reduce the real value of debt payments. [38] The study mentioned earlier by Ferri (2010) found that if the SOEs were forced to pay interest at market rates, their existing profits would be wiped out. [39] Due to the substantial implicit and explicit government subsidies, SOEs are still very inefficient when judged by Western standards. With banks willing to lend at subsidized rates, firms tend to borrow as much as possible in order to finance imprudent capital-intensive projects as well as to create reserves for periods of credit tightening.[40]   The SOEs' poor financial controls and corporate governance have been estimated to cost the economy 5% of GDP annually.[41]

        Although households continue to implicitly subsidize SOEs, households have not been fairly compensated on their financial assets. In many countries that have a large presence of SOEs, the payment of dividends by SOEs acts as a distributing conduit of profits to households in the form of either government transfers or government provision of private goods such as healthcare and education.[42] However until recently, Chinese SOEs were not required to pay dividends to their equity holders even though they have been making net profits of around 6.5 to 7 percent of GDP since 2003.[43] Capital in the form of retained earnings that should have been distributed to shareholders, namely the government and households, was instead reinvested in the companies. While new laws now dictate that SOEs have to contribute 10% of profits to the state social security fund, these dividend payments are still much lower than international averages.[44] Such a scenario explains why investment income in China accounts for only 8% of households' disposable income, which is one of the lowest rates in the world.[45] This statistic highlights the poor performance of the financial sector in distributing profits from firms to households in the form of dividends and interest income.   Although businesses have achieved sizeable, albeit inefficient success, the economic benefits they have accrued have not been fairly distributed to households.

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[37] Yang, et al. "Why are savings rates so high in China?" NBER Working Paper Series 16771. February 2011.
[38] Pettis. "Who Will Pay for China's Bad Loans?"
[39] Ferri. "Honor Thy Creditors."
[40] Rajan, Raghuram G. Fault Lines. Princeton University Press. Princeton, New Jersey. 2010.
[41] Ferri. "Honor Thy Creditors."
[42] Aziz, Jahangir. "Explaining China's Low Consumption."
[43] ibid
[44] ibid
[45] ibid

One of the core goals of the 12th Five-Year plan is to increase employment growth, especially in China's tertiary service sector, which generates 35% more jobs per unit of GDP than its secondary sector.[46] However, financial repression has kept the price of capital cheap, and along with subsidized energy and land prices, has skewed the capital-labor ratio. This has shifted production towards capital-intensive methods while repressing needed employment growth.[47] Such a scenario is inimical to the government's goals of increasing employment growth and expediting a transition of unemployed and underemployed rural workers to employment in more labor-intensive and services.[48] Not only are low interest rates reducing household incomes, they are also reducing the number of jobs available.

The market liberalization of interest rates in China would unleash a series of adjustments that would spur necessary modernizations of the financial system and industry practices. Liberalized interest rates would increase the efficacy of interest rates as a monetary policy lever. In the long-term, interest rate liberalization would also increase the efficiency of capital allocation throughout the Chinese economy by forcing banks to be more prudent in their investment decisions, SOEs to increase their operating efficiency and transparency, and the government to reduce excess investment.[49] While the short-term frictions caused by these adjustments may be onerous, the costs of not taking action only increase with time.

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[46] Wang, Qing, Steven Zhang, and Ernest Ho, "The China Files: Chinese Economy through 2020," Morgan Stanley Blue Paper, November 8, 2010.
[47] Prasad. "Is the Chinese growth miracle built to last?"
[48] ibid
[49] Feyzioglu, et al. "Interest Rate Liberalization in China."

5. *Methodology of the Model*

This analysis aims to determine the magnitude of the aforementioned transfer of wealth from Chinese households to other segments of the economy from 2000-2007.[50] The methodology can be separated into two main parts: 1) deriving proxies for China's deposit rate in a free market environment and 2) calculating the magnitude of the implicit tax paid by households due to the difference between actual and market-determined deposit rates.

A Market-Determined Interest Rate

The retroactive derivation of what levels Chinese deposit rates should have been set at under liberalized, or marketized, conditions is an inexact science. A model-based approach is used to estimate such a proxy for the deposit rate in three different ways. The aim of the first proxy is to determine where deposit rates would have been set if the SCBs were not granted such a large spread between lending rates and deposit rates. The second proxy measures what deposit rates would have been if they had been set to hold real returns on deposits (net inflation) constant at the 2002 level. The third proxy aims to find what deposit rates should have been according to the theoretical steady state relationship between lending rates and nominal GDP growth.[51]

The first proxy is found by determining what the deposit rates would have been if the mandated spread between the lending rate and deposit rate was halved while the lending rate was held constant. First, I halved the annual spread between the year-end one-year lending rate and deposit rate. I then added this result back to that year's actual deposit rate. The rationale behind this proxy is based on findings that suggest that the spreads between lending rates and deposit rates enjoyed by the SCBs in China are about twice the international average.[52]

The second proxy is derived by finding the level at which the nominal deposit rates would have been set if they were adjusted to keep the real deposit rate constant at the 2002 level. I used the real rate of deposits in 2002 because the real rate in that year was the highest of the studied period (2000-2007). The real deposit rate in 2002 was found by subtracting the

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[50] This date range was chosen because of data constraints and since it encompasses the time period of relative global economic stability between the Asian Financial Crisis and the sub-prime mortgage crisis.
[51] Feyzioglu, et al. "Interest Rate Liberalization in China."
[52] Avery. *China's Emerging Financial Markets.*

year-end CPI-based inflation rate of -0.77%, from the nominal deposit rate of 1.98%, resulting in a real deposit rate of 2.75 %. I then calculated the nominal deposit rate needed to maintain the 2.75% real deposit rate given the annual inflation figure for each year in the studied period.

To derive the final proxy, I established a series of correlations that would translate China's nominal GDP growth rate to a proxy for deposit rates. For the baseline comparisons, I used data on Australia, Canada, the United States and the European Union. These nations were chosen because they have been generally recognized to have reached "developed nation status."[53] Using regressions of the economic data on these nations from 2000-2007, I determined the correlation between nominal GDP growth and the prime lending rate as well as that between the prime lending rate and the deposit rate. When combined, these correlations extend the theoretical steady-state relationship between the nominal GDP growth rate and lending rates to a derivation of deposit rates. In other words, the correlation was able to answer the question: given nominal GDP growth, what should be the prime lending rate, and subsequently, the deposit rate? Nominal GDP growth is related to deposit rates by the following equation:

$$\left[\frac{nominal\ GDP\ growth}{1}\right] \times \left[\frac{lending\ rates}{nominal\ GDP\ growth}\right] \times \left[\frac{deposit\ rate}{lending\ rates}\right] = \text{Derived deposit rate}$$

China's annual nominal GDP growth could then be calculated and entered into the above equation to arrive at a projected level at which deposit rates would be set according to this stead-state equilibrium.

Since China sets interest rate benchmarks using the one-year lending rate and the one-year deposit rate, I needed to find two rates used by developed economies as proxies for the Chinese benchmark rates. For the lending rate proxy, I used the prime rate set by the central banks of each country or region used in the sample. The prime rate is a good proxy for the one-year Chinese lending rate since it is the short-term interest rate charged by banks for short-term loans to their most creditworthy customers.[54] In the United States, the prime rate averages about 300 basis points above the federal funds rate, which is the short-term interest rate at which banks lend balances to the US Federal Reserve. Consequently, the federal funds rate (sometimes called the benchmark deposit rate) of a country was used as a proxy for the short-term deposit rate. As seen in Figure 3, there is a close

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[53] I considered using the Asian Tigers as another comparison, but these have inconsistent correlations between GDP growths, their prime rates, and their federal funds rates.
[54] "Prime Rate." Mortgage-X, Mortgage Information Service. http://mortgage-x.com/general/indexes/prime_rate.asp. 2011. Accessed 2 April 2011.

correlation between the US federal funds rate and the Certificate of Deposit Index (CODI), which is the Federal Reserve's reported monthly average yield on 3-month Certificate of Deposit rates.[55]
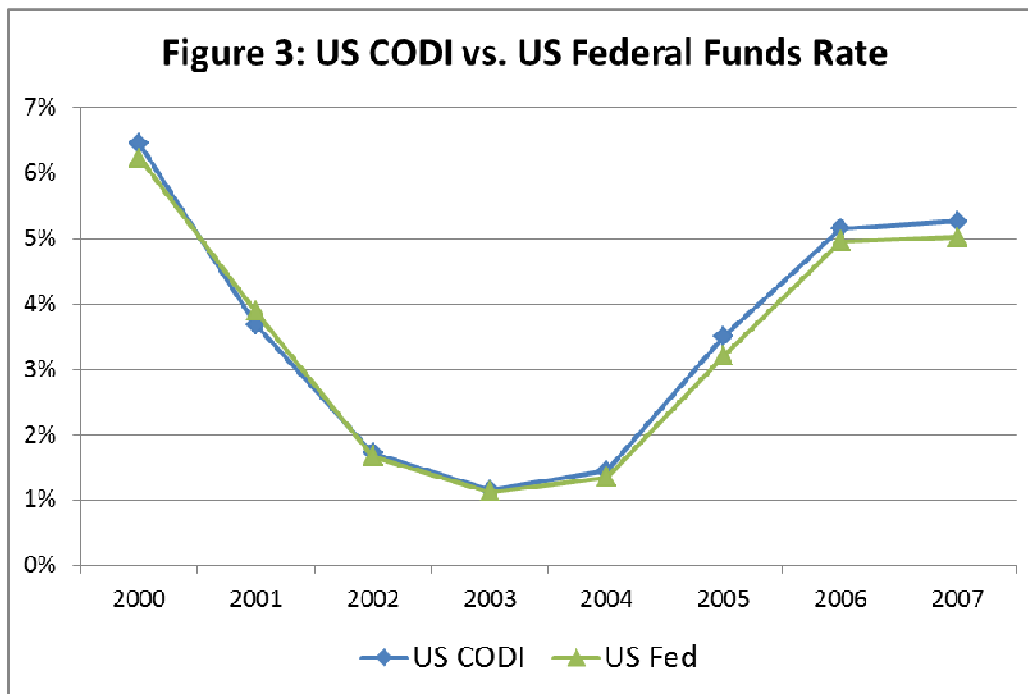
Figure 3: US CODI vs. US Federal Funds Rate

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[55] "Mortgage (ARM) Indexes." Mortgage-X, Mortgage Information Service. http://mortgage-x.com/general/indexes/default.asp. 2011. Accessed 2 April 2011.

Using data from Bloomberg, I first regressed the nominal GDP growth of the sampled nations using the year-end national prime rates and again using the prime rates of the federal funds/deposit rates.[56] The regressions are shown below in Figures 4 and 5.[57]

Figure 4: Correlation Between Prime Rates and Nominal GDP Growth

$y = 0.9037x + 0.0098$
$R^2 = 0.5072$

Figure 5: Correlation Between Funds/Deposit Rate and Prime Rates

$y = 0.8091x - 0.018$
$R^2 = 0.8387$
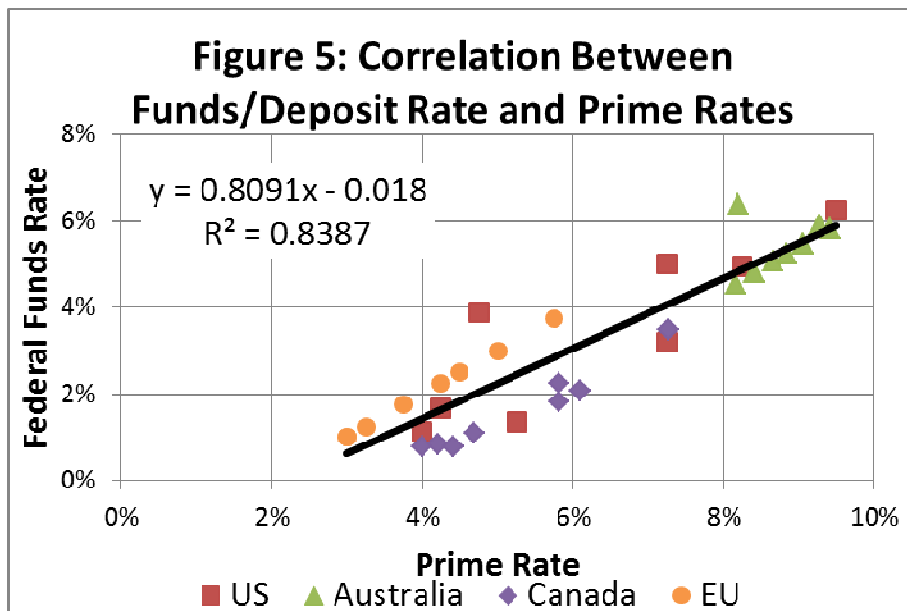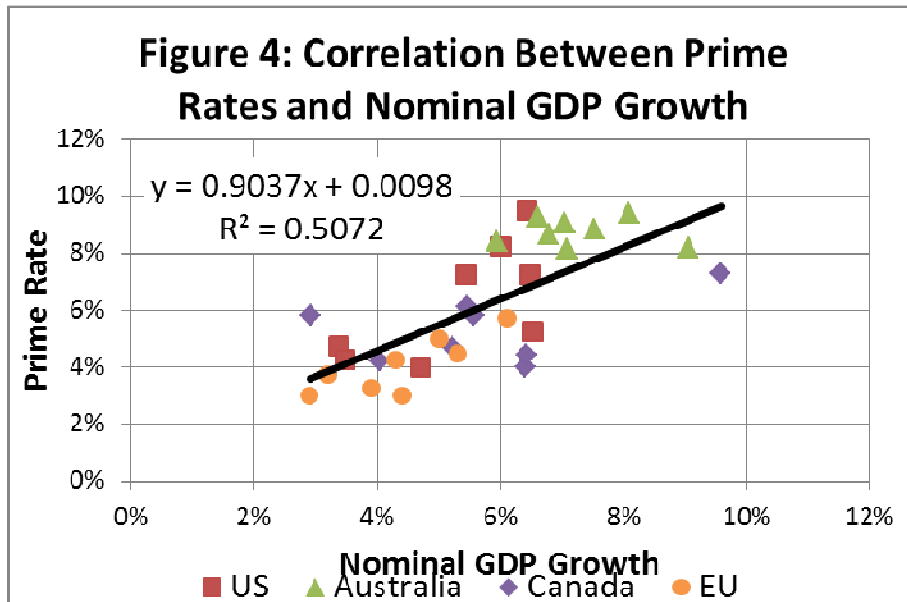
[56] Data from Bloomberg,
"Data." The World Bank. http://data.worldbank.org/. 2011. Accessed 25 Feb 2011.
[57] See appendix for data inputs

The regressions resulted in the following correlations:

1) $y = 0.9037x + 0.0098$
    a. y = predicted lending prime rate, x = nominal GDP growth

2) $y = 0.8091x - 0.018$
    a. y = predicted deposit rate, x = prime lending rate

Equations 1) and 2) were combined in Equation 3) to relate nominal GDP growth to the deposit rate proxy.

3) $y = (0.9037x + 0.0098) \times 0.8091 - 0.018 = 0.731x - 0.010$
    a. y = predicted deposit rate, x = nominal GDP growth

Finally, China's annual nominal GDP growth rates from 2000-2007 were entered into the above equation.

The actual one-year deposit rate and the three derived proxies are graphed below in Figure 6:

Figure 6: Actual vs. Derived Deposit Rates
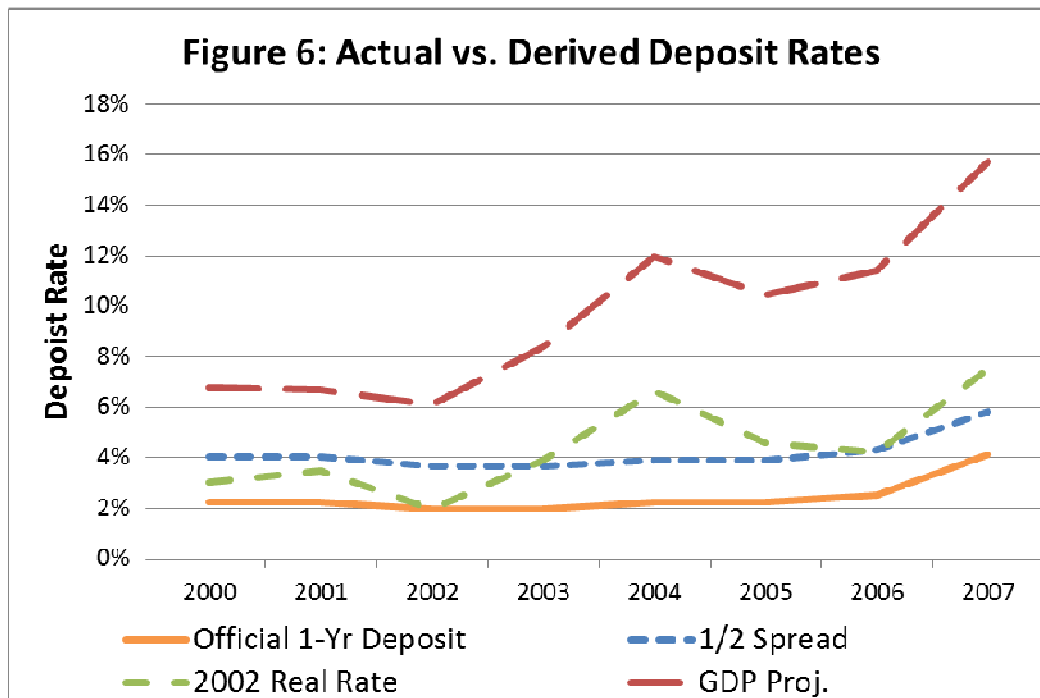
The Implicit Household Tax

The second part of the model applies the derived deposit rates to historical data in order to estimate the magnitude of the implicit tax paid by households due to the suppressed deposit rates.[58]   First, the annual net household interest rate income was calculated from the flow of funds data by subtracting household interest rate expense from household interest income.[59] The annual implicit tax was then derived by calculating the difference between the actual annual interest income and the projected interest income under each derived deposit rate.[60] The formula is as follows and the results of the model are shown in Figure 7:

$$[\text{Actual Interest Income}] \times \left[\frac{Derived\ Deposit\ Rate}{Actual\ Deposit\ Rate}\right] - [\text{Actual Interest Income}] = \textbf{Implicit tax}$$

Figure 7: Annual Household Implicit Tax

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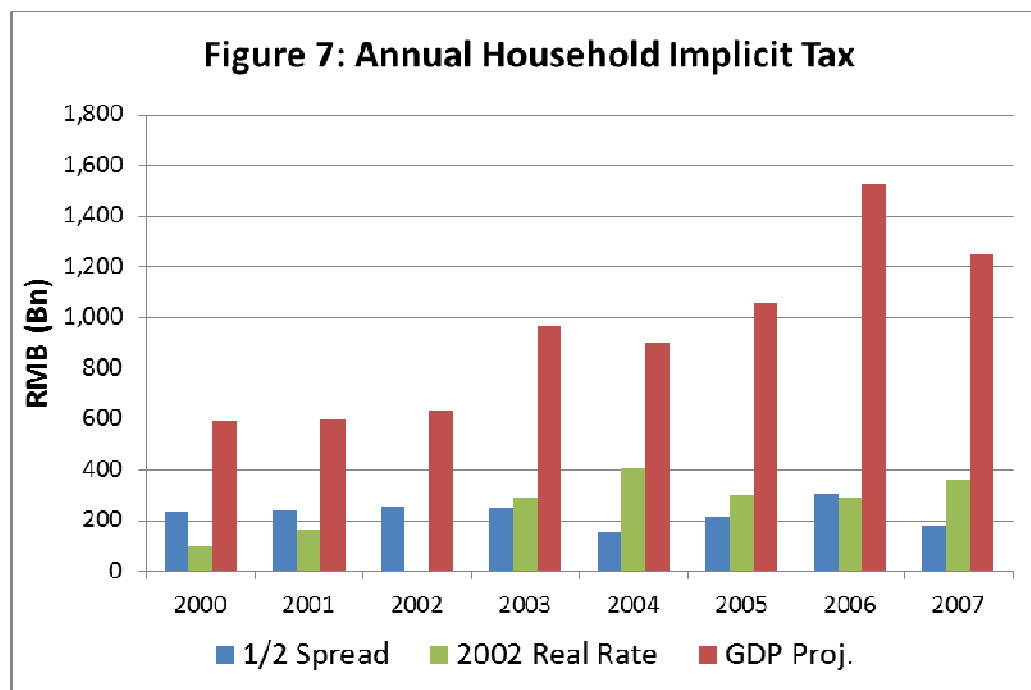
[58] Data on the aggregate annual household interest income in China was collected from the National Bureau of Statistics of China.

[59] It is assumed that a rise in deposit rates would be accompanied by a simultaneous and equal rise in lending rates. Further, the model assumes that deposit and borrowing behavior remained constant as interest rates shift.

[60] The difference between rates paid on time deposits as compared to demand deposits was ignored.

The total implicit tax paid by households from 2000 to 2007 was calculated by summing the annual implicit tax calculated using the above formula. Results are shown below in Figure 8:

Figure 8: Total Implicit Tax Paid By Households from 2000-2007
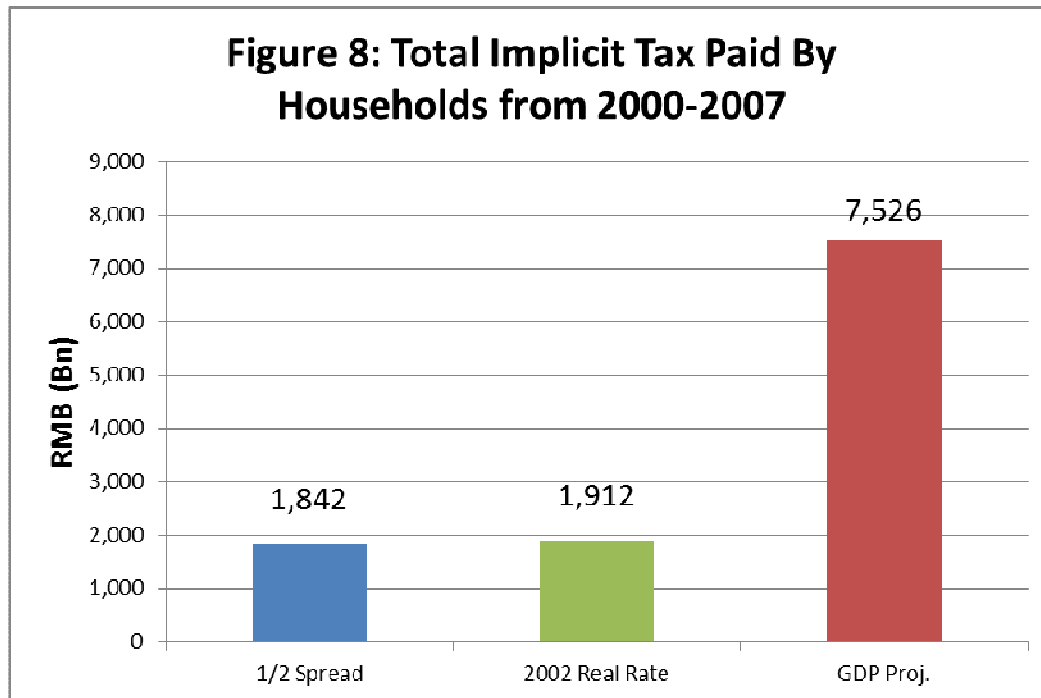
The total implicit tax paid by households as a percentage of annual nominal GDP was also found. The results found in Figure 7 were divided by the annual nominal GDP to arrive at the annual transfer of wealth away from households as a percentage of nominal GDP. The formula is as follows and the results are graphed below in Figure 9:

$$\frac{[\text{Actual Interest Income}] \times \left[\frac{\text{Derived Deposit Rate}}{\text{Actual Deposit Rate}}\right] - [\text{Actual Interest Income}]}{[\text{Annual Nominal GDP}]} = \text{Implicit tax as \% of GDP}$$

Figure 9: Household Implicit Tax as % of Annual Nominal GDP
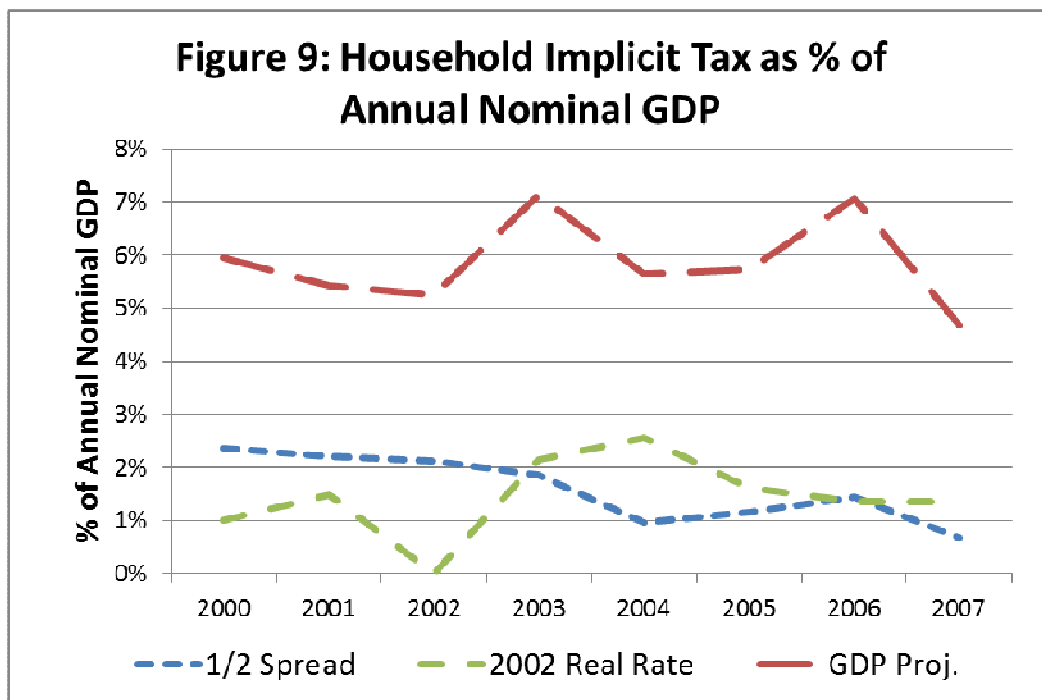
The implicit tax was also calculated as a percentage of annual per-capita income.[61] The net annual per-capita costs were divided by the year-end populations and then divided by the per-capita household income to arrive at this figure. The formula is as follows and the results are shown below in Figure 10:

$$\frac{\frac{[\text{Actual Interest Income}] \times \left[\frac{\text{Derived Deposit Rate}}{\text{Actual Deposit Rate}}\right] - [\text{Actual Interest Income}]}{[\text{Population}]}}{\left[\frac{\text{Annual Income}}{\text{Population}}\right]} = \text{Household implicit tax as \% of Per} - \text{Capita}$$

Figure 10: Household Implict Tax as % of Annual Per-Capita Income

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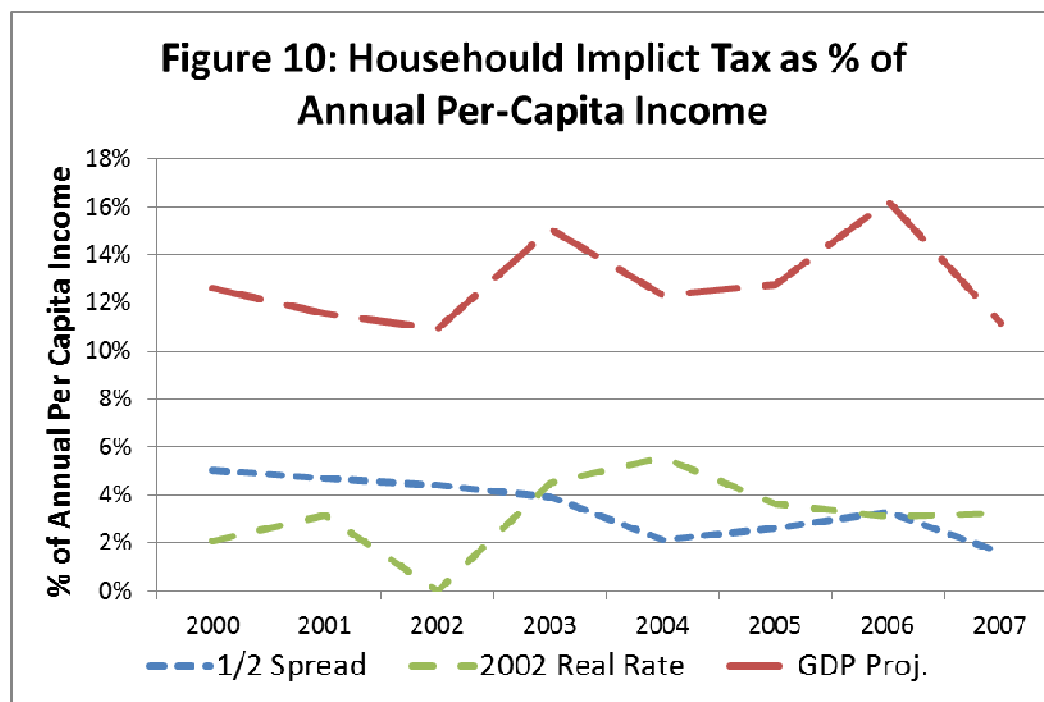
[61] Annual per capita income was found by averaging the per capita urban and rural incomes by their respective portion of the population.

Projected Per-Capita Net Savings Deposits

The final part of the model calculates what the annual per-capita net savings would have been under the derived deposit rates if the higher deposit interest income was allowed to accrue and earn interest in subsequent years.

A baseline model for annual year-end deposits was established using data from the National Bureau of Statistics of China. The derived deposit rates were than used to calculate the extra interest that would have accrued to households over the baseline if the central bank-controlled savings rate had instead been the derived rate.

The baseline case begins with the annual year-end net savings deposits of Chinese households from 2000-2007 (1999 data is included as the starting point for all models). This was found by subtracting total household loans from total household deposits. The annual increase in net deposits is then calculated by subtracting the previous year's year-end net deposits from the current year's net deposits.[62] The net interest income for any given year is found by subtracting total household interest expense from interest income and is assumed to have accrued only on the year-end deposits from the previous year. The remainder of the annual increase is attributed to new net deposits, which are assumed to begin earning interest only at the beginning of the following calendar year. The net interest income and net deposits are then divided by the year-end population to arrive at the annual net interest income per-capita and the annual net deposits per-capita.

The projected per-capita net saving deposits are then calculated using the derived deposit rates. In accordance with the assumption that the interest income for any given year only accrues on the year-end net deposits from the previous year, the "effective interest rate" is calculated by dividing the actual net interest income for the given year by the year-end net deposits of the previous year. In order to factor in the derived deposit rates, the actual "effective interest rate" was increased in proportion to the ratio of the derived deposit rate and the official one-year deposit rate.

The new derived effective interest rate is then multiplied by the previous year's year-end net deposits to arrive at the current year's projected net interest income. The projected net interest income and the calculated annual new net deposits (calculated from the baseline model) are

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[62] Data on the annual national household interest income was obtained from the flow of funds database available through the National Bureau of Statistics of China (NBS).

added to the previous year's year-end deposits to arrive at the current year's net deposits. This method uses the actual deposits figure for 1999 as the starting point and derives projected net interest incomes and year-end net deposits annually from 2000-2007. The projected net interest income and projected net year-end deposits are divided by the annual populations to arrive at the per-capita figures. The methodology was repeated for each of the three proxies.

The 2007 difference between the projected net deposits under the GDP growth proxy and the baseline was found to be RMB 8,617. The results are shown in Figure 11:

Figure 11: Projected Growth of Per-Capita Net Savings
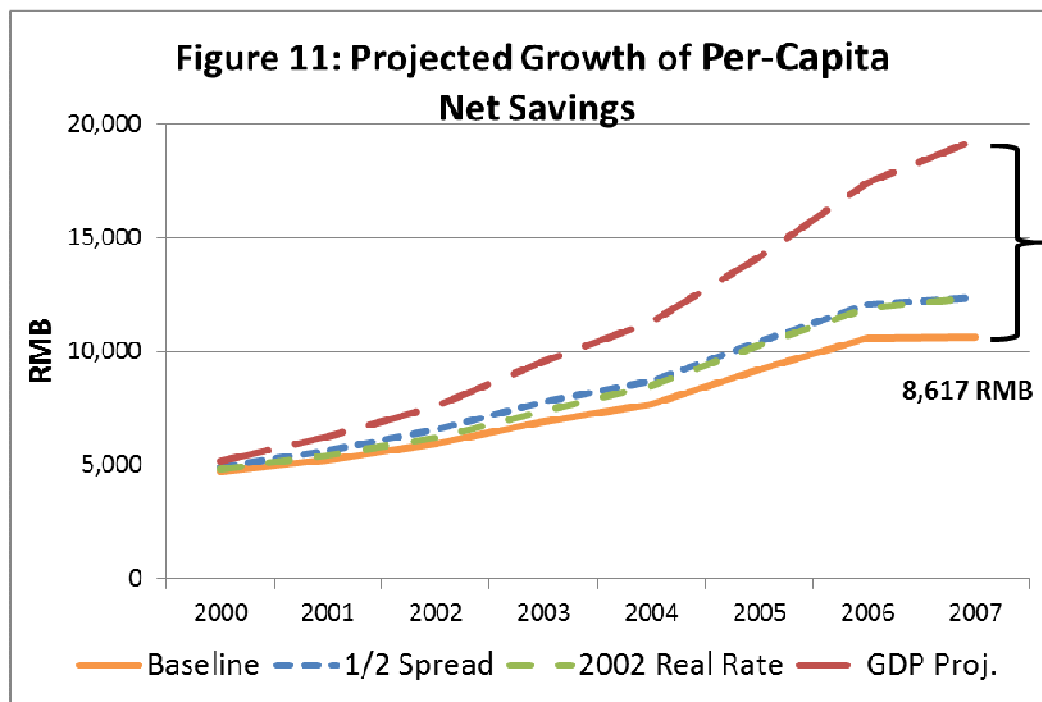
6. *Summary of Results and Analysis*

Summary Statistics	Baseline	1/2 Margin	Constant 2002 Real	GDP Proxy
2000-2007 Average Deposit Rate	2.45%	4.17%	4.41%	9.69%
2000-2007 Average Margin over Baseline		1.72%	1.95%	7.23%
2007 Implicit Tax (Bn RMB)		179	361	1,246
2007 Implicit Tax as % of 2007 GDP		0.67%	1.36%	4.69%
2000-2007 Average Implicit Tax (Bn RMB)		230	239	941
2000-2007 Average Implicit Tax as % GDP		1.60%	1.44%	5.86%
2000-2007 Total Implicit Tax (Bn RMB)		1,842	1,912	7,526
2000-2007 Total Implicit Tax (2007 Bn RMB)		1,626	1,733	6,802
2000-2007 Total Implicit Tax as % of 2007 GDP		6.12%	6.52%	25.59%
2000-2007 Total Implicit Tax Per-Capita (RMB)		1,427	1,473	5,804
2000-2007 Average Implicit Tax Per-Capita (RMB)		178	184	725
2000-2007 Average Implicit Tax Per-Capita as % of Income		1.60%	3.16%	12.83%
2007 Net Savings Balance Per-Capita (RMB)	10,664	12,379	12,367	19,281
2007 Margin of Net Savings Balance Per-Capita over Baseline (RMB)		1,716	1,704	8,617

The total implicit taxes paid by households in 2007 were as follows: 1/2 Margin- RMB 179.2 bn ($24.5 bn), Constant 2002 Real Rate- RMB 361.1 bn ($49.4 bn), GDP – RMB 1,246.4 bn ($170.6 bn).

As a point of context, the amount the government collected in household income tax was RMB 319 billion, or 1.3% of GDP in 2007.[63] The implicit tax paid by households in 2007 due to interest rate suppression under the GDP projected proxy (RMB 1,246 bn, 4.7% of GDP) was about four times the amount households paid in explicit income taxes in 2007. Interestingly, this means that Chinese households were paying much more in implicit taxes than they were in explicit taxes.

Assuming that all additional interest that should have accrued was left in the savings deposits, according to the GDP proxy, households had their

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[63] Lardy. "Financial Repression in China."

potential wealth reduced by a total of RMB 8,617 from 2000 to 2007. This amounts to more than the average income in 2007, which was RMB 8,475.

Moreover, these percentages may mask the greater impact of unpaid interest income to rural Chinese households as compared to the impact on urban households. There is a significant difference between urban and rural incomes, and subsequently, per-capita interest incomes. According to OECD research, average per-capita incomes in urban areas were 3.3 times greater than those in rural areas in 2009.[64]

Lastly, the PBC lifted the deposit rate from 2.52% in 2006 to 4.14% in 2007, which explains the downward shift in the implicit income tax as a percentage of both GDP and annual income in 2007.

7. *Impact of Suppressed Deposit Rates on Household Behavior*

The large implicit taxes paid by households has contributed to the suppression of household income growth, which in turn has played a significant role in promoting the propensity of Chinese households to save. Chinese household savings have risen from 16% of GDP in 2000 to 23% of GDP in 2008.[65] The rise in household savings is the result of two competing influences. From 1992 to 2008 there has been a 10 percentage point decline in the household income share of GDP and a 10 percentage point increase in the average propensity to save from household disposable income.[66] Together, these two trends have led to the marked decline in household consumption from 55% of GDP two decades ago to 33% in 2009.[67] The root of the high savings propensity has been hotly debated in the literature with suggested causes including income uncertainties engendered by the transition to the market economy, limited availability of instruments to borrow against future incomes to finance purchase, lack of international portfolio diversification, a severely lacking and under-funded social safety net, and an aging society. Of these, recent literature has pointed to future income uncertainty due to suppressed incomes and the lack of a viable social safety net as the two core causes for high precautionary saving.

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[64] Roach, Stephen. "China's 12th Five-Year Plan: Strategy vs. Tactics." Morgan Stanley Asia. 21 March 2011.
[65] Ma. "China's high savings rate."
[66] ibid
[67] Xie, Andy. "Rebalancing Cannot Wait."

The drop in the household share of gross national disposable income over the past 15 years can be attributed to the fall in the labor share in national income, a decline in investment income due to low returns on financial assets, and diminished net income transfers due to the lack of a social safety net. The decline in wages as a share of GDP has had the most impact on the drop in the household share of gross national disposable income as wages constitute 80% of disposable income in China.[68] The decline in labor share caused by a compressed demographic transition, a prolonged process of absorbing surplus rural labor, and a lagging labor-intensive service sector accounted for about 60% of the observed decline in the household income share of GDP between 1992 and 2007.[69] Furthermore, as a share of GDP, net household interest income decreased by 50% in the past 15 years, which accounts for a further quarter of the decline in the household income share of GDP.[70] The major cause for the decline in investment income has been the implicit tax households have been forced to pay. The implicit tax rate was calculated to have averaged 13% of annual per-capita income from 2000 to 2007.

Furthermore, income redistributions from the government through taxes, contributions, and transfers have so far been ineffective in stabilizing the household share of income, contributing to uncertainty regarding the viability of the social safety net. In 2005, government transfers to households stood at only around ½ percent of GDP, a rate well below the average of transfers from government to households in advanced and other emerging economies.[71] A contributing factor to this low rate was the 1997 pension reform that cut government liabilities while introducing individual pension accounts funded by mandatory employee contributions. Prior to the pension reform of 1997, urban workers received pensions through their employers with a replacement ratio of about 75% to 80% relative to average wage.[72] Although social welfare contributions by the household sector tripled from 1.4% of GDP in 1997 to 4.2% in 2007, workers retiring after 1997 receive a net pension that has been calculated to have a replacement ratio of only about 60% of average wage.[73] Furthermore, multiple scandals associated with local pension funds have added to fears regarding the

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[68] Ma. "China's high savings rate."
[69] ibid
[70] Ma. "China's high savings rate."
[71] Aziz, Jahangir. "Explaining China's Low Consumption."
[72] Prasad, Eswar. "Income Uncertainty and Household Savings in China." IZA Discussion Paper No. 5331. November 2010.
[73] Ma. "China's high savings rate."

viability of the current pension programs.[74] In addition, the privatization of the medical and education systems has led to the Chinese government spending only around 3 percent of GDP on health and education, a rate that is one of the lowest in the world.[75] The low government spending in these areas adds additional financial burdens to Chinese households.

A recent study by Prasad (2010) found that over half of the increase in China's urban savings rate can be traced to the two main causes mentioned above: the rising income uncertainty of future income and pension reforms resulting in a reduced social safety net.[76] Young households have responded to increased future income uncertainty by saving more in order to adjust their buffer stock of savings to the riskier environment, while older households have saved more due to weakened confidence in the sustainability of the state pension program.[77] Specifically, the rise in inflation in recent years has augmented the negative impact of financial repression on household interest income. The government's track record of failing to raise interest rates to ward off inflation has played a large role in stirring the future income uncertainty of households.

The following question then arises: would raising the interest rate reduce the propensity to save, thereby boosting consumption by Chinese households? I propose that the impact of higher interest rates would differ between the wealthier urban households and the poorer rural households.

In a developed nation, such as the United States, households hold a majority of their savings in the form of stocks, bonds, and real estate rather than in savings deposits. Typically, the values of financial assets and real assets are inversely correlated with interest rates; when rates fall, the value of these assets rises and vice versa. The opposite is true for savings deposits; when rates fall, the value of savings deposits fall too, since less interest income is earned and vice versa. However, because a majority of savings is allocated to financial assets and real assets rather than savings deposits, if interest rates decline, prices of financial assets will rise, thereby increasing the wealth of asset holders. Thus, *ceteris paribus*, people consume more when interest rates are at lower levels meaning that the substitution effect is stronger than the income effect. This effect is substantiated by the fact that

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[74] ibid

[75] Aziz, Jahangir. "Explaining China's Low Consumption."

[76] Prasad, "Income Uncertainty."

[77] ibid

US consumption as a share of GDP tends to be correlated with the performance of the asset markets, reflecting the wealth effect.[78]

Wealthier households in China would respond similarly to typical households in the West, as they are able to diversify their savings away from bank deposits into real assets and thus are able to avoid the implicit tax on savings deposits. Driven by negative returns on bank deposits, wealthier households have been incentivized to allocate their capital into more risky financial products such as stocks and real estate even as asset bubbles loom ominously in these markets. Such a trend is reflected in the high proportion of household wealth held in these assets in China. In 2007, bank deposits accounted for 27% of average household wealth across China, property accounted for 53%, and stocks accounted for 13%.[79] However, if interest rates were raised, the tradeoff on yields between savings deposits and higher-risk investments would not be as drastic, thereby reducing the incentive for households to allocate as much wealth into financial and real assets. In doing so, higher interest rates should cool down the threat of asset bubbles bursting in the red-hot real estate and stock markets. In total, it seems that higher interest rates would promote safer investment decisions among those households in China who have enough capital to diversify. The number of such households, however, is quite low as the total number of individual investor accounts on the Shanghai and Shenzhen stock exchanges is only about 5 percent of the population.[80]

In China and certain other countries following the Asian development model, rising interest rates are more often associated with higher, not lower, consumption.[81] Since a majority of rural household savings are in bank deposits, changing deposit rates would have a large impact on the wealth of these households. To explain this phenomenon, Pettis (2010) references Modigliani's life-cycle theory and proposes that Chinese households have targeted savings goals such as paying for their child's education or reaching a certain figure to provide for retirement. Because a majority of households depend on saving deposits as their main investment vehicle, a higher deposit rate would allow them to reach their goals faster, which in turn would

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[78] Pettis, Michael. "Chinese savings and the wealth effect." China Financial markets. 20 April 2010. http://mpettis.com/2010/04/chinese-savings-and-the-wealth-effect/. Accessed 21 March 2011.

[79] Wang, Qing. "Impact of Stock Bubble Burst: An Update" Morgan Stanley China Economics Research Note, 19 October 2007.
[80] Aziz."Explaining China's Low Consumption."
[81] ibid

decrease the portion of their incomes dedicated to savings and increase the portion designated for consumption.[82] [83] This theory assumes that the income effect resulting from higher interest rates would outweigh the substitution effect for the average Chinese household.

However, the impact of raising deposit rates on saving and consumption behavior is not clearly defined. As described earlier, the average household in China faces an uncertain outlook for their future incomes. In addition, fully-loaded costs of living continue to rise as the government privatization programs have transferred the burden of paying for social security, private pensions, and medical insurance from the state to individual households. Although the government has publicly declared its intentions to boost the social safety net, the means to do so remain unclear. Because of the continued wealth transfers away from households, households face a declining margin between their expected future incomes and their expected future living expenses, leading to greater precautionary saving. Thus, if presented only with higher deposit rates without concomitant improvements in the outlook of their future incomes and the social safety net, poorer households may consume even less and save even more of their higher current income in the short-term. In order to bring down the savings rate and drive household consumption, the Chinese government needs to alleviate household uncertainties by instituting a fundamental shift in the orientation of its economic policy.

8. *Policy Implications and Challenges to Reform*

At present, the structure of China's economy can be characterized as a government that mines resources from the non-state sector and then uses the resources to subsidize a state sector composed of state-owned enterprises, state-controlled commercial banks, and the government itself. Although the economy has embraced market liberalizations when convenient, at its core, the economy still implicitly maintains the pro-industry mentality of a socialist regime. Many of the fundamental imbalances in the Chinese economy can be traced to this legacy.

Guonan (2010) found that while the government's disposable income has risen from 15% of GDP in 1997 to 24% of GDP in 2008 due to higher

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[82] Pettis, Michael. "Who will pay for China's bad loans?"

[83] Modigliani, Franco. "The Life Cycle Hypothesis of Saving and Intercountry Differences in the Saving Ratio," in *Induction, Growth and Trade*, eds. W. A. Eltis, M. FG. Scott, and J. N. Wolfe. Oxford: Clarendon Press, 1977-225. 1970.

economic growth, the government's savings rate has also increased.[84] While government consumption over time has remained stable at 15% of GDP, total government expenditure, which includes government investment spending, has grown from 11% of GDP in the 1990s to 20% in the 2000s.[85] In other words, the government's revenues have been increasingly invested in driving high GDP growth instead of being spent to fund pensions and other aspects of the social safety net.

Furthermore, the government's explicit support of the export industry is revealed in the balance of the government's spending on tax rebates for exports (TREs). The volume of TREs has grown from RMB 115 bn in 2002 to RMB 586.6 bn in 2008.[86] In 2006, the total TREs received by exporting firms amounted to 14% of government tax revenue.[87] On the other hand, the government collected RMB 1195.5 bn of income taxes and RMB 1081.2 bn of social insurance fees in 2007 while only spending RMB 1028 bn on social welfare payments, social insurance provisions, and other transfers.[88] This means that the government actually had a net gain of RMB 1248.9 bn in net transfers from households in 2007.[89] From these figures, it is clear that government budgeting clearly favors exporters over households.

To date, the government has relied on fiscal measures to transfer this accumulation of wealth from the state sector back to households. Such measures include increasing meager social security payments, subsidizing low-rent housing, and instituting direct payments to poorer citizens. At the very least, the government must continue such payments while also continuing to strengthen the social safety net as the current public welfare system remains fragmented and underfunded. The recent move to transfer a percentage of listed state company shares to shore up pension assets is a step in the right direction.[90] The government should aim to create a more integrated and broader-based social safety net with enhanced funding from the central government that focuses on the low-income segments of the population.[91] However, these policies are only after-the-fact attempts to fix a structural problem. These transfers are easier for the government to implement than fundamental shifts in monetary policy, but are unsustainable as the associated costs of the transfers will only continue to rise over time.

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[84] Ma. "China's high saving rate."

[85] ibid

[86] Yang, et al. "Why are savings rates so high in China?"

[87] ibid

[88] ibid

[89]Yang, et al. "Why are savings rates so high in China?"

[90] Ma. "China's high savings rate."

[91] ibid

Rather than relying solely on fiscal transfers to subsidize consumption, the government needs to shift its focus towards boosting personal incomes as well. Such a transition requires rebalancing the systemic transfers of wealth that are now heavily skewed against households. Equitable macroeconomic policies, such as liberalized interest rates and a well-developed and efficient financial sector that adequately distributes gains from economic growth to households are essential ingredients for balanced and sustainable growth. The only way the government can earn back household confidence is by following through on promises to boost incomes. Otherwise, households will continue to engaging in high levels of precautionary saving due to the perception of a shrinking spread between their future incomes and future costs of living.

However, there are tremendous challenges to implementing the structural reforms required to rebalance the Chinese economy while maintaining robust internal demand. Increasing income for households will necessitate decreasing resources accrued to the government and enterprises. In addition, those sectors of the economy that have benefitted most from these policies, namely the government, SOEs and SCBs, will strongly oppose any reforms that remove the subsidies they have been receiving. Furthermore, China is in the midst of a leadership transition, as the current central leadership will be replaced in 2012. Many top executives of SOEs and provincial leaders are members of the powerful Central Committee of the Communist Party and senior leaders in Beijing need their support in gaining coveted seats on the Politburo for themselves or their protégés, which only increases the pressures to maintain the status quo.[92]

The two most-often stated goals of monetary policy in China are to avoid instability by improving standards of living and to develop a virtuous cycle of economic improvements.[93] Moving towards these targets requires a well-functioning financial system that promotes continued growth and development. However, the overarching prerogative of the Chinese government is social stability and opponents of further liberalization will most likely frame such changes as destabilizing. Further declines in external demand could slow China's growth rate even more, possibly to a level that the central leadership regards as inadequate for sustaining job growth and social stability. If this happens, the government will resort once again to stimulative policies centered on pumping liquidity into the economy. In relative terms, fostering a high rate of growth is the easiest cure for deep

[92] Pei, Minxin. "China's Bumpy Ride Ahead." The Diplomat. http://the-diplomat.com/whats-next-china/chinas-bumpy-ride-ahead. 16 February 2011. Accessed 1 March 2011.
[93] Naughton, Barry. *The Chinese Economy.*

structural problems as it diminishes the scale of past mistakes while also creating the resources to deal with the problems.[94] The PBC has also historically reduced interest rates when the RMB has appreciated in order to mollify sectors hurt the most, and specifically exporters with their strong governmental lobby. With heavy global pressure on the RMB to continue appreciating, the PBC may be compelled to repeat its past actions, which would only exacerbate the aforementioned imbalances.

9. *Conclusion*

For the past three decades of reform, the Chinese government has looked to enterprises as the driving force behind the nation's continued economic growth and development. While the quality of living for Chinese households has elevated dramatically across the board, economic gains accrue to households only after the state and state-backed institutions have taken more than their fair share.

The unveiling of the Chinese government's 12th Five-Year Plan finally places the economic focus on the household. The central goal of the policy is to shift the Chinese economy away from relying on export- and investment-led growth and instead towards domestic consumption. To realize this shift, the government plans to focus on increasing jobs in the service sector, boosting rural incomes, and improving the social safety net.[95]

The success of 12th Five-Year Plan depends primarily on whether the government is able to fundamentally shift the structure of its economy from that of one fixated on funneling resources into high investment for the sake of driving GDP growth to one that distributes economic resources more equitably and sustainably. The liberalization of interest rates would demonstrate a commitment to the latter orientation. The suppression of interest rates has been a cornerstone policy for fostering the growth of the state and state-backed sectors to the detriment of households. As this paper has calculated, suppressed deposit rates have imposed an implicit tax of about 13% annually on households to subsidize a lower cost of capital for businesses and the government. From 2000 to 2007, the average household was undercompensated by an amount roughly equivalent to an entire year's salary in 2007.

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[94] Prasad, "Income Uncertainty."
[95] Roach. "China's 12th Five-Year Plan: Strategy vs. Tactics."

However, merely raising interest rates will not be enough. Without the aforementioned economic policy shift, Chinese households will continue to be apprehensive about their economic futures, leading to sustained high savings and low consumption. Instead, a market-based interest rate must be coupled with a broadened financial system that creates alternative investment opportunities for households and a more responsible business sector that distributes a greater share of profits to households as dividends. Furthermore, the government must make a renewed and earnest effort to create a viable and well-funded social safety net. Only by achieving significant progress on all these fronts can the government instill confidence and permanently boost household consumptions levels.

If the Chinese government does not fundamentally reorient its economic policies, any efforts to achieve the goals outlined in the 12th Five-Year Plan will be in vain. The government would instead be forced to continue to rely on short-sighted fiscal transfers to assuage an increasingly volatile population. If the government chooses this unsustainable route, it will only be delaying an inevitable policy transformation that becomes more costly by the day.

It will not be costless to implement the proposed policies. But the fundamental shifts they bring are integral for China's sustainable development. The tradeoff comes down to whether the government values short-term stability or long-term viability. Although it is unlikely that the government will wander far from its monetary policy orthodoxy, it would serve them well to step back and allow Adam Smith's invisible hand do its work.

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11. *Appendix*

Appendix 1: China Population[96]

Year	Total Population (year-end)	By Residence			
		Urban		Rural	
		Population	Proportion	Population	Proportion
2000	126743	45906	36.22	80837	63.78
2001	127627	48064	37.66	79563	62.34
2002	128453	50212	39.09	78241	60.91
2003	129227	52376	40.53	76851	59.47
2004	129988	54283	41.76	75705	58.24
2005	130756	56212	42.99	74544	57.01
2006	131448	57706	43.90	73742	56.10
2007	132129	59379	44.94	72750	55.06

http://www.stats.gov.cn/tjsj/ndsj/2008/indexeh.htm

Appendix 2: China Flow of Funds[97]

2-32 Flow of Funds- Physical Transactions			
Households			
Income from Properties: Interest Payments			
Year	Utilization	Source	Net Interest Pa
1992	6	1187	1181
1993	12	1789	1777
1994	20	2748	2727
1995	17	2938	2921
1996	24	3626	3601
1997	25	3281	3256
1998	31	3528	3497
1999	28	2912	2883
2000	40	2979	2939
2001	81	3102	3021
2002	367	3392	3025
2003	537	3525	2988
2004	1673	3770	2097
2005	1145	4053	2909
2006	1967	6305	4338
2007	2826	7281	4455

http://www.stats.gov.cn/english/statisticaldata/yearlydata/YB1996e/Q1

[96] BNS
[97] BNS

Appendix 3: Saving Deposits of Urban and Rural Households[98]

9-3 Savings Deposit of Urban and Rural Household							
	(100 million yuan)						
Year	Balance at Year-end				Year-on-year Increase		
	Total	Time Deposits	Demand Deposits	% Demand	Total	Time Deposits	Demand Deposits
Year	Baseline						
1978	210.6	128.9	81.7	38.8%	29.0	17.2	11.8
1980	395.8	304.9	90.9	23.0%	114.8	138.5	-23.7
1985	1,622.6	1,225.2	397.4	24.5%	407.9	324.3	83.6
1990	7,119.6	5,909.4	1,210.2	17.0%	1,935.1	1,700.9	234.2
1991	9,244.9	7634.9	1,610.0	17.4%	2,125.3	1,725.5	399.8
1992	11,757.3	9,445.0	2,312.3	19.7%	2,512.4	1,801.1	711.3
1993	15,203.5	12,108.3	3,095.2	20.4%	3,446.2	2,663.3	782.9
1994	21,518.8	16,838.7	4,680.1	21.7%	6,315.3	4,730.4	1,584.9
1995	29,662.3	23,778.3	5,884.1	19.8%	8,143.5	6,939.6	1,204.0
1996	38,520.8	30,873.2	7,647.6	19.9%	8,858.5	7,095.0	1,763.6
1997	46,279.8	36,226.7	10,053.1	21.7%	7,759.0	5,353.3	2,405.7
1998	53,407.5	41,791.6	11,615.9	21.7%	7,127.7	5,564.8	1,562.8
1999	59,621.8	44,955.1	14,666.7	24.6%	6,214.3	3,163.5	3,050.8
2000	64,332.4	46,141.7	18,190.7	28.3%	4,710.6	1,186.6	3,524.0
2001	73,762.4	51,434.9	22,327.5	30.3%	9,430.0	5,293.2	4,136.9
2002	86,910.7	58,788.9	28,121.8	32.4%	13,148.3	7,354.1	5,794.1
2003	103,617.7	68,498.7	35,119.0	33.9%	16,707.0	9,709.7	6,997.3
2004	119,555.4	78,138.9	41,416.5	34.6%	15,937.8	9,640.2	6,297.6
2005	141,051.0	92,263.5	48,787.5	34.6%	21,495.6	14,124.7	7,370.9
2006	161,587.3	103,011.4	58,575.9	36.3%	20,536.3	10,777.3	9,766.7
2007	172,534.2	104,934.5	67,599.7	39.2%	10,946.9	1,923.1	9,023.8
2008	217,885.4	139,300.2	78,585.2	36.1%	45,351.2	34,369.4	10,983.6
http://www.stats.gov.cn/english/statisticaldata/yearlydata/YB1996e/Q17-10e.htm							

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[98] BNS

Appendix 4: Baseline Prime Rates, Federal Funds Rates, and Nominal GDP Growth[99]

Colum	US CO	US Pri	US Fed	US GD	Aus Pri	Aus Fe	Aus GD	Can Pri	Can De	Can GD	ECB Le	ECB De	EU GD	China	China I	China (
2000	6.46%	9.50%	6.24%	6.43%	9.27%	5.90%	6.61%	7.27%	3.48%	9.58%	5.75%	3.75%	6.10%	5.85%	2.25%	10.64%
2001	3.69%	4.75%	3.89%	3.39%	8.66%	5.06%	6.78%	5.81%	2.25%	2.92%	4.25%	2.25%	4.30%	5.85%	2.25%	10.52%
2002	1.73%	4.25%	1.67%	3.48%	8.16%	4.55%	7.10%	4.21%	0.83%	4.05%	3.75%	1.75%	3.20%	5.31%	1.98%	9.74%
2003	1.15%	4.00%	1.13%	4.71%	8.41%	4.81%	5.95%	4.69%	1.10%	5.23%	3.00%	1.00%	2.90%	5.31%	1.98%	12.87%
2004	1.45%	5.25%	1.35%	6.52%	8.85%	5.25%	7.53%	4.00%	0.78%	6.41%	3.00%	1.00%	4.40%	5.58%	2.25%	17.71%
2005	3.51%	7.25%	3.21%	6.50%	9.06%	5.46%	7.04%	4.42%	0.79%	6.42%	3.25%	1.25%	3.90%	5.58%	2.25%	15.67%
2006	5.15%	8.25%	4.96%	6.01%	9.41%	5.81%	8.09%	5.81%	1.83%	5.57%	4.50%	2.50%	5.30%	6.12%	2.52%	16.97%
2007	5.27%	7.25%	5.02%	5.44%	8.20%	6.39%	9.05%	6.10%	2.08%	5.46%	5.00%	3.00%	5.00%	7.47%	4.14%	22.88%

Appendix 5: Derived Rates[100]

End of Year	CN Nom GDP (Tn)	GDP Growth	China CPI	China CPI2	Official 1-Yr Deposit	1/2 Spread	2002 Real Rate	GDP Proj.
2000	9.92	10.64%	0.26	0.26%	2.25%	4.05%	3.01%	6.77%
2001	10.97	10.52%	0.72	0.72%	2.25%	4.05%	3.47%	6.69%
2002	12.03	9.74%	-0.77	-0.77%	1.98%	3.65%	1.98%	6.11%
2003	13.58	12.87%	1.16	1.16%	1.98%	3.65%	3.90%	8.41%
2004	15.99	17.71%	3.88	3.88%	2.25%	3.92%	6.63%	11.94%
2005	18.49	15.67%	1.82	1.82%	2.25%	3.92%	4.57%	10.45%
2006	21.63	16.97%	1.46	1.46%	2.52%	4.32%	4.21%	11.40%
2007	26.58	22.88%	4.75	4.75%	4.14%	5.81%	7.50%	15.72%

Appendix 6: Derived Transfers

Year	Population	Per Capita Annual Income	Nominal GDP	GDP Deflator	Baseline Deposits	Baseline Loans	Net Bank Deposits	Net Baseline Deposits (2007 RMB)	Net Interest Income	Official 1-yr Deposit	1/2 Spread	2002 Real Rate	GDP Proj.
2000	1.263	3,712	9,921.5	2.06%	6,433.2	450.0	5,983.2	4,826.3	293.9	2.25%	4.05%	3.01%	6.77%
2001	1.272	4,059	10,965.5	2.05%	7,376.2	700.0	6,676.2	5,496.4	302.1	2.25%	4.05%	3.47%	6.69%
2002	1.280	4,519	12,033.3	0.58%	8,691.1	1,050.0	7,641.1	6,419.8	302.5	1.98%	3.65%	1.98%	6.11%
2003	1.288	4,993	13,582.3	2.61%	10,361.8	1,450.0	8,911.8	7,531.1	298.8	1.98%	3.65%	3.90%	8.41%
2004	1.296	5,645	15,987.8	6.91%	11,955.5	2,000.0	9,955.5	8,632.9	209.7	2.25%	3.92%	6.63%	11.94%
2005	1.304	6,367	18,493.7	3.93%	14,105.1	2,100.0	12,005.1	11,129.8	290.9	2.25%	3.92%	4.57%	10.45%
2006	1.311	7,175	21,631.4	3.79%	16,158.7	2,300.0	13,858.7	13,353.2	433.8	2.52%	4.32%	4.21%	11.40%
2007	1.318	8,475	26,581.0		17,253.4	3,200.0	14,053.4	17,253.4	445.5	4.14%	5.81%	7.50%	15.72%

	1/2 Spread	1/2 Spread	Transfer Per Capita (RMB)	Transfers as % of Per Capita Income	1/2 Spread	2002 Real Rate	2002 Real Rate	Transfer Per Capita (RMB)	Transfers as % of Per Capita Income	2002 Real Rate	GDP Proj.	GDP Proj.	Transfer Per Capita (RMB)	Transfers as % of Per Capita Income	GDP Proj.
	235.1	189.7	186.2	5.0%	2.4%	98.7	79.7	78.2	2.1%	1.0%	590.4	476.2	467.6	12.6%	6.0%
	241.7	199.0	190.0	4.7%	2.2%	163.6	134.7	128.7	3.2%	1.5%	595.7	490.4	468.4	11.5%	5.4%
	254.4	213.7	198.7	4.4%	2.1%	0.0	0.0	0.0	0.0%	0.0%	631.4	530.5	493.1	10.9%	5.2%
	251.2	212.3	195.0	3.9%	1.8%	290.0	245.1	225.1	4.5%	2.1%	969.5	819.3	752.5	15.1%	7.1%
	155.2	134.6	119.7	2.1%	1.0%	408.3	354.0	315.0	5.6%	2.6%	903.5	783.5	697.1	12.3%	5.7%
	215.2	199.5	165.1	2.6%	1.2%	299.6	277.8	229.8	3.6%	1.6%	1,060.5	983.1	813.4	12.8%	5.7%
	309.9	298.6	236.4	3.3%	1.4%	290.8	280.2	221.8	3.1%	1.3%	1,528.4	1,347.6	1,165.8	16.2%	7.1%
	179.2	179.2	135.9	1.6%	0.7%	361.1	361.1	274.0	3.2%	1.4%	1,246.4	1,246.4	945.8	11.2%	4.7%
Avg:	24.5			3.5%	1.6%	49.4			3.2%	1.4%	170.6			12.8%	5.9%
Sum:	1,841.9	1,626.5	1,427.0		6.1%	1,912.2	1,732.6	1,472.6		6.5%	7,525.8	6,802.1	5,803.7		25.6%

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[99] Bloomberg and WorldBank
[100] China rates from PBC

Appendix 7: Derived Net Savings

Year	Per Capita Annual Income	GDP Deflator	Baseline Deposits	Baseline Loans	Net Savings	Y/Y Increase	Net Interest Income	New Deposits	Pop. (Bn)	Effective Interest Rate	Int. Inc. Per Capita (RMB)	Baseline
1999		-1.25%	5,962.2	300.0	5,662.2							
2000	3,712	2.06%	6,433.2	450.0	5,983.2	321.1	293.9	27.2	1.263	5.19%	232.8	4,738.7
2001	4,059	2.05%	7,376.2	700.0	6,676.2	693.0	302.1	390.9	1.272	5.05%	237.5	5,249.2
2002	4,519	0.58%	8,691.1	1,050.0	7,641.1	964.8	302.5	662.3	1.280	4.53%	236.3	5,967.7
2003	4,993	2.61%	10,361.8	1,450.0	8,911.8	1,270.7	298.8	971.9	1.288	3.91%	231.9	6,916.9
2004	5,645	6.91%	11,955.5	2,000.0	9,955.5	1,043.8	209.7	834.0	1.296	2.35%	161.8	7,681.3
2005	6,367	3.93%	14,105.1	2,100.0	12,005.1	2,049.6	290.9	1,758.7	1.304	2.92%	223.1	9,208.3
2006	7,175	3.79%	16,158.7	2,300.0	13,858.7	1,853.6	433.8	1,419.8	1.311	3.61%	330.9	10,571.0
2007	8,475		17,253.4	3,200.0	14,053.4	194.7	445.5	-250.8	1.318	3.21%	338.0	10,663.6

1/2 Margin					2002 Real Rate					GDP Proj.				
Eff. Rate + Prem%	Projected Interest Income	Projected Net Deposits 1	Proj. Inc/ Capita (RMB)	1/2 Spread	Eff. Rate + Prem%	Projected Interest Income	Projected Net Deposits 1	Proj. Inc/ Capita (RMB)	2002 Real Rate	Eff. Rate + Prem%	Projected Interest Income	Projected Net Deposits 1	Proj. Inc/ Capita (RMB)	GDP Proj.
		5,662.2					5,662.2					5,662.2		
9.34%	529.0	6,218.4	419.0	4,924.9	6.93%	392.7	6,082.0	311.0	4,816.9	15.62%	884.3	6,573.6	700.4	5,206.2
9.09%	565.1	7,174.4	444.3	5,640.9	7.78%	473.4	6,946.3	372.2	5,461.6	15.00%	986.3	7,950.9	775.5	6,251.4
8.34%	598.4	8,435.1	467.4	6,587.9	4.53%	314.7	7,923.4	245.8	6,188.2	13.99%	1,112.2	9,725.4	868.6	7,595.6
7.20%	607.2	10,014.2	471.3	7,772.6	7.71%	610.5	9,505.8	473.9	7,378.0	16.60%	1,614.3	12,311.6	1,252.9	9,555.8
4.09%	410.1	11,258.4	316.4	8,686.5	6.93%	659.2	10,999.1	508.6	8,486.5	12.49%	1,537.9	14,683.6	1,186.6	11,329.3
5.08%	572.3	13,589.4	439.0	10,423.6	5.93%	652.4	13,410.1	500.4	10,286.1	13.57%	1,993.1	18,435.4	1,528.8	14,140.6
6.19%	841.8	15,851.0	642.1	12,090.6	6.04%	809.4	15,639.3	617.4	11,929.1	16.34%	3,013.2	22,868.5	2,298.4	17,443.3
4.51%	714.4	16,314.7	542.1	12,379.4	5.82%	910.3	16,298.8	690.7	12,367.4	12.21%	2,791.8	25,409.5	2,118.4	19,280.5
				1,715.8					1,703.8					8,616.9