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Causes of and Remedies for the People's Republic of China's External Imbalances: The Role of Factor Market Distortion

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Abstract

The current account surplus of the People's Republic of China (PRC) has drawn much foreign and domestic attention. This paper focuses on the reasons and remedies for the PRC's current account surpluses. Rather than deploying the standard explanations, we argue that asymmetric market liberalization and the related factor market distortion is the root reason for the PRC's external imbalances. These cost distortions have artificially lowered PRC production costs, raised profits, and improved their products' international competitiveness which has not only stimulated the economy, but also brought about severe structural risks. We completed a crude estimation for factor cost distortions in the PRC during 2000–2009 which matched its current account surpluses quite well. In order to rebalance the economy, we recommend that the PRC should adopt a comprehensive reform package focusing on removing the factor market distortions.

JEL Classification: F32, O11, H24, E61

Contents

1. INTRODUCTION

The current account surplus of the People's Republic of China (PRC), as well as the high rate of its gross domestic product (GDP) has been at the center of numerous international economic policy debates in recent years. Some western politicians have blamed the PRC for its huge current account surpluses which they claim have contributed to its undervalued currency. This external pressure has principally advocated for the appreciation of the yuan; this emphasis has worsened trade relations between the PRC and countries with large current account deficits, especially the US, which has seen a widening of current account imbalances with the PRC in recent years.

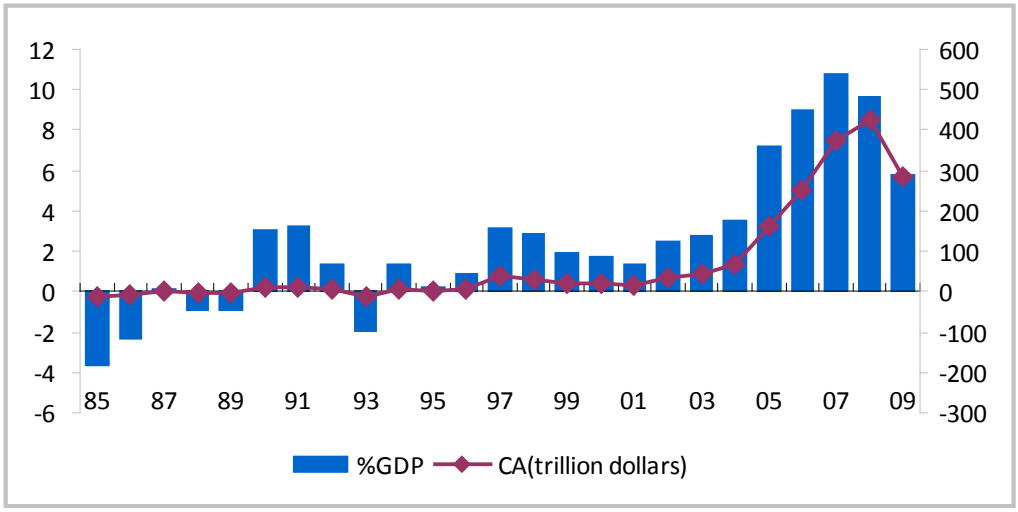
The surge in the PRC's current account surplus in 2004 contributed a great deal to this global imbalance. Obstfeld and Rogoff (2009) demonstrated that this global imbalance was intimately connected with the financial crisis. They also pointed out that the PRC's export success and dramatic current account surpluses fueled both a rapid growth rate and strong protectionist sentiment in destination markets.

At the same time, both PRC economists and the PRC government were also very uneasy about the rapidly expanding external sector imbalances. Yu (2007) identified a number of reasons why the growing imbalances were not in the PRC's interest and pointed out that persistent current account surpluses meant that the PRC as a low-income economy exported capital to rich countries. Rising external surpluses often worsened the PRC's trading relations with its major trading partners. Finally, rapid accumulation of foreign exchange reserves also made the PRC vulnerable in face of US dollar adjustments.

Since the current account surplus soared in 2004, the PRC economy has maintained a high growth rate. Its GDP rate has risen almost three times from 3.5% in 2004 to 10.8% in 2007. Due to the global economic crisis, the rate dropped to 9.7% in 2008 but the amount of current account surplus was 25 times higher in 2008 as it was in 2002 and reached US$426 billion.

Figure 1: PRC Current Account Balances, 1986–2009

(% GDP)



Source: CEIC Data Company.

Note: GDP = gross domestic product.

The surge that occurred in 2004 and has lasted till now has raised numerous concerns and criticisms. The PRC government has tried numerous times to reduce the imbalances, including appreciation of the yuan, reducing the export tax rebate, and increasing government procurement from abroad. These policies failed when faced with the continuing

discrepancies in the current account surplus. The implied message is that maybe the government has not been aggressive enough, or it has not yet identified the root cause of the problem.

What are the fundamental factors contributing to the PRC's growing current account surpluses? Explanations for the huge current account surpluses in the PRC can be grouped into six broad categories: measurement error, savings and investment gap, demographic transition, industry relocation, by-product of policies promoting strong growth, and exchange rate distortion.

It should be noted that these explanations are not necessarily mutually exclusive. For instance, the perceived exchange rate distortion might be applied as a part of the general policy supporting growth, and the effect of demographic transition is blended with the saving and investment gap.

These explanations are helpful for understanding the PRC's growing external imbalance problem. The savings and investment gap hypothesis, however, is really an identity and does not offer proper insights into the problem. The by-product hypothesis and the industry relocation hypothesis are not conducive to generating specific policy recommendations to remedy the problem. Finally, the exchange rate hypothesis, while not controversial, could lead to superficial policy implications.

In this paper, we argue that asymmetric market liberalization and the related factor market distortion is the reason for the PRC's external imbalances. During the reform period, the government almost completely liberalized the goods markets. The factor markets, however, remain heavily distorted. These distortions have a general tendency of depressing factor prices and lowering production costs which, taken together, artificially increase producer incentives, raise investment returns, and improve the international competitiveness of PRC products. All these boost the PRC's exports. In addition, they also distort broad income distribution in favor of the government and the corporate sector, but at the expense of household income. This weakens consumption and further boosts external sector surplus (Huang 2010).

This paper is organized as follows; section two reviews the evolution and composition of the current account balances during the reform period and then offers a survey of the literature and a critical assessment of the six hypotheses proposed in previous studies. Section three presents an alternative hypothesis that the PRC's growing current account surplus is mainly the result of factor market distortions. (We have elaborated the cost distortions in labor, capital, land, the energy market, and the environment with a crude estimation for the cost distortion in each factor market.) Section four analyzes the past policy responses and recommends that in order to rebalance the economy, the PRC needs to adopt a comprehensive policy package that further liberalizes the factor markets and removes the cost distortions. The final section contains some concluding remarks on possible resolution of the PRC's external sector imbalances.

2. CONTEMPORARY EXPLANATIONS OF THE PRC'S CURRENT ACCOUNT SURPLUSES

2.1 Evolution of the PRC's current account imbalances

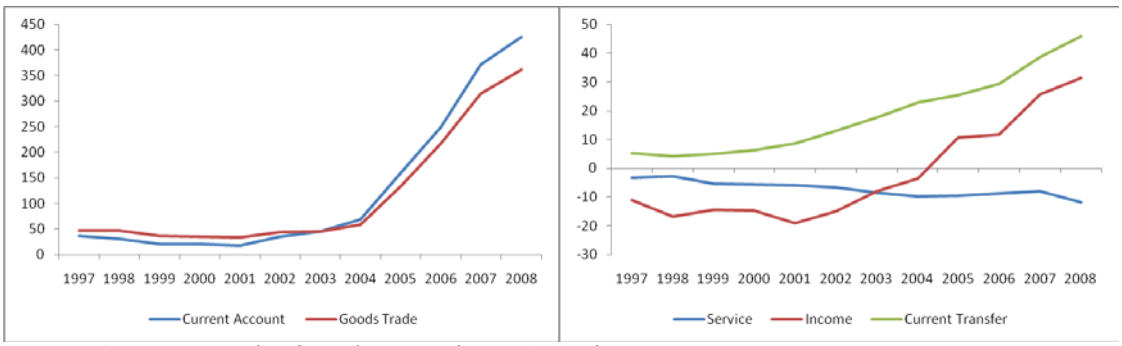
During more than 30 years of reform, the PRC incurred current account deficits in only the years 1985, 1986, 1988, 1989, and 1993. It is, therefore, true that the PRC's economic system does show a tendency towards current account surpluses. Until recently, however, those surpluses remained small relative to GDP. From 2003 to 2008, the surplus rose from US$45.9 billion to US$426.1 billion, an increase of more than 800% (see Figure 1).

While it is true that the PRC's account surpluses in 2007 already amounted to more than 50% of US current account deficits (thus likely requiring coordination with PRC efforts for any successful adjustment of US external imbalances), historical data do not definitively suggest that the PRC's surplus was the original cause of the US deficit. US current account deficits first surged from 1.7% of GDP 1997 to 4.3% in 2000. During the same period, the PRC's current account surpluses narrowed from 3.8% to 1.7%. One possible implication is that, while the US needs the PRC's cooperation in rebalancing its own economy, perhaps it should also focus on its own structural reforms to remove the distortions.

The PRC's current account surpluses have always been dominated by goods trade surpluses (see Figure 2). Before 2003, merchandised trade surpluses were greater than the overall current account surpluses. The relationship reversed after that because the combination of the remaining current account items also turned positive. These suggest that any policies dealing with the external imbalance problem would have to address merchandise trade imbalances.

Figure 2: PRC Current Account Balances by Category, 1997–2008

(US$ billion)



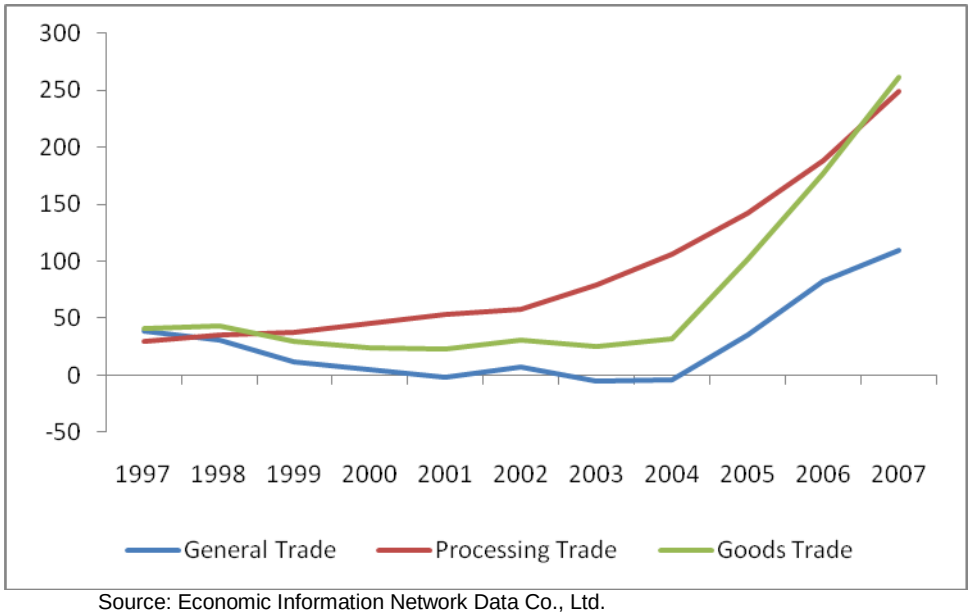
Source: Economic Information Network Data Co., Ltd.

Current transfers stayed in surplus during the past decade and rose from US$5.1 billion in 1997 to US$45.8 billion in 2008 (see Figure 2). Even in its peak year, however, it only accounted for slightly above 10% of overall current account surpluses. Service trade remained in deficit, widening from US$3.4 billion in 1997 to US$11.8 billion in 2008.

More interestingly, regarding goods trade imbalance, processing trade contributes almost 100% of the total surplus (see Figure 3). General trade was more or less in balance during the past decade. This sheds light on the sustainability of the PRC's external surpluses. Processing trade is mainly based on the PRC's cost advantages, particularly labor cost advantage. If such advantages disappear sometime in the future, then all the surpluses might also evaporate. This has important implications for what the government should do to deal with the current imbalance problems.

Figure 3: PRC Goods Trade Surplus by Category, 1997–2007

(US$ billion)

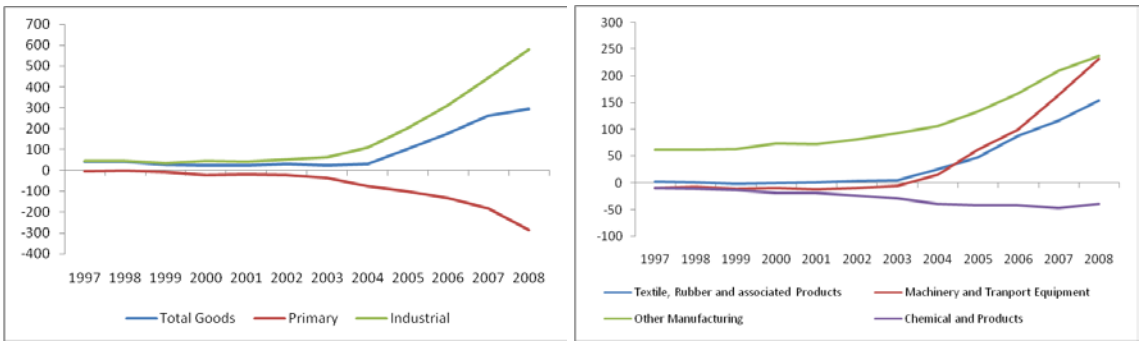


Source: Economic Information Network Data Co., Ltd.

We can further delineate goods trade surpluses by sectors. The first finding is that the PRC's goods trade surpluses came entirely from industrial products (see Figure 4). Primary goods trade has been in deficit for at least the past decade, with aggregate deficits rising from US$4.7 billion in 1997 to US$284.9 billion in 2008. This was most clearly shown by the PRC's increasing imports of commodities and its growing influence in global commodity markets.

Figure 4: PRC Current Account Balances by Sector, 1997–2008

(US$ billion)



Source: Economic Information Network Data Co., Ltd.

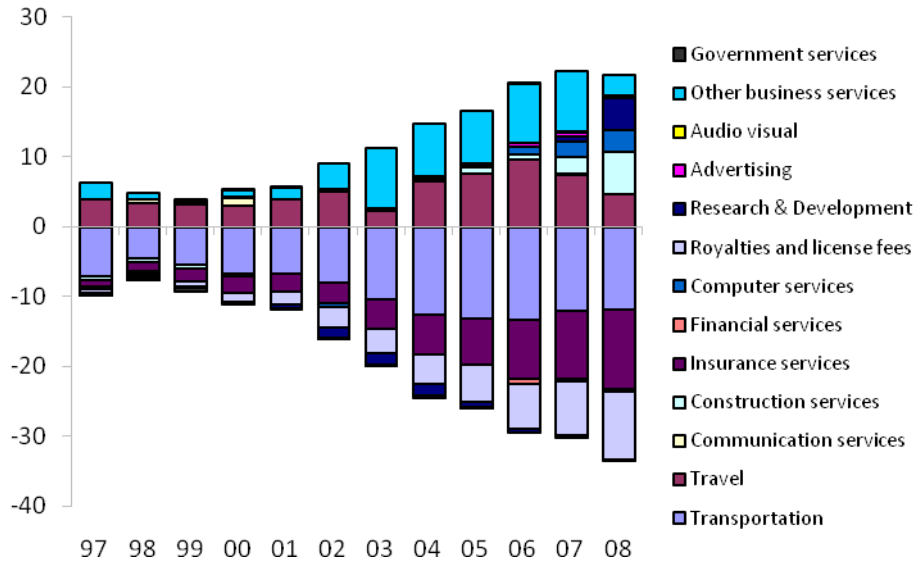
A further look at the disaggregated industrial product trade data suggests that the most dramatic increase in trade surpluses occurred in machinery and transport equipment (see Figure 4). Between 2003 and 2008, this sector's trade balance improved from a small deficit to a huge surplus of US$231 billion, which was about 80% of total merchandise trade surplus. Textile, rubber, and associated products, taken together, have been a strong export sector, but its surplus also picked up recently. Chemical and associated products is the only major sector which saw its trade deficits widen in recent years.

Service trade deficits were only a small part of the current account picture. These deficits, however, were persistent and growing during the past ten years. Disaggregation of service trade data, however, also reveals very different stories for different components (see Figure 5). For instance, travel and other business services have always been in surplus, while

transportation, insurance services, and royalties and licenses have been the major deficit items.

Figure 5: PRC's Service Trade Balance by Category, 1997–2007

(US$ billion)



Source: WIND Data Company.

3. A CRITICAL REVIEW OF THE LITERATURE

The PRC's external imbalances have been a popular topic for both economic analyses and policy debate (Yu 2007; Goldstein and Lardy 2009). The importance of this issue has been further underscored in the wake of the US financial crisis, especially in discussions of global rebalancing (Kawai and Zhai 2009).

Before examining possible remedies, we need to understand the fundamental causes of the PRC's current account surplus. The literature has produced a long list of explanations, which may be broadly grouped into six categories: measurement error, savings and investment gap, demographic transition, industrial relocation, by-product of promoting strong economic growth, and exchange rate distortion. We review these hypotheses in this section and then turn to an alternative hypothesis in the next section.

3.1 Measurement error

The quality of PRC statistics has been a widely discussed issue among economists. In a recent paper, however, Zhang (2009) identified another possible measurement error: overestimation of the PRC's current account surpluses in recent years. Zhang's key proposition was that there were capital inflows, which would otherwise be prohibited given capital account controls, disguised in the form of export revenues or income transfers.

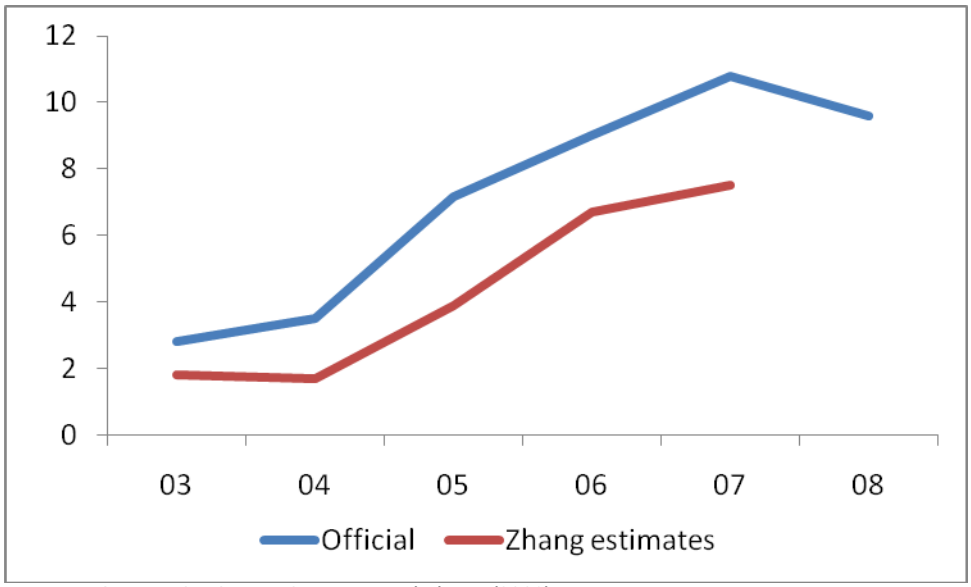
Indeed, the surge of current account surpluses after 2004 coincided with reform of the yuan exchange rate policy in mid-2005. Data on non-deliverable forward (NDF) markets confirmed that expectations for yuan appreciation increased from 2005. This probably led to increases in disguised capital inflows from then on.

By regressing current account surpluses on NDF markets' expectation for yuan appreciation, Zhang computed a portion of current account surpluses that could be explained by currency expectation. By assuming this portion as disguised capital inflows, Zhang calculated the

"actual" current account surpluses for the period 2003–2007, by stripping the disguised capital inflows from the official data (see Figure 6).

Figure 6: Current Account Surpluses: Official and Adjusted, 2003–2008

(% GDP)



Source: CEIC Data Company and Zhang (2009).

GDP = gross domestic product.

Zhang's estimates suggest that the official data on current account surpluses were over-reported by 2 to 3 percentage points in recent years. For instance, according to the official data, the current account surplus was 10.8% of GDP in 2007. According to Zhang's estimation, however, the actual surplus was probably only around 7.5%.

Identification of possible measurement error in current account data was a very important step in correctly assessing the problem. The techniques applied for stripping non-current account items, especially their reliability and accuracy, might be subject to criticism. The logic behind such exercises, however, is sound. Given the PRC's capital account controls, "hot money" flows always existed and were, at times, large and volatile. Anecdotal evidence confirms that "disguised" capital inflows to the PRC accelerated after its exchange rate policy reforms were enacted in mid-2005 and persisted until mid-2008 when the economy was badly hit by the global crisis.

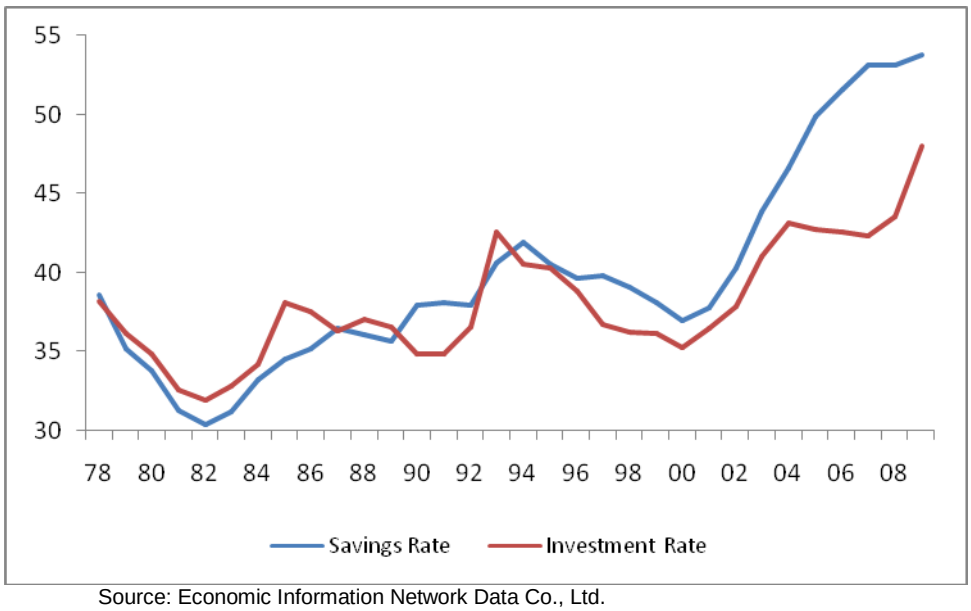
However, data adjustments still do not change the fact that the PRC's "actual" current account surpluses are large compared to other large economies, nor do they change the trend of the growing imbalances. Therefore, we still need to find satisfactory explanations for this unusual phenomenon and, better yet, to find effective policy solutions.

3.2 Savings and investment gap

The current account imbalance is, by definition, the difference between savings and investment. The PRC's investment share of GDP rose steadily from about 36% in 1999 to almost 48% in 2009 (see Figure 7). However, savings rates increased even faster, from 38% to 54% during the same period. Clearly, savings played a very significant role in the recent surge of the PRC's current account surpluses, with some economists seeking to explain the PRC's large external imbalances by examining the structural factors behind its savings and investment behavior.

Figure 7: PRC Savings and Investment Rates, 1978–2009

(% GDP)



Source: Economic Information Network Data Co., Ltd.

Note: GDP = gross domestic product.

Feenstra, et al (1999), claim that the major cause of the PRC's current account surplus was its high household savings rate. They also argue that this was, in turn, generated by the PRC's demographic profile, the absence of social insurance for the bulk of the population, and the post-1978 appearance of investment-motivated savings in response to the scarcity of formal intermediation to finance investment in the non-state sector. They suggested that import liberalization would reduce the PRC's current account surplus.

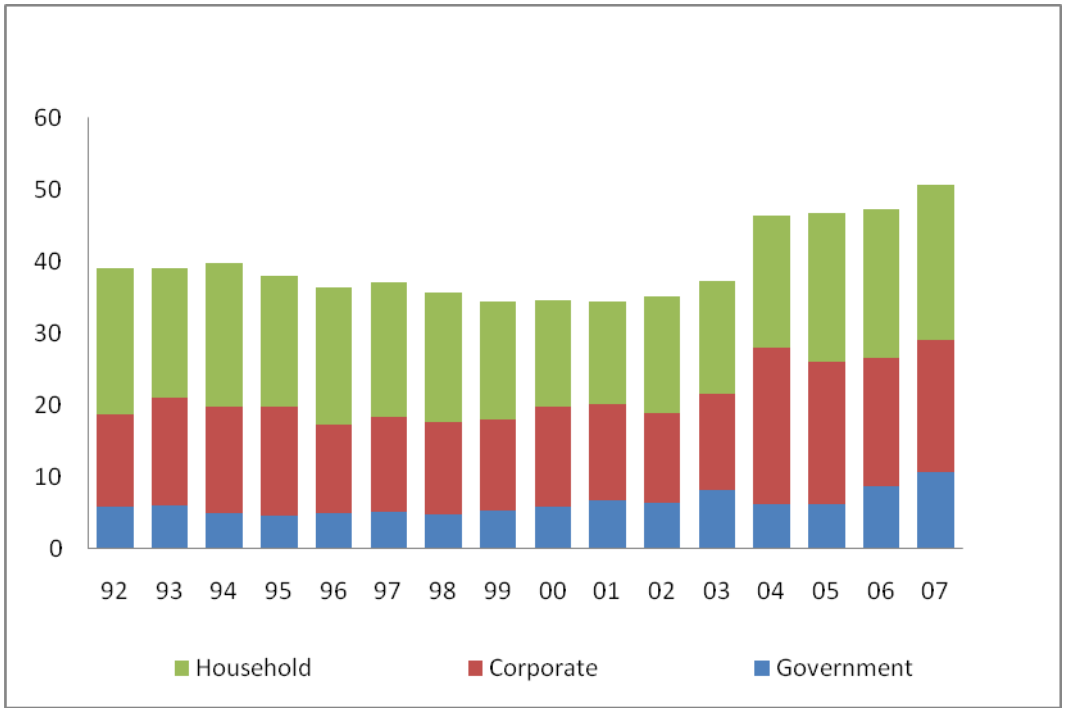
Bernanke (2007) attempted to explain US current account deficits by focusing on the "savings glut" in emerging Asia and oil-producing countries. Specifically, he pointed out that while rates of both savings and investment rose in the PRC from 1996–2004, the savings rate increased faster, which led to an increase in its current account surplus by $60 billion. Bernanke's policy prescriptions referred to greater financial and institutional development in the long run.

Chinn and Ito (2007) tested this proposition by applying a computer model that controlled for institutional factors. According to their study, the PRC experienced a highly impressive 32.4% increase in private credit creation (net change in the weighted world average) between 1996 and 2004. This development alone led to an increase in national savings of 1.7%, but also to an increase in investment of 2.4%. Therefore, financial development had a negative effect on net savings through a faster increase in investment, as opposed to a reduction in savings .

Zhou (2009) explained that the PRC's high gross saving rate is related to its unique income distribution pattern. Household savings as a share of GDP was stable at around 20% over the period 1992–2007. Corporate savings, however, were about 22.9% of GDP in 2007, roughly doubling their share in 1992. Zhou suggested that, given the current income distribution pattern, the PRC should increase the investment rate, in addition to lowering the saving rate, in order to reduce its current account surplus. Lin (2010) also stressed the decomposition of the PRC's savings rate (see Figure 8), and concluded that the rapid growth in corporate savings was caused by the overconcentration of the financial system, the low taxation on national resources, and the monopoly power of the state-led industry.

Figure 8: Composition of National Savings in PRC, 1992–2007

(% of GDP)



Source: Lin (2010).

Note: GDP = gross domestic product.

Corden (2006) developed the so-called "parking" theory to explain large current account surpluses in high-savings developing economies. He argued that it is perfectly rational to invest some of the extra savings abroad given the inefficiency of both the financial system and the public sector at home. These savings are "parked" overseas until domestic investment allocation improves.

The savings-investment gap explanation is really a restatement of an identity in economics textbooks and therefore is of little dispute. But the common belief that Chinese households save too much is plainly wrong. The household savings rate has been very stable for the past 15 years, fluctuating slightly around 30%. This rate is certainly high compared to those in industrial economies, but it is not unusual compared with the PRC's East Asian neighbors. The fact that the savings rate has changed little in over a decade also suggests that household savings was probably not the key cause of growing current account surpluses in recent years.

Zhou (2009) was right in pointing out the unique corporate saving behavior and its importance to the macroeconomic picture. His policy prescription was to increase the investment rate which can certainly be effective in reducing the current account imbalance. The only problem is that the PRC's investment share of GDP is already close to 45%, an unusually high level even in the East Asian context. The PRC probably has limited room now for a further increase in the investment rate.

Finally, applicability of the "parking" theory to the PRC is also questionable. Investment returns, on average, are much higher in the PRC than in the rest of the world. Otherwise it would be difficult to understand the massive inflows of foreign investment into the PRC during the past decades. The funds parked overseas are held by the central bank, not the private sector. Retaining higher returns was never a key priority for the central bank's management of funds parked overseas. Therefore, while the "parking" theory could apply to many developing economies, it does not appear to be relevant to the situation in the PRC.

3.3 Demographic transition

The PRC has been implementing family planning policies since the 1970s, which stipulate one child per family. These policies, after more than 30 years, have generated important consequences for the economy. For instance, the male to female ratio is now an astonishing 1.26 and the ratio of the young, dependent population also dropped steadily which likely affects the savings behavior of the population.

Using panel data from 25 Organisation for Economic Co-operation and Development countries between 1971 and 2002, Andersson and Osterholm (2006) confirmed that the demographic structure in the PRC explained much about its exchange rate, which was consistent with the lifecycle hypothesis. They found that an active populace has a depreciative effect on the real exchange rate while a retired population exerts appreciation pressures on the currency.

In an empirical study, Zhu (2007) argued that the PRC's abundant labor supply was behind its labor cost advantage and huge current account surpluses. Ma and Zhou (2009) examined causes of the PRC's increasing external wealth. They identified demographic transition, especially having a labor force growing temporarily faster than the population, as one of the reasons behind the PRC's external imbalances.

During 1985–2007, the youth dependency ratio fell by half. During the same period, the dependency ratio of the elderly population rose slightly. The overall dependency ratio, however, dropped. Ma and Zhou found that the increase in the youth dependency ratio by nearly 20% contributed to the increase of the PRC's net foreign asset position by 90% of GDP.

An important point is that the so-called population dividend may not last forever. The World Bank (2008) demonstrated that aging would affect savings and investment. Initially, aging may increase a country's saving, which, again could boost its current account positions. Once the society ages, however, the savings ratio could drop and the current account could deteriorate. Cai and Wang (2007) believe that the PRC's labor cost advantage is disappearing very rapidly.

3.4 Industry relocation

A new economic trend emerging in Asia is the increased relocation of industries to the PRC. This process started in the textile and clothing industries in the 1980s, continued in the white goods sectors in the 1990s, and is now occurring in information technology, pharmaceuticals, and other more sophisticated industries. Industry relocation accelerated after the PRC's World Trade Organization accession in late 2001. Many economists argued that industry relocation was one of the key factors behind the PRC's growing current account surpluses.

As early as 1994, Lardy (1994) noted that increases in the PRC's trade surplus with the US were, to a large extent, accompanied by decreases in other East Asian economies' trade surpluses. Later, he further argued that the US–PRC trade deficits were a global issue (Lardy 2006). In the processing industries, usually 60%–70% of the value of manufactured products was imported content. As an assembler, the PRC is the last stage of the international supply chain.

Greenspan (2005) associated the US current account deficits with a corresponding widening of external surpluses in some of its major trading partners. Because the last processing and export procedures increasingly concentrated in the PRC, the US deficits with the PRC replaced deficits with other Asian economies.

Li and Li (2006) looked at the industry relocation issue from a broader perspective, arguing that, over the years, the PRC's industries evolved from agriculture to manufacturing, in the

process benefiting from cheap labor and an influx of foreign investment. Transfer of production facilities, alongside inflows of foreign direct investment, contributed to the PRC's growing current account surplus.

Relocation of industries and associated migration to trade surplus from other Asian economies to the PRC is, again, a reasonable explanation of the PRC's growing external sector imbalances. This hypothesis, however, fails to explain why the PRC became a global manufacturing center so quickly. Were there unique factors behind the PRC's unusual cost advantage and industrial competitiveness? The relocation hypothesis also does not yield practical policy recommendations for dealing with the imbalance problem.

3.5 By-product of policies promoting strong growth

The PRC government's policy bias in favor of strong economic growth is well known. Therefore, policymakers naturally pay closer attention to production than anything else. Some economists claim that the large external sector surplus was a by-product of the policies supporting growth.

Fan and Huifeng (2008) argued that a key challenge facing the government is employment pressure, since the PRC still has huge surplus labor in the countryside and at the same time does not have well-developed social welfare systems. Job creation is a top priority since it is the basis for social security. The widely accepted 8% growth target, for instance, was formulated based on needed job creation. Therefore, the government sometimes boosts production at whatever costs.

Corden (2009) argued that the PRC's current account surplus and especially its rise since 2005 is, in fact, a by-product of various developments, such as productivity improvements, and a variety of policies, such as exchange rate policy. Cordon argued that there were two parts to PRC exchange rate policy: one part is exchange rate protection for the export sector by currency undervaluation, and the other is maintaining a stable exchange rate. Another policy orientation is to build up foreign exchange reserves as a form of self-insurance, especially after the Asian financial crisis in 1997–1998. These inevitably led to large current account surpluses as a by-product.

Yu (2007) identified the government's export promotion policy, which includes the so-called self-balancing regulation, exchange rate policy, and tax rebates, as a contributing factor to the current account surplus. For instance, for a long time, the government demanded that foreign investors guarantee the self-balancing of foreign exchange for important investment projects. Therefore, foreign direct investment (FDI) must be export-oriented. As a result, when FDI was introduced, corresponding deficits were minimized.

This hypothesis itself is probably not controversial. The government has room to narrow external surpluses by reducing policy measures supporting exports and economic growth. The question is how realistic it is for the government to give up its policy emphasis on growth.

3.6 Exchange rate policy

The exchange rate policy has been most frequently referenced in public debates about the PRC's external imbalances. An undervalued currency is often associated with higher exports and lower imports, which then lead to a large trade surplus or current account surplus. This was probably the most obvious logic behind foreign politicians' criticisms about the PRC's exchange rate policy.

Goldstein and Lardy (2006) used the "underlying balance" approach to evaluate the misalignment of the yuan. The essence of their approach was to calculate the needed adjustments in the yuan's real effective exchange rate (REER) in order to retain a "normal"

current account balance. They concluded that the PRC's undervalued currency had contributed to growing trade surpluses and, at least in some years, to very large portfolio capital inflows, which appeared motivated by an expectation of appreciation.

It must be pointed out that the methodology applied by Goldstein and Lardy does not reveal how the exchange rate policy caused current account surpluses. Instead, they infer currency undervaluation from current account imbalances.

Lu and Dai (2005) partly filled this gap by examining the long-run relationship between the PRC's international trade and the yuan's REER, applying data for the period 1994–2003. Results of their co-integrated vector autoregression (VAR) model suggested that the yuan's REER had significant impacts on the PRC's exports and imports. These confirmed that the exchange rate was indeed an important determinant of the current account imbalances.

Findings of empirical studies, however, are not uniform. For instance, Li and Li (2006) discovered no statistically significant effect of either the nominal exchange rate of the yuan or its real exchange rate on the PRC's exports to and imports from the US. Instead, they found that changes in FDI inflows had a significant effect on exports to the US.

Exchange rate policy was probably the most reasonable explanation for the PRC's current account surplus, at least on the surface. The policy recommendations derived from it, however, might not be as reasonable. A common policy prescription is that the PRC should let its currency rise by a certain margin in order to eliminate the external imbalances. It is unrealistic to expect the PRC government will permit the currency to appreciate sharply in the near term. Many PRC officials are concerned about the negative consequences of sharp currency appreciation, given their own interpretation of Japanese economic stagnation following the Plaza Accord.

An alternative recommendation is for the PRC to increase exchange rate flexibility. This is probably good advice by itself. But can a more flexible exchange rate regime automatically eliminate current account imbalance? The answer may be no, at least according to international experiences.

In a study applying a data set covering 170 countries over the period 1971–2005, Chinn and Wei (2009) found that there was no strong, robust, or monotonic relationship between exchange rate regime flexibility and the rate of current account reversion, even after controlling the degree of economic development, and the degree of trade and capital account openness. This conclusion can in fact be observed by simply surveying the data: there is no systemic relationship between a country's current account position and its exchange rate regime flexibility.

While strongly recommending an increase in exchange rate flexibility, Yu (2007) also cautioned expectations of significant adjustments to the current account surplus as a result of the exchange rate policy reform.

So the notion that greater flexibility in a de facto nominal exchange rate regime implies speedier adjustment in the current account is just based on faith, and cannot be supported by data. The reason behind the disconnect lies in the fact that what mattered for current account adjustment was the real, as opposed to nominal, exchange rate. In theory, the government can artificially revalue the currency by a big margin in order to strengthen the real effective exchange rate substantially. But this is probably difficult for the government to adopt given corresponding structural adjustments the economy has to go through.

4. FACTOR MARKET DISTORTIONS: AN ALTERNATIVE HYPOTHESIS

We now present an alternative hypothesis for the PRC's large current account surplus-asymmetry liberalization of product and factor markets. We first formulated this theory when

we attempted to explain the very unique macroeconomic phenomenon during the PRC's reform period: the combination of both extraordinary economic growth and deteriorating structural risks (Huang 2010).

The purpose of this exercise is not to replace the existing hypotheses. In a way, our hypothesis and the hypotheses presented within the literature may be supplementary and even overlapping. But as we will elaborate later, the factor market distortion hypothesis not only offers a fundamental explanation about the external imbalance but also produces a systemic policy prescription for curing the problem.

4.1 Asymmetric market liberalization

During the reform period, the PRC government focused on reform of the product markets, including abandoning policy interventions in domestic markets and liberalizing trade of goods and services. Today, free markets determine the prices of more than 95% of products.

In contrast, factor markets, including markets for labor, capital, land, energy, and the environment, remain highly distorted. For instance, many employers of migrant workers still do not make social welfare contributions for their employees. Outside the property sector, land prices are artificially determined by the government. These distortions generally push factor prices and, therefore, production costs are below levels that otherwise would be in a market environment.

Cost distortions in the PRC are equivalent to production and investment subsidies. They artificially increase production profits and raise investment returns. Both PRC citizens and foreigners invest massively in the PRC given its cheap labor, cheap capital, cheap land, and cheap energy. Producers enjoy extraordinary profits that do not exist in other countries.

Without a doubt, the fundamental reason why the PRC achieved strong growth of exports, investment, and production is the reform and open-door policy. But cost distortion, or subsidy equivalent, further lifts producers' profitability, investors' returns, and the international competitiveness of PRC products to even higher levels. Perhaps this is why the PRC's investment and production have been unusually strong during the reform period, particularly during the past years.

Meanwhile, these cost distortions are also equivalent to taxes on owners of these factors, mainly households. They reduce households' income and depress consumer spending. Boosted investment and depressed consumption leads to imbalances between domestic and external demand. Low factor prices also cause distorted industrial structures, such as outsized heavy industry as a result of the cheap cost of capital, in addition to waste and inefficiency.

It is thus easy to predict that factor market distortion leads to unusually large external imbalances, especially large trade surpluses and current account surpluses. The cost distortion improves exporters' profitability and exports' competitiveness in the international markets. Depressed consumption also widens the savings and income gap and, therefore, further boosts external sector surpluses.

Some distortions in factor markets, such the government's controls over energy prices and land use fees for manufacturing investors, are deliberate policy measures to support economic growth. Other distortions, such as the household registration system limiting labor mobility and regulations of interest rates, are phenomena found during economic transition. But they are in one way or another related to the government policy preference favoring strong growth.

Indeed, this is not the first time that the PRC government has adopted measures distorting production costs in order to achieve rapid economic growth. In the pre-reform period, for instance, the authorities devised a set of institutions to ensure rapid development of urban industries. When the government embarked on urban industrialization, it lacked a reliable

supply of funds. Agriculture was the largest economic sector at that time. The purpose of that set of policies was to deliver high profits in urban industries, which could be reinvested to accelerate urban industrialization.

This first step was to depress agricultural prices, which could reduce production costs in urban industries by lowering both input cost and labor cost. Therefore, the government introduced a "unified purchase and marketing system" for agricultural products. Under this system, the state purchased agricultural products from farmers at below-market prices. In order to ensure that farmers would sell their products to the state, the authorities took the second step by abolishing all free markets. To make sure that farmers would produce according to the central plans, the authorities took the third step of collectivizing agriculture, handing all agricultural decision power to production team leaders who were selected by the government. Finally, in order to guarantee that farmers would participate in collective farming, the authorities took the fourth step of introducing the household registration system, effectively prohibiting farmers from leaving their villages.

This system of urban industrialization policy was, for a while, quite successful. But it failed in the end. Otherwise, the PRC would not have had to start economic reforms in the late 1970s. There were two main reasons why the pre-reform policy system did not work. First, since there was no free market for products, resource allocation was inefficient. All factories produced according to the central plans. In the end, the industry produced lots of heavy industry products which had no demand. At the same time, there was significant shortage of consumer goods. Second, since there was no autonomy or incentive at the firm or individual levels, production efficiency was quite low. Shirking was a common phenomenon in urban factories and rural collectives.

Both of these problems have been resolved with the beginning of economic reforms which is why the new policy system has been much more successful in supporting economic growth. But the new system has also given rise to the structural risks, such as imbalances between investment and consumption, and between domestic and external demand.

It should be clear by now that the factor market distortion hypothesis is related to some of the existing hypotheses reviewed earlier. For instance, the depressing of domestic consumption also contributes to the savings and investment gap. Reduction of production costs accelerates relocation of industries to the PRC. The cost distortion, intentionally or accidentally, is driven by the government's growth-centered policy strategy. Finally, currency undervaluation is a form of underpriced capital.

4.2 Remaining distortions in factor markets

Introduction of free markets was the central theme of economic reforms during the past three decades. But prices of almost all factors, including labor, land, capital, energy, and the environment, remain highly distorted.

Labor market. The PRC is known for its abundant and cheap labor, which was a key factor behind its success in labor-intensive manufacturing exports. But PRC labor costs may be distorted for two interrelated reasons: segmentation of rural and urban labor markets and underdevelopment of social welfare systems.

Labor market segmentation was largely a result of the household registration system (HRS) introduced in the pre-reform period. The policy requires that people, whether urban or rural, stay where they were born their entire lives. Migration is possible only if approved by the government. The effectiveness of this system has weakened in recent years, as evidenced by large number of migrant workers roaming the cities. Local authorities in Shandong, Henan, and Hainan also experimented with doing away with the restrictions on rural-urban migration.

By and large, however, the HRS still erects important barriers for labor mobility. The location of an individual's household registration makes a significant difference. Urban residents are entitled to social welfare benefits, such as medical insurance, pension, unemployment support, and education, although most of these systems are still underdeveloped. Migrant workers, however, cannot access any of them, even if they have been working in cities for years.

The most important area of underpayment is social welfare contribution. Were urban employers to make social welfare contributions for their migrant workers, their payrolls would rise by about 35%–40%, which includes contribution to pensions (20% of payroll), medical insurance (6%), unemployment benefits (2%), work injury insurance (1%), maternity benefit (0.8%), and housing entitlement (5%–10%).[1]

Capital market. Distortions in capital markets exist at two levels. Domestically, the financial system remains repressed, as evidenced by highly regulated interest rates and state influences on credit allocation. Externally, capital account controls are more restrictive on outflows than on inflows. The currency is generally undervalued, at least during the past 15 years.

The PRC's financial system, especially its banking sector, has gone through a major transformation. Financial intermediation, however, remains overly dependent on banks, especially the large state-owned commercial banks. The government influences lending decisions. Despite significant reforms during the past years, including introduction of foreign-strategic investors and public listings, most large banks are still majority-owned by the state and their top executives are still appointed by the government.

The PRC still maintains interest rate regulation. Despite numerous reforms giving banks more flexibility in determining the actual rates, the People's Bank of China still maintains floors for lending rates and ceilings for deposit rates, ensuring minimum interest spread in order to facilitate reforms of the commercial banks. In reality, however, the actual lending rates have always been very close to the benchmark rates.

These financial repressions likely reduced capital efficiency and therefore capital costs. A World Bank study suggested that financial liberalization in emerging market economies often would raise domestic interest rates by a couple of percentage points (Caprio, Atiyas, and Hanson 1994).

Changes in the exchange rate policy offer another example of cost distortion. Today, most economists believe that the yuan is still undervalued, although they disagree on the degree of undervaluation (Goldstein and Lardy 2008).

The larger gap between nominal GDP growth potential and long-term government bond yields in the PRC, relative to the gaps in other Asian economies, also suggest that the PRC's capital is excessively cheap. At the end of 2008, the difference was 10 percentage points in the PRC, compared with 6.5 in India, 6.2 in Thailand, 5.7 in Malaysia, and 2.6 in the Republic of Korea.[2] Compared with other Asian economies, the PRC's nominal growth potential was the highest, but its Treasury yield was among the lowest.

Markets for land, energy and the environment. In the PRC, land is owned by the state in the cities and by collectives in the countryside. Recently, local governments began to sell land use rights to property developers through negotiations and auctions. However, there is no market mechanism for determining prices for industrial land use. They are often set by the government departments through negotiation. In order to attract investment and promote growth, regional governments often offer land use rights to investors at discounted or even

[1] These estimates for a typical year were provided to the author by Fan Zhai, a former official of the PRC's Ministry of Finance in 2002.

[2] The difference is calculated by subtracting 5-year government bond yield from the economy's nominal GDP growth potential forecast, which was estimated by Citigroup economists.

zero cost rates. Local governments sometimes compete with each other in offering preferential policies to attract investment. In recent years, the average fees collected from negotiated granting of land use rights were only about 16% of those collected through auctions.

Prices of key energy products, such as oil, gas, and electricity, are also regulated by the state. Electricity tariffs are set by the National Development and Reform Commission (NDRC), although the authorities sometimes held public hearings to improve decision-making quality. Tariffs are different for agricultural, industrial, and residential uses. Electricity prices have been under pressure for upward adjustment in recent years as costs of oil and coal rose significantly.

In 1998, in an important step of oil price liberalization, the State Council announced a formula linking domestic prices to the weighted average of prices in New York, Singapore, and Rotterdam. The NDRC would adjust domestic prices, with a couple of months' delay, if the international weighted average moved by more than 8%. In 2000, the NDRC raised oil prices seven times in order to bring domestic prices closer to international levels.

However, when international prices moved violently, the NDRC became reluctant to follow for fear of disrupting economic growth. For instance, when international crude prices reached their recent peak at close to US$150 per barrel in 2008, the equivalent domestic prices were only around US$80 per barrel. But oil price distortions are highly volatile, given the State Council's formula and fluctuations in the international markets.

The PRC has introduced a series of environmental laws and regulations. Their enforcement, however, has been rather random, as the government emphasizes economic growth. Pollution of air, water, and land, the most visible negative by-product of the PRC's rapid economic growth, has not only affected productivity but also generated serious health consequences. Environmental degradation in the PRC has contributed to global climate change, as evidenced by the rapid melting of ice on the Himalayas. It also has led to regular drought in the north and frequent floods in the south.

According to a joint study by National Bureau of Statistics and the State Agency for Environmental Protection, an incomplete count of the costs of environmental damage amounted to about 3.05% of GDP in 2004 (Huang 2007). Since producers do not always fully compensate for their damages to the environment, short-term production costs are reduced at the expense of the long-term development of the whole economy and society.

4.3 Crude estimation of factor market distortion

A critical question here is if cost distortions are a good explanatory variable for the recent current account surplus surge. Any reviews of policy changes would suggest that, despite slow progress, factor market controls have gradually become less strict. Therefore, it might appear to contradict the fact that current account surpluses widened sharply in recent years.

In order to gauge the significance of such factor market distortions, we intend to make some crude quantitative estimation. Huang (2010) made one of the first attempts at measurement and found the distortions totaling 2.1 trillion yuan in 2008, or about 7% of GDP. His estimation, however, was made only for one year, which is of limited use since we are trying to explain changes in current account surpluses in recent years. Therefore, we extend the estimation by both improving the methodologies and extending the period to include 9 years from 2000 to 2008. Based on obtained estimates and other available information, we also made preliminary attempts to estimate a number for 2009, which is subject to revision in the future.

The estimation results are summarized in Table 1, with more detailed explanations of the estimation methods included in the Appendix at the end of the paper. These results reveal several important findings. First, of all the factor market distortions, capital market distortion

was by far the most important single item. Capital producer subsidy equivalents (PSEs) would contribute about 40% of total PSEs on average. This explains the overinvestment problem persistent in the PRC and also rapid development of capital-intensive industries despite continued job market pressures.

Table 1: Estimated Producer Subsidy Equivalents of Factor Market Distortions in PRC, 2000–2009

(% GDP)

	Labor	Capital	Land	Energy	Environ	Total	C/A
2000	0.1	4.1	0.5	0.0	3.8	8.5	1.7
2001	0.2	3.9	0.5	0.0	3.5	8.1	1.3
2002	0.8	3.9	0.4	0.0	3.3	8.4	2.4
2003	1.0	3.8	1.1	0.0	3.3	9.2	2.8
2004	2.0	3.1	0.9	0.6	3.0	9.5	3.5
2005	2.4	3.0	1.3	1.7	3.0	11.4	7.2
2006	2.7	3.1	2.0	1.6	2.8	12.2	9.0
2007	3.2	3.6	1.2	1.6	2.4	12.0	10.8
2008	3.6	3.4	1.0	0.7	1.9	10.6	9.6
2009*	2.7	3.5	0.9	0.7	1.8	9.6	5.8

Source: Authors' estimation. Please refer to the Appendix for detailed estimation methods.

Notes: C/A = current account balance; GDP = gross domestic product. * Estimates for 2009 are very preliminary based on estimates for other years and available information for 2009 and are subject to major revision when new information is available.

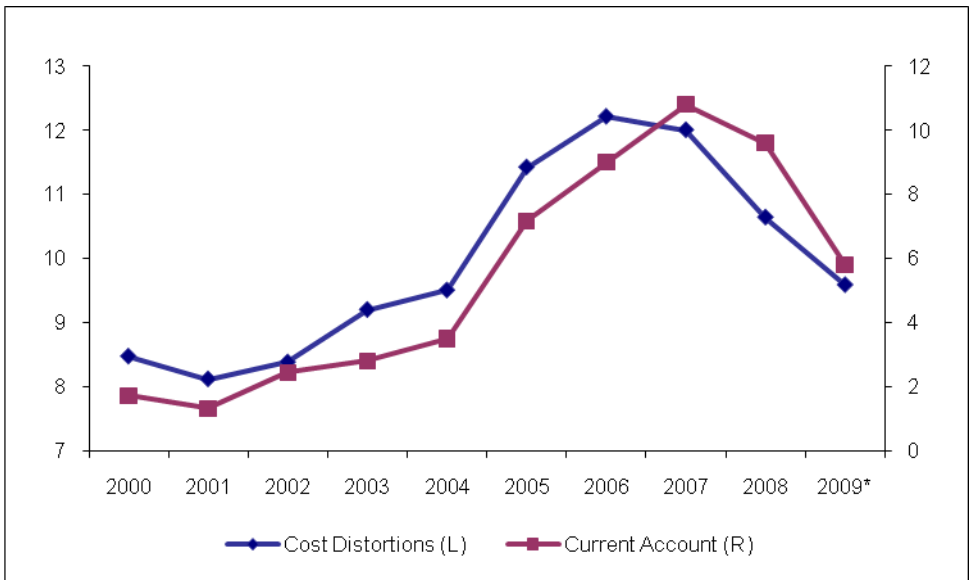
Second, labor market distortions actually picked up in recent years despite the loosening of household registration system controls and increasing rural-urban migration. This was a result of both the rising number of migrant workers and persistent, even widening, income gaps between migrant workers and urban workers. Indeed, statistics show that while labor demand increased in recent years, migrant workers' pay did not keep pace with urban workers, especially when social welfare benefit contributions are included.

Third, energy cost distortion fluctuated widely across years, reflecting volatilities in international oil prices. The PRC already adopted a price mechanism that would closely track changes in international energy prices. Authorities, however, would hold down domestic prices when international prices surged rapidly. Therefore, the energy cost distortions measured in this study were not a major problem until several years ago.

Fourth, environmental cost distortion was the only item that showed consistent improvement. This might be a surprise to some, at least initially, but individual and aggregate pollution indicators did confirm fewer emissions in recent years.

Finally, the aggregate estimates of cost distortions or PSEs match the current imbalance data surprisingly well (see Figure 9). Given a limited number of observations, we are not able to conduct any statistical analyses to test correlation or causality between the two sets of data. But these estimates at least provide partial evidence that factor market distortions were possibly an important reason behind the PRC's large current account surpluses.

Figure 9: Estimated Cost Distortion and Current Account Balance, 2000–2009 (% GDP)



Source: CEIC Data Company and authors' estimation.

Note: GDP = gross domestic product

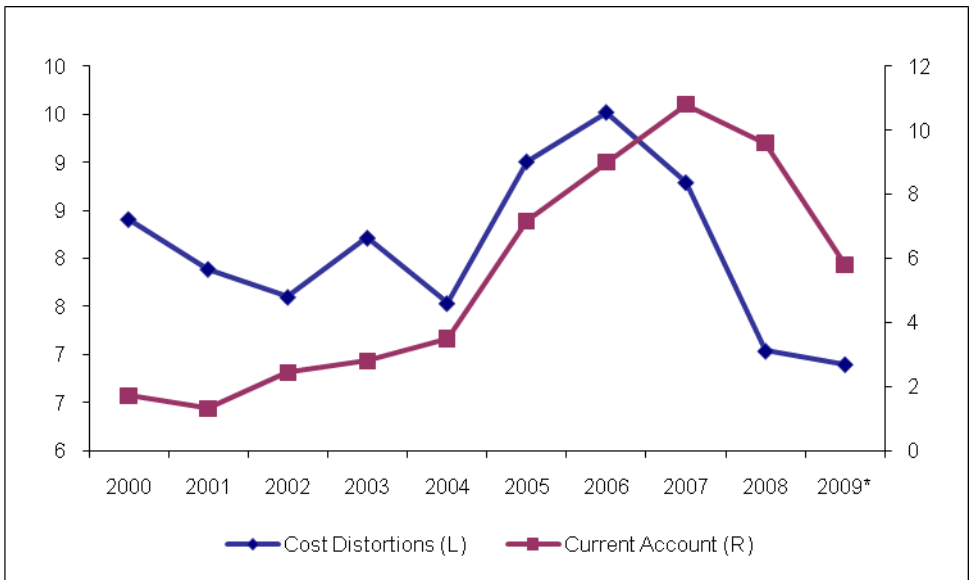
The trends of both liberalization and recent increases in PSEs are not necessarily contradictory. For example, even if the factor market is gradually liberalized, cost distortions may rise dramatically as long as the distorted factor prices cannot keep pace with shadow market prices.

If PSEs provide any guide for the future development of the current account, then we may argue that the worst of the external imbalance is probably over. Factor market distortions as a share of GDP already peaked in 2006, followed by a peak of current account surplus as a share of GDP in 2007. Therefore, the narrowing of the current account surpluses in 2008 and 2009 was not entirely caused by weakening external demand. Unless cost distortions rebound again, current account surpluses may stay at relatively lower levels in the coming years.

Since labor cost distortion is the most challenged factor in policy debates, we also plot factor cost distortions by excluding labor from the calculation. While both levels and curvature of the estimates changed somewhat, significant increase in factor distortion from 2004 remained the case (see Figure 10).

Figure 10: Estimated Cost Distortion Excluding Labor Cost and Current Account Balance, 2000–2009

(% GDP)



Source: CEIC Data Company and authors' estimation.

Note: GDP = gross domestic product.

We should acknowledge that we did not conduct a causality test due to data limits, and, therefore, cannot claim statistically that these distortions caused the PRC's current account surplus. We nonetheless try to offer an alternative but also supplementary explanation for the PRC's current account surpluses, especially for the recent surge. However, even if there is reverse causality between the cost distortion and the current account surpluses, or even if they are all the products of the PRC's promoting growth policies, we may argue that the proper and feasible therapy is still adopting a comprehensive package focusing on removing the factor cost distortions.

First, these two problems are partially related. The possibility of reverse causality, i.e., that the current account surpluses are the reason for the factor cost distortions, is closely related to the PRC's promoting growth strategy. Second, since the aim is to rebalance the economy rather than stop the growth, we cannot suggest the PRC abandon promoting growth strategy. In this paper, we recommend that the PRC should put more emphasis on the factor market liberalization, thus adjusting the growth strategy to rebalance its external sector.

5. POLICY OPTIONS FOR REBALANCING THE EXTERNAL SECTOR

The findings of this study have important policy implications. If cost distortions (along with other factors such as industrial relocation and policies pursuing strong GDP growth) were a fundamental cause of the PRC's current account surplus, removal of these distortions should be a part of the solution. So far, however, this has not been a central strategy for rebalancing the PRC's economy.

5.1 Past policies rebalancing the external sector

When the Wen Jiabao government first took office in early 2003, it immediately identified structural imbalances as a key threat to the PRC's growth model. The Premier and other

senior leaders repeatedly pointed out that the existing growth pattern was unstable and unsustainable.[3]

One of the imbalance problems was too much reliance on exports for economic growth. The export share of GDP rose from around 10% in the 1980s to above 20% in the early 21st century. While such an export dependency ratio is not particularly high compared with other small, open Asian economies, it is extraordinary in comparison with other large economies like the US and Japan. The potential risk is that the PRC would probably face hurdles in sustaining export growth in normal years, let alone in those times when external demand weakens significantly.

More worrying is its growing trade and current account surpluses. While the current account balances always fluctuated, its surpluses rose quickly back to 3% of GDP in the years following the Asian financial crisis. Persistent and rising current account surpluses indicate the PRC's inefficient use of capital: as a low-income country, the PRC lends to the world market. More importantly, the large current account surplus every year adds further pressures on the economy such as accumulation of foreign exchange reserves, excess liquidity in the domestic market, high inflation risks, and greater expectations for currency appreciation.

In order to reduce these and other structural risks, the Wen Jiabao government adopted several policy measures to rebalance the economy and improve growth quality. One type of policy attempts to directly address the surplus problem. This includes reduction of the export tax rebate and appreciation of the currency. Export tax rebate policy was introduced in 1994 to exempt exports from value-added taxes. The government, however, adjusts the rates from time to time either as an industrial policy or as a macroeconomic instrument. For instance, in June 2007, the Ministry of Finance and State Administration of Taxation lowered the rebates for a list of exports in order to both improve export structure and slow export growth.

The other type of measures attacks the imbalance problem indirectly. For instance, the government abolished agricultural taxes, increased spending on rural infrastructure, and strengthened social welfare systems. All these measures aimed at boosting domestic demand in order to reduce export growth and narrow the current account surplus. The authorities also raised interest rates and tightened controls over large investment projects in order to slow the building-up of export capacity.

While all these efforts were probably useful and achieved some results, as a whole they failed to contain external imbalances. In fact, between 2003 and 2007, export share of GDP rose further, from 26.6% to 35.4%. And current account surplus surged from 2.8% of GDP to 10.8% during the same period. An important reason why the government policies have not succeeded so far was that they did not deal with the root cause of the problem, i.e., the distorted incentive structure. If capital is too cheap, then tighter controls by the NDRC on investment projects are not likely to be effective alleviating the overinvestment problem.

5.2 Social welfare systems and the currency

Economists also proposed some fundamental solutions to the PRC's current account imbalance problem. One is the development of a social welfare system, and another is an appreciation of the yuan.

The idea of developing a social welfare system is based on the belief that insufficient consumption was the cause behind the savings and investment gap. In the late 1990s, the PRC government dismantled the state-dominated social welfare systems and began to build market-based systems. Building new systems, however, is difficult and the transition significantly increased uncertainty. Households probably increased their savings for their

[3] See, for instance, reports on Premier Wen Jiabao's press conference on 16 March 2007, following the annual National People's Congress meeting.

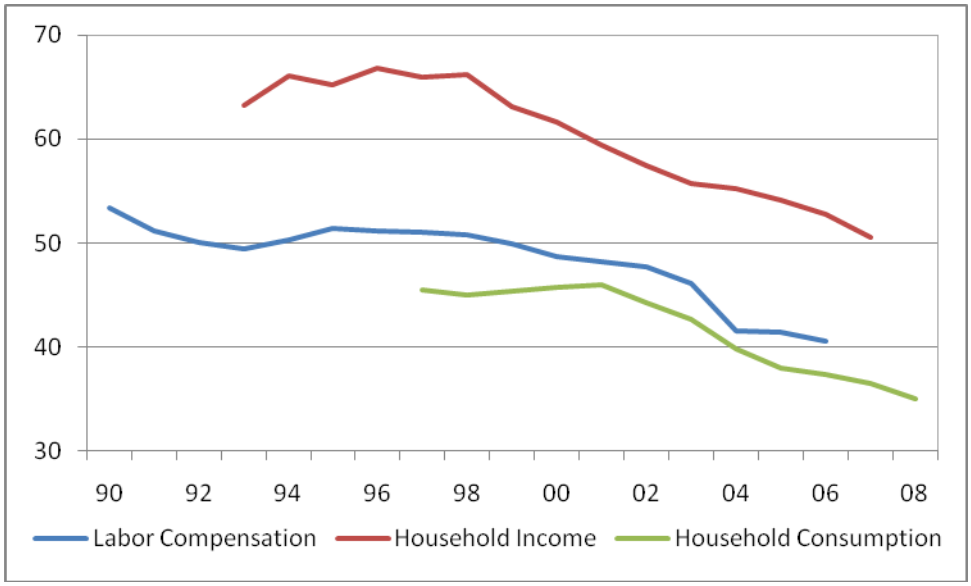
own future protection. Therefore, improved social welfare systems might be able to reduce savings and increase consumption, effectively narrowing the savings and investment gap.

This policy advice is reasonable. After all, social welfare systems are a critical part of a developed market system. It is unclear, however, if improvement in social welfare system alone is sufficient to reduce the external imbalances. First, as Governor Zhou (2009) already pointed out, household savings as a share of GDP has been relatively stable for the past 20 years, fluctuating slightly around 20%. What drove the significant increase in the national savings ratio, which is now well above 50%, was rising corporate savings, from 11.3% of GDP in 1992 to 22.9% in 2007. Therefore, improved social welfare systems may be able to reduce household savings, but their impact on overall national savings is likely to be limited.

More worrying trends during the past decade or so were declining shares of labor compensation and household income in national income. According to Bai and Qian (2009a and 2009b), the share of labor compensation in national income dropped from 51.4% in 1995 to 40.6% in 2006 (see Figure 11). Likewise, the share of household income in national income declined from 66.8% in 1996 to 50.6% in 2007. We argue that the declining income shares of labor and households are largely attributable to distortions in factor markets. If these macro trends are not reversed, it would be unreasonable to expect consumption to pick up strongly.

Figure 11: Shares of Labor Compensation, Household Income, and Household Consumption in National Income, 1990–2008

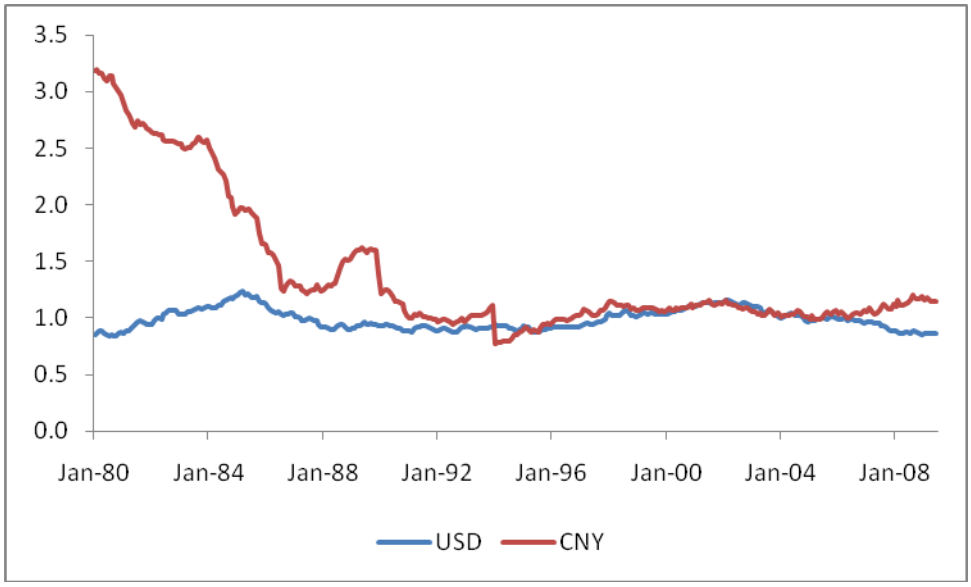
(%)



Source: Chong-en Bai and Zhenjie Qian (2009a and 2009b).

The exchange rate option is much more sensitive. For most economists and policymakers, there is little disagreement about the importance of a more flexible exchange rate regime in the PRC. During the first fifteen years of the PRC's economic reforms, the yuan depreciated by 75% in real effective terms (see Figure 12). Between January 1994 and June 2005, the real effective exchange rate of the yuan appreciated by 30% and, again, between June 2005 and December 2008, it appreciated by another 19%. While the overall trend of appreciation is clear, the magnitudes of the changes were probably grossly insufficient, compared with the PRC's extraordinary productivity growth during the same period. Rising external imbalance is one important indication of an undervalued currency.

Figure 12: Real Effective Exchange Rate Indices of the Yuan and US Dollar, 1980–2009



Source: Citigroup

Note: Both indices were set to 1.0 in June 2005, the month before the PRC abandoned the peg and adopted the managed float system.

Exchange rate policy reform should therefore be a part of the program dealing with the imbalance problem. In fact, policymakers are probably already contemplating options for exiting from the current soft peg and resuming the track of gradual appreciation for the yuan. This will most likely happen within 2010.

The risk now, however, is that often the exchange policy issue is singled out and sometimes is even politicized. These will for sure prove counterproductive. Foreign pressures are sometimes useful for reformers to overcome domestic resistance. But as with US policymakers, PRC leaders also have to entertain domestic politics. To be seen as giving in to foreign pressures on important issues like exchange rate policy could significantly weaken the leader's political standing.

There is still significant disagreement on how much the currency is undervalued. For instance, Goldstein and Lardy (2009) suggested that, if half of 2008's current account surplus was to be eliminated, then by the end of that year, the yuan was probably undervalued only by 12–16%. Such adjustment, even if it took place, would not likely satisfy demands by most foreign country politicians. PRC politicians would also be reluctant to introduce greater adjustment in the short term, given the likely consequences for PRC enterprises and financial institutions.

It might be worthwhile to point out the need for prudence regarding these estimations. For instance, a sharp rise in the yuan exchange rate may wipe out the PRC's current account surplus, but it might not reduce the US's current account deficits. The yuan only accounts for 15% of the US Federal Reserve exchange rate basket for the dollar. This implies that a 20% appreciation of the yuan would only translate into appreciation of the dollar by 3%. More importantly, the market vacuum left by PRC products might be quickly filled with products from other low-income countries such as India, Indonesia, South Africa, and Vietnam.

Even for the PRC, the exchange rate may not be the only, or even the most important, factor behind external imbalances. For instance, Woo (2006) argued that trade surpluses are better handled by establishment of an efficient financial intermediation mechanism than by appreciation of the currency. Similarly, Goldstein and Lardy (2009) argued that the exchange rate policy alone is not likely to be effective. The PRC's recent experiences after the July 2005 reform provided a useful footnote to these arguments. Between mid-2005 and mid-

2008, the real effective exchange rate of the yuan appreciated by 20%, but the PRC's current account surpluses surged during the same period.

5.3 Removing factor market distortions

Given the structural nature of the PRC imbalance problem, a comprehensive package dealing with the problem is probably preferable to an exclusive focus on the exchange rate.[4] Greater exchange rate flexibility and gradual currency appreciation should be part of that package. But the reality is that a sharp revaluation as demanded by some foreign politicians and experts is not only political unfeasible in the PRC but also probably economically undesirable, at least in the near term.

Following the findings in this study, we argue that extraordinary growth performance and growing structural imbalances are actually different sides of the same coin: the asymmetric market liberalization approach. An effective solution to the imbalance problem, therefore, is to complete transition to the market economy by further liberalizing the factor markets and removing cost distortions. Reduction of PSEs associated with factor market distortions would correct the unusually high incentives for production, investment, and exports.

Introduction of market-based factor prices, however, cannot be done overnight. Some changes are relatively easy to make. The government is already looking at various ways of removing or reducing distortions in resource prices. From late 2009, the authorities began to make efforts in adjusting prices for fuel, gas, electricity, and water. In the past, the main hurdles for resource price liberalization were special interest groups such as agriculture, farmers, and low-income urban households. The government can deal with these special groups with fiscal instruments while pushing ahead with price liberalization.

Distortions to environmental costs are already falling, at least as shares of GDP. This reflects the government's increased efforts to protect the environment. Senior officials of the Ministry of Environmental Protection recently indicated that while the environmental turning point normally occurred when per income was US$8,000 in developed economies, it could happen at US$3,000 in the PRC.[5] The official also mentioned that the Ministry of Finance, the State Administration of Taxation and the Ministry of Environmental Protection were considering new environmental protection taxes.

Labor market liberalization is progressing rapidly, as evidenced by the massive number of migrant workers. The government also plans to make new breakthroughs in reform of the household registration system and propelled urbanization in 2010. But complete removal of this restriction and therefore discrimination against rural workers will likely take some time. One critical condition is the extension of the social welfare systems to all rural residents. However, the earlier the Lewis turning point, i.e., labor market transiting from surplus to shortage, arrives, the faster the labor market liberalization would occur.

Capital market liberalization is already gaining momentum and, according to optimistic judgment, could see major breakthroughs in terms of introducing market-based interest and exchange rates within the next 5 years. Of course, these changes are conditional on successful reforms of the state-owned enterprises and financial institutions and improvement in macroeconomic management skills.

Privatization of land might not happen any time soon. But clearly defined and well- protected leasing rights and the freedom to circulate according to market mechanisms could also reduce distortions to use rates for land.

[4] Goldstein and Lardy (2009) recommended a comprehensive package dealing with the PRC's imbalance problems focusing on four policy domains: fiscal, financial, pricing, and exchange rate policies. Their policy recommendations share many similarities with suggestions in this study.

[5] See, for instance, report at the Xinhua News Agency website at http://news.xinhuanet.com/fortune/2010-02/10/content_12960850.htm

Reduction or abolition of PSEs should also be supplemented by some related reforms. For instance, the government will need to give up overemphasis on growth performance, which was in many cases the initial cause of persistent cost distortions. The government's role should be the provision of public services and maintenance of stable macroeconomic environment, not direct involvement in economic activities (Yao 2010).

The state sector, which is capturing an increasing portion of national income and causing the imbalance problem, needs further reforms in order to share more benefits with households. In the minimum, the state should collect more dividends and taxes from the state-owned enterprises for redistribution to the broad society. Ideally, the state sector should gradually give up monopoly power or be privatized.

Factor market liberalization is likely to help prevent a further slide of household income shares. But if this is insufficient to reverse the trend, the government may need to step in to redistribute more income and wealth to the households. After all, enriching the households, rather than keeping more wealth at the hands of the state-owned enterprises or the government, is the ultimate goal of economic reform and economic growth.

Finally, rapid development of the service sector will be a critical benchmark for structural rebalancing. Factor market liberalization should realign incentives between manufacturing and service activities. But the government may need to help overcome some major obstacles for service sector development, especially with respect to insufficient financial services, high entry barriers and lack of intellectual property rights.

6. CONCLUDING REMARKS

Structural rebalancing will likely remain a key policy challenge for both the global and the PRC economy in the years to come. In this paper, we've reviewed both the recent evolution of current account surpluses and the literature on the causes of such surpluses. Having a large current account surplus is a relatively recent phenomenon in the PRC and occurred most clearly after 2004. A significant rise in the US current account deficit happened a few years earlier. These suggest that the PRC should be a part of the solution to the global imbalance problem. It is not reasonable to blame the PRC for the large US imbalance problem.

The six closely related hypotheses for the PRC's current account imbalances—measurement error, savings and investment gap, demographic transition, industrial relocation, policies pursuing strong growth, and exchange rate policy—are important factors related to the PRC's imbalance problems. Unfortunately they do not offer actionable policy solutions for resolving such imbalance problems. Most critically, these factors generally fail to explain the sharp surge of current account surpluses in recent years.

In this study, we have proposed an alternative hypothesis: asymmetric market liberalization and the related factor market distortions during the reform period. This particular reform approach generally lowers production costs and provides producer subsidy equivalents. It artificially raises production profits, increases investment returns and improves international competitiveness of PRC products. Continued factor market distortion is the cause for both extraordinary growth performance and growing structural imbalances during the reform period.

To offer some guidance, we made some crude estimation of cost distortions for the period 2000–2009. The results suggest that capital cost distortion was by far the most important component of PSEs. Labor cost distortion jumped recently as the number of migrant workers increased. Surprisingly, distortions to environmental costs already began to decline in recent years, at least as shares of GDP.

Estimates of total PSEs provide an almost perfect fit for current account imbalances, rising steadily from 2000 and reaching their peak in 2006. Cost distortions increased despite the

fact that the factor markets were gradually liberalized, suggesting that the distorted factor prices did not keep up pace with market prices. Total PSEs in 2009 were back to the levels of 2003–2004, before the surge of current account surpluses. This may be an indication that although the surpluses may rebound somewhat as the global economy continues to recover, the worst of the PRC's external imbalances may be behind us.

The findings of this study have important policy implications for dealing with the imbalance problems. The PRC government has been trying hard rebalancing the economy since 2003 but has achieved limited results. In fact, most imbalance problems worsened in the following years. The reason for the lack of success was probably because the government only addressed the factors on the surface, not the root cause, i.e., the distorted incentive structure for exporters, investors, and producers.

Recent popular policy advices include development of the social welfare systems and appreciation of the currency. While these are probably useful steps to take, we do not think these measures alone would be effective in resolving the problem. As increasing portions of savings derive from the corporate sector and the household income share of the economy continues to decline, better social welfare systems would have limited impact on national saving rate and consumption.

Greater exchange rate flexibility and gradual currency appreciation should be important parts of the policy package, but exclusive focus on the issue may be counterproductive. While we believe the government is likely to take further steps reforming the exchange rate regime in 2010, it is politically infeasible and possibly economically undesirable for the PRC to implement large-scale appreciation in the short term. At minimum, yuan appreciation alone is not likely to resolve the US imbalance problem. And the 2005–2008 experiences suggest that currency appreciation should be combined with other policy measures in controlling current account surpluses.

We recommend a comprehensive policy package for dealing with the PRC's external imbalance problem. The core element of the package is to complete the transition to a market economy by further liberalizing the factor markets and removing all cost distortions. Exchange rate adjustment serves as a part of this package. The liberalization may take years to accomplish, but some measures can be implemented relatively quickly. The government is already reforming resource prices. Environmental cost distortion is already on the decline. Both labor and capital market liberalization could gather momentum in the coming year or so.

This core element also needs to be supplemented by other reforms, including reform of the government's overemphasis on GDP growth, liberalization of the state-owned enterprises and financial institutions, redistribution of income from the corporate sector to households, and removal of the barriers for service sector development.

To summarize, the PRC's growing internal and external imbalances may be the natural results of the PRC's unique reform approach. The fundamental solution, therefore, lies in correcting the problems of that reform approach, i.e., asymmetric market liberalization. If our analyses and prescription are correct, then we may conclude that the worst of the external imbalance problem is probably over, unless cost distortions rebound sharply. The current and future reform initiatives would also ensure further containment of external imbalances. Most of these reforms, however, cannot be implemented overnight. Therefore, rebalancing of the PRC's external sector may also take a few years to accomplish.

APPENDIX: ESTIMATION OF FACTOR MARKET DISTORTIONS

This Appendix explains how cost distortions are estimated. It should be noted that these estimates only provide rough guidance about cost distortions. In many cases, we do not have reliable benchmarks and we often can only consider limited aspects of the distortions. However, if the methodologies are consistent, then the results should at least provide some good indications about changes over time.

Labor Market

The estimation of labor market distortion focuses on underpaid migrant workers given the household registration system. Migrant workers' pay grew by an average of 7% between 2000 and 2008, which was only half the rate of the national average of workers' pay. This is why the pay gap between migrant workers and urban workers widened significantly, from about 30% in 2000 to 50% in 2008. In estimating cost distortion, we assume that migrant workers should be paid 25% less than urban workers given likely differences in human capital.

The total distortion is a product of the number of migrant workers multiplied by the pay gap. The distortion increased, partly because of the rapid rise in the number of migrant workers, from 88 million in 2000 to 140 million in 2008. As a result, labor cost distortion rose from 6 billion yuan (or 0.1% of GDP) in 2000 to 1.13 trillion yuan (or 3.6% of GDP) in 2008. In 2008, it surpassed capital to become the largest cost distortion item.

Clearly, these figures probably still underestimate the actual labor cost distortion. At the very least they ignore underdeveloped social welfare systems. They may also, however, be biased in the opposite direction. If migrant workers' wages are depressed, it would increase demand for labor and therefore create more jobs. Whether or not farmers' income would increase or decrease as a result depends on labor demand elasticity with respect to wages. Our simple exercise does not assume a change in labor demand behavior following changes in labor compensation.

Capital Market

Capital cost distortions show in at least two forms, with the first being distorted interest rates and the second being distorted exchange rates. Instead of calculating cost distortions in these two forms, we compute aggregate cost of distortion due to financial repression. The PRC still shows typical symptoms of a financially repressed economy: regulated interest rates, controlled exchange rates, managed credit allocation, and dominance of both state-owned commercial banks and state-owned enterprises.

Following Caprio, Atiyas, and Hanson (1996), Huang (2010) assumed that financial repressions depressed the cost of capital by an average of 2 percentage points in 2008. In order to calculate variations of capital cost distortion, we borrow the Financial Repression Index from Wang (2010). By setting the index at 100 in 2008 and rebasing it to 2 percentage points, we can then obtain the percentage point distortions for other years covered in this study. The highest distortion was 3 percentage points which occurred in 2000. Distortions then declined gradually.

The total cost distortions were calculated by multiplying the total bank deposits by cost distortions. The total amount of distortions increased steadily, mainly because total bank deposits grew rapidly during that period. One potential criticism is lack of explicit estimation of exchange rate distortion. However, calculation of actual cost distortion due to undervalued currency is difficult conceptually unless it directly involves imports or exports. The financial

repression indicators should at least partly reflect cost distortion in terms of both exchange rates and interest rates.

Land Market

In the PRC, there are different ways of setting land transfer fees. The first is essentially by negotiation between potential users and government entities. This method is non-market and is normally applied to industrial activities. The actual fees set are often much lower than potential market rates as the government is inclined to attract investors. The other market forms include bidding and auctioning, which set market rates. The market rates are on average six times higher than the non-market rates.

To calculate distortions in non-market land transfers, we obtain the total areas of land transferred under the non-market approach. Unfortunately we only obtained data from 2003 to 2007. The annual transferred land under the non-market approach fluctuated across years, from a low of 108,000 hectares in 2005 to 162,000 hectares in 2006.

In 2007, the non-market transfer rate was CNY637,888 per hectare, while the market rate was CNY3.23 million per hectare. This gap was somewhat narrower earlier as the market rate was later pushed up by property market boom. Total calculated land cost distortions increased from around CNY150 million in 2003–2004 to CNY423 million in 2006. Since we do not have enough data to estimate cost distortion for 2000–2002 and 2008–2009, we simply assumed some numbers for these years, taking into account the trends during nearby years.

The main problem with land cost distortion estimates was that we do not have market rates for equivalent land uses. Obviously the market rates were substantially boosted due to the housing boom. Such rates may not be applicable to industrial land. Also, we only calculated cost differences for land transferred. A better approach would be to look at the actual rental costs paid by industrial firms, compared with potential market rate.

Energy Market

Oil, coal, natural gas, and electricity constitute the majority energy use in the PRC. While the PRC is the largest producer and consumer of coal, prices are more or less liberalized. Our calculation here focuses on oil products by looking at the equivalent price gaps for domestic and international oil prices and total oil consumption in the PRC. There is little difference in the prices of crude oil produced domestically or abroad. Price differences are mainly in finished goods.

The price gaps also fluctuate from year to year. The government already adopted a mechanism which links domestic oil prices to international prices with some time lags. Therefore, there would normally be no significant cost distortions. But when international prices rise sharply, the government is reluctant to let domestic prices to follow for fear of disruptive effects on consumption and production. This happened in the years after 2005.

We chose the New York harbor petroleum price as the benchmark for international petroleum prices. The PRC's petroleum prices are published by National Development and Reform Commission. Then we took the oil consumption into account to calculate the energy market distortion. It turned out that the calculated distortions were small negative numbers for the years 2000–2003, which means effective taxes. We think these probably reflect more data noise rather than actual taxes and therefore set the numbers for those years to zero. Energy cost distortions reached their peak in 2007 at CNY400 million.

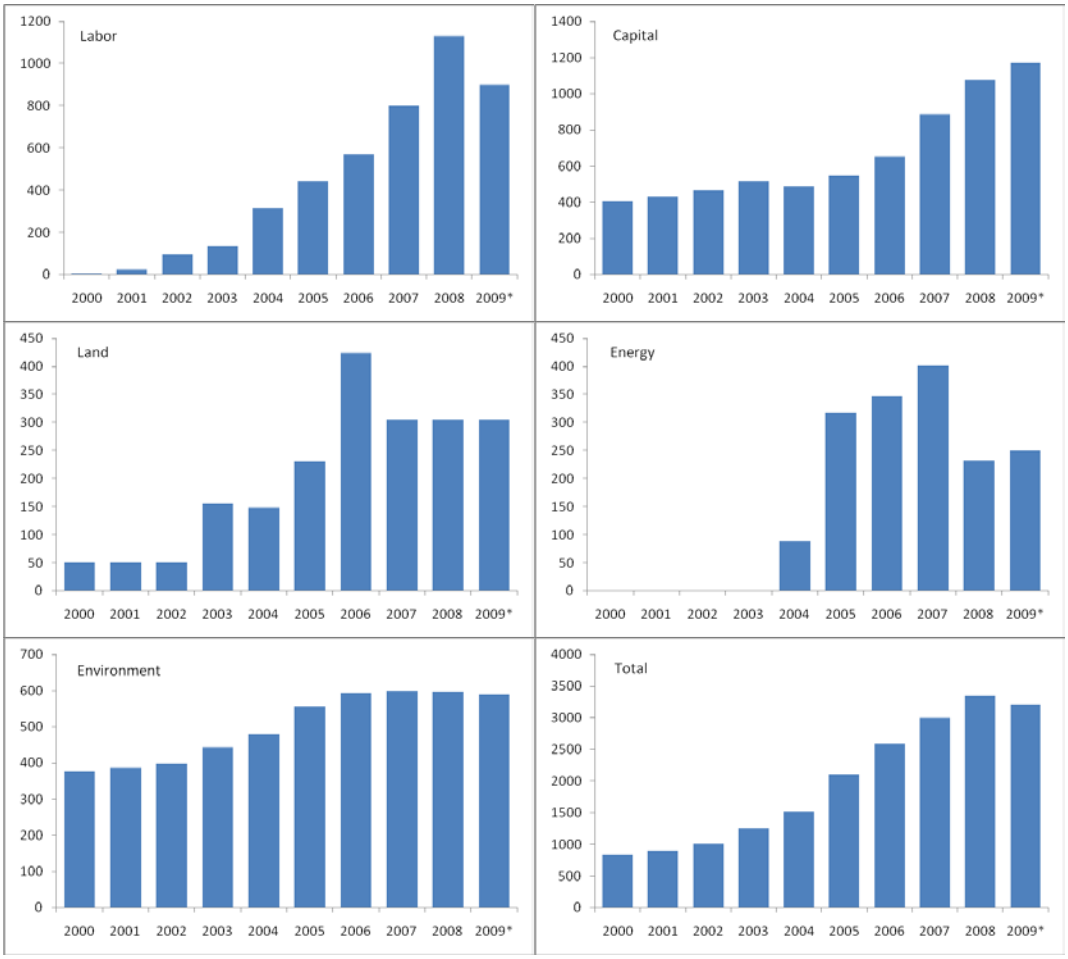
The Environment

Distortions in environmental costs mainly reflect polluters' undercompensation for their emissions. Following Huang (2010), we adopted the government estimate of environmental costs of 3% of GDP in 2004. We then looked at changes in emissions of SO_2 and CO_2 discharge, which are categorized by the State Environmental Protection Administration.

The aggregate emissions show peaking in 2005 and 2006. We then used these physical emission indices to calculate the likely cleaning costs, benchmarking them at 3% of GDP in 2004 and applying a 5% inflation rate to obtain the nominal value of cost distortions. The total costs stagnated in 2006–2009 but their shares of GDP declined steadily from 3% in 2005 to 1.9% in 2008.

Figure A: Estimated Cost Distortions, 2000–2009

(CNY billion)



Source: Authors' estimation.

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