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Dissecting the China Puzzle: Asymmetric Liberalization and Cost Distortion

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[Abstract] In this paper we attempt to explain the China Puzzle: coexistence of accelerating economic growth and worsening growth outlook. The root cause lies in China's unique liberalization approach, i.e., the combination of complete liberalization of product markets and continued distortions in factor markets. Repressed costs of labor, capital, land and resources artificially raise profits of production, increase returns to investment and improve international competitiveness of Chinese products. This is why economic growth is strong, but investment and exports are even stronger. These distortions also contribute to the global imbalances by boosting China's current account surpluses and capital outflows in forms of foreign exchange reserves. We estimate factor cost distortions for 2000-2009 to gauge the likely magnitudes and cross-year patterns. They provide a reasonable explanation of the movement in economic imbalances. These findings have important policy implications. The government's efforts to rebalance the economy after 2003 failed because it did not attack the root cause, i.e, the incentive structure. Popular calls for renminbi appreciation might work ineffectively as currency undervaluation is only part of the distortion. The best policy for achieving sustainable growth would be a comprehensive package focusing on liberalization of the factor markets and elimination of cost distortions.

Key words: China puzzle, asymmetric market liberalization, cost distortion, imbalances

Dissecting the China Puzzle: Asymmetric Liberalization and Cost Distortion

Introduction

In October 2009, China celebrated the sixtieth anniversary of the People's Republic. Economic policies during that sixty-year period may be summarized by two economic experiments. In the first thirty years after 1949, the government abolished free markets and adopted the central planning system. And, in the second thirty years from 1979, the authorities re-introduced free markets to the economy. The motivations for these two experiments, however, were the same: achieving rapid economic growth and catching up with advanced economies.

Despite initial successes, the first policy experiment failed. By the mid-1970s, the economy was on the verge of collapsing. While heavy industries churned out large quantities of unwanted low-quality products, consumer goods were in severe shortage. In the countryside, farmers could not feed themselves even during normal years. When Deng Xiaoping returned from his third political exile in 1977, he probably realized that reform was the only way for the regime to survive.

By comparison, the second experiment was much more successful and delivered what some economists called the 'China Miracle' (Lin, Cai and Li 1995). Real GDP grew by an average of 9.8 per cent between 1979 and 2009. Income growth lifted hundreds of millions of population out of poverty. The reforms quickly transformed the poor, closed agrarian economy into a major global economic power. Optimists believe that China would overtake the U.S. to become the largest economy in the world within the next decade or two (Maddison 2005).

However, 'miracle' was probably only one side of the story. Pessimistic sentiment never disappeared during the reform period. Some experts argue that China's gradual reform approach lacks logical coherence and is bound to fail (Pei 2006). More extreme pessimists foretell the collapse of the Chinese economy (see, for instance, Chang 2001). Even Premier Wen Jiabao repeatedly points out that the current growth model is unstable and unsustainable.¹

There is indeed a puzzle about China's recent economic performance. While the Chinese economy regularly beats expectations, hurdles for growth sustainability appear to have become higher over time. Structural imbalances, such as overdependence of economic growth on exports and investment, worsen by year. Even though China is rapidly rising as a global economic power, household income is not showing comparable growth. Income inequality has already reached dangerous levels by international standard. All these and other problems, of course, pale into insignificance against the long-term outlook for the economy.

Added to this is China's disproportionate global influence. Despite rapid growth, China is still ranked by the IMF 108th among 180 economies based on per capita income. Yet China

is already a dominant player in some international economic areas, such as global imbalances, foreign exchange and commodity markets. Some economists speak of a G-2, for the U.S. and China to jointly manage international economic affairs. The perception of China's influence far exceeds that of economies of similar size, such as Japan or Germany (Bergsten et al 2008; Zoellick and Lin 2009).

In this paper, we attempt to dissect this China Puzzle and to offer some policy recommendations for continuing China's reform success. Our central hypothesis lies in the unique pattern of market liberalization that has taken place during the reform period: complete liberalization of the product markets but continuing distortions in factor markets. Institutional distortions generally repress prices for labor, land, capital, resources and the environment and lower production costs. They have the effect of subsidy equivalents (SEs) for producers, exporters and investors.

These SEs artificially raise profits from production, increase investor returns and improve the international competitiveness of Chinese goods. They also surely help contribute to China's extraordinary growth performance. In the meantime, they make investment and exports stronger, causing imbalance and inefficiency problems. The unusually high proportions of exports and investment in GDP explain, at least in part, China's disproportionate influence in the global economy.

In other words, asymmetric market liberalization and factor cost distortions are reasons behind China's extraordinary growth performance. These same factors, however, are also responsible for growing risks for China, such as an increasingly unbalanced economy and rapidly worsening income distribution. While this policy strategy might improve current growth performance, it probably comes at the expense of future growth.

The remainder of the paper is organized as follows. The next section discusses a set of contradictory economic phenomena, which we call the 'China Puzzle'. Section III provides a brief overview of the reform policies. Section IV explains the hypothesis of asymmetric market liberalization and provides a set of crude estimates of factor cost distortions for 2000-2009. Section V discusses rationales of the asymmetric liberalization approach and its macroeconomic consequences, especially for global imbalances. And, the final section concludes the paper and draws together some policy implications.

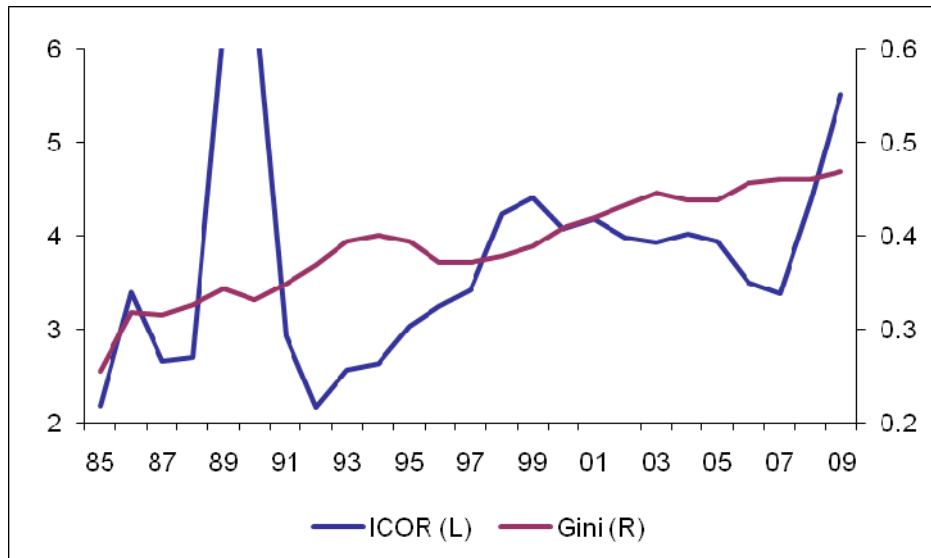
The 'China Puzzle'

At its core, the 'China Puzzle' refers to a unique phenomenon whereby growth acceleration makes optimists more upbeat while, at the same time, makes pessimists more depressing about future of the Chinese economy. It is probably easy to understand the optimistic views as China continues to record strong growth and increases its global economic influences.

The pessimistic views relate mainly to rising hurdles for the sustainability of growth, which are probably direct results of current strong growth. For instance, incremental investment-output ratio (ICOR) shows an overall declining trend of investment efficiency. Despite fluctuations during some years, ICOR is currently much higher than that in not only the early 1990s but also the 1980s (see Chart 1). Similarly, income inequality worsened

steadily, as evidenced by rising *Gini* coefficient. In fact, China's income inequality already exceeds international warning lines.

Chart 1. Incremental Investment Output Ratio (ICOR) and Gini Coefficients, 1985-2009



Note: The Gini coefficients are drawn mainly from Chen, Hou and Jin (2008) and then updated with information from international organizations such as the World Bank. ICOR is calculated by the author using information from the CEIC Data Company and National Bureau of Statistics (NSB).

Source: CEIC Data Company, National Bureau of Statistics and Chen, Hou and Jin (2008).

And this forms the common basis for both optimistic and pessimistic assessments of the Chinese economic outlook. To pessimists, it appears that cumulating imbalances and inefficiency problems will eventually disrupt the growth path. To optimists, however, the government already has a strong track record in dealing with risks and should be able to do the same in the future.

The fundamental question of the 'China Puzzle' is about the sustainability of rapid growth. To illustrate the 'China Puzzle', consider the following specific questions:

- Why is China's global influence so much greater than other economies of similar income level or economic size?
- Why, as a middle-income country, does China enjoy such large current account surplus and export so much capital?
- Why does China account for more than 20 per cent of global consumption of most commodities, while its GDP share is still less than 10 per cent of global GDP?
- Why is the renminbi (RMB) exchange rate already a global policy issue, even though the RMB is not yet a convertible currency?
- Why do Chinese household income and consumption not keep pace with GDP growth?
- Why has the government so far failed to correct the imbalance problems, despite the perceived success of its economic management?

We do not intend to answer all these questions one by one. Rather we intend to offer an important hypothesis about China's economic reform, which may shed light on all of them. A key argument in the paper is that many of the opposing views and contradicting phenomena in respect of China's economic performance actually share the same root cause.

When China's economic reforms began, economists were generally cautious about their prospects. This was understandable because China was navigating unknown waters without a map. However, some scholars showed their confidence in China's ability to achieve strong growth relatively early. In the early 1980s, Dwight Perkins predicted at least 6-7 per cent annual growth in the coming decades (Perkins 1986). Slightly later, Ross Garnaut argued that ascendancy of the Chinese economy would be the most important global economic event in the following two decades (Garnaut 1989).²

Another economist in the optimistic camp is Justin Lin. Lin and his co-authors were the first to describe the Chinese economic success as the 'China Miracle' (Lin et al. 1995). Later, he and his followers made efforts trying to generalize China's successful reform experience. His ideas are summarized in his Marshall Lecture book *Economic Development and Transition* (Lin 2009).

At the end of 2006, the Washington D.C.-based Carnegie Endowment for International Peace invited two top American experts on the Chinese economy, Barry Naughton and Wing Thy Woo, to debate the question of whether Chinese growth would unravel if there were not major policy changes. While both scholars did their usual superb performance, the audience was probably disappointed that they shared more common ground than they had differences.³ Perhaps, Carnegie did not select the right scholars as both Naughton and Woo are reasonably optimistic about future of the Chinese economy.

But the world is never in short supply of pessimistic scholars. The best known China bear is probably Gordon Chang. Chang's central thesis is that economic reforms deliver both strong growth and social conflicts. Further opening of the economy will eventually lead to collapse of the Chinese economy (Chang 2001). And, unlike Lin, Minxin Pei is quite skeptical about China's gradual reform approach, as it not only delays but also amplifies many of the problems. Pei believes that gradualism is bound to fail (Pei 2006).

In early 2010, pessimism and skepticism about the Chinese economy again gathered momentum in international markets.⁴ Indeed, this provided a good illustration of the 'China Puzzle'. After the Chinese economy came out of growth recession strongly amidst the global financial crisis in 2008-2009, investors became increasingly worried about the negative consequences of such fierce growth rebound. The renewed concerns were mainly sparked by the recent massive expansion of credit and associated asset bubbles as the government pulled out all stops to boost growth. In some ways, while the government successfully cushioned the impact of global recession on Chinese growth, structural imbalances and other risks worsened sharply.

While it looks as if the optimists and pessimists are a world apart from each other, their analyses are not always so different. For instance, most optimists and pessimists would agree on a list of the risk factors facing the Chinese economy, such as overinvestment,

external imbalance, insufficient consumption, income inequality, corruption, resource inefficiency, pollution, and so on.

In fact, economists who are optimistic about future of the Chinese economy sometimes even pay more attention to these problems. Yu Yongding, for instance, is best known for his repeated warnings about China's structural problems (Yu 2006 and 2009). Again, Premier Wen Jiabao warns that China's current growth model is not sustainable given the irrational economic structure, weak capability for innovation, over-reliance on resource consumption, worsening pollution, widening of regional disparities and the deterioration of income distribution, among other problems (Wen 2006).

Their point of departure is over the confidence in the government's ability in dealing with these problems. Optimists tend to believe that the government should be able to resolve these problems like it has many times before. Meanwhile, pessimists think the growing risks will eventually take hold of the Chinese economy.

An Overview of Policy Liberalization

It is now well-known that when economic reforms began in the late 1970s, Chinese leaders did not have a blueprint. But it was clear to the reformers that the old system did not work. Changes were necessary in order to improve efficiency and productivity. What followed in the next thirty years, however, were sea changes, symbolized by official recognition of socialist market economy in 1992 and accession to the World Trade Organization (WTO) in 2001.

Deng Xiaoping, the architect of reform, described the Chinese reform approach as 'crossing the river by touching the stones'. This well-known metaphor underscores the experimental nature of the reform: finding areas where positive changes can be made, moving forward if concrete results are delivered or otherwise reversing the changes. This approach is in sharp contrast to the popular 'shock therapy' method applied in the former Soviet Union and Eastern European bloc.

Some Chinese and foreign economists have also provided different interpretations of Chinese reform approach, although many of them differ mainly in their different emphasis or angle. Some of the more prominent views include:

- Adoption of the comparative advantage-conforming development strategy (Lin, Cai and Li 1995): Replacement of the comparative advantage-defying development strategy immediately improved efficiency of resource allocation and promoted productivity growth;
- Growing out of the plans (Naughton 1995): Economic reforms focused on creating growing breathing space for the non-state sector outside the central planning framework, while keeping the plan system unchanged initially;
- Convergence to the East Asian market system (Sachs and Woo 2000): Chinese reform is essentially not so-called institutional innovation but a repeat of the successful experience of the East Asian market economies;

- The incremental dual-track reform approach (Fan 1994): The dual-track reform approach is effectively a process of Pareto improvement without losers, which quickly rallied political support around the reformers;
- Reduction of transaction costs (Zhou 2009): Strong economic growth during the reform period is primarily not built on competitive production costs, such as cheap labor, but rapid reduction of transaction costs and improvement in economic efficiency; And
- A disinterested government at the center of the making and implementation of the reform policies (Yao 2010): The Chinese government is not captured by specific interest groups but is devoted fully to promoting economic growth.

There are indeed different ways of describing the essence of China's approach to reform. But there is generally consensus among economists that the fundamental change during the reform period was introduction of free markets. In other words, China's unusual achievement can probably be attributed more to the functioning of the market mechanism than to resource mobilization by the government.

In retrospect, introduction of the market system involved effort in at least three dimensions: (1) creating autonomies and incentives at the micro level; (2) liberalizing restrictions over free markets; and (3) building institutional infrastructure necessary for market economy.

Granting of autonomies and incentives

One of the reasons why the pre-reform economic system failed was the lack of decision-making autonomy and incentives for economic agents. Shirking was very common among members of the agricultural collectives. The first breakthrough occurred in the countryside – with the adoption of the household responsibility system (HRS). However, the HRS reform was invented by farmers, not imposed by the government. The role that the authorities played was to legitimize the practice, initially only for the underdeveloped regions and eventually as a nation-wide policy in 1982 (Huang 1998).

This essentially privatized the agriculture except the land ownership. Farm land was owned by rural collectives but is leased to farm households. The households could decide on what to produce and how to produce, on condition that they deliver the produce required by the plans, at least initially. What was most important is that the households capture the residual having covered costs and paid taxes. The HRS reform brought immediate and large benefits to the rural economy (Lin 1992).

Reform of the state-owned enterprises (SOEs) took a much more complicated path (Huang 2001). From as early as 1978, local governments in Tianjin and Sichuan began experiments with introducing responsibility systems, granting SOEs autonomy in production and sales outside the state plan and introducing profit-retention schemes. While these changes were important, SOE reform as a whole achieved limited results in the early years. This was probably because of limited space outside the state plan.

From 1986, the government began to introduce contract systems into the SOEs. These were proven successful in the countryside. By the end of 1988, about 93 percent of the SOEs had adopted various forms of contracts. Unfortunately, this important reform still did not achieve the expected goals. The main reason was with the state-ownership, SOEs still could not act independently despite the contract system. For instance, it was impossible to lay off workers even if the firm was incurring losses.

When market liberalization accelerated and competition intensified during the 1990s, the financial condition of SOEs' deteriorated sharply. At the time as the East Asian financial crisis began, state industry as a whole made net losses, with widespread consequences for the fiscal and financial systems.

From the mid-1990s, the government launched a new reform of 'grasping the large but letting go the small'. Essentially, it consolidated the large SOEs in monopoly industries but privatized loss-making small- and medium-sized SOEs in competitive industries. As a result, the total number of SOEs dropped from 350,000 to less than 100,000 within a few years. And the government laid off about 10 million redundant workers a year from the state sector.

Agricultural and SOE reforms illustrate how quickly the reformers moved to eliminate the autonomy and incentive problems so that economic agents would not only make best efforts but could also respond sensitively to changes in market signals. The transition, however, has not yet been complete, given land ownership and the role of large SOEs.

Price liberalization

The second area of major reform efforts was liberalization of free markets. This included adjustment of state prices, reintroduction of market-determined prices, and complete liberalization of market mechanism.

One of the key reform strategies was the application of the so-called dual-track price system, that is, co-existence of state prices alongside market prices. The state prices ensured the interests of those who received cheap products were not affected initially, while the market prices began to guide production and consumption decisions at the margin. Over time, the proportion of market transactions increased and state-dominated transactions were eventually abolished. This approach was applied to a wide range of products, including food, fertilizers, steel and even foreign exchange.

Again, price liberalization also started within the agricultural sector. In order to encourage farmers to produce more food and other agricultural products, the government raised state purchase prices from the end of 1970s. It also re-opened free markets for agricultural surpluses in both urban and rural areas. In 1984, given grain surpluses, the government took a step to convert mandatory state purchase of grain to a contract system, to be negotiated between farmers and the state. But its mandatory nature continued until beginning of 1992 when all mandatory state purchases were phased out.

Liberalization of non-agricultural prices basically followed a similar process, often starting with consumer goods and then industrial materials. The coupon system, which was used to allocate consumer goods during the central planning system, continued in the 1980s

but was completely phased out in early 1990s. Free markets for most consumer goods, however, came into existence during the 1980s. By the late 1990s, transactions of almost 100 per cent of all consumer goods were completely liberalized with prices freely determined by the market mechanism.

Another important example of market reform was trade liberalization, highlighted by China's accession to the WTO (Drysdale and Song 2000). China's real trade boom started from 1992 when it began to pursue export-oriented growth. However, trade liberalization, which includes both decentralization of exports and imports and reduction of export taxes and import tariffs, began in the early 1980s (Lardy 2002). Simple average import tariffs, for instance, declined from 55.6 per cent in 1982 to 23 per cent in 1996. It fell further to 15 per cent in 2001 when China joined the WTO and reached 7.5 per cent in 2006.

Development of a modern financial sector

Financial development during China's reform period involves two types of effort: the creation of institutions and liberalization. When economic reform began, China did not have a normal financial sector as allocation of funds was regulated through central plans. The People's Bank of China (PBOC) was the main financial institution and played only a supplementary role in fund distribution.⁵

The first steps in financial reform included establishment of the 'big four' commercial banks (Industrial and Commercial Bank of China, Bank of China, People's Construction Bank of China and Agricultural Bank of China) and separation of a new PBOC as the central bank. The authorities then set up about a dozen joint stock banks in the 1980s, including China Merchant Bank, the Bank of Communication, Huaxia Bank and China Everbright Bank. In the 1990s, the government transformed urban credit unions into hundreds of city commercial banks. And a similar reform was later extended to the rural credit unions (Huang 2001). At the end of 2009, commercial banks' total outstanding deposits were about 180 per cent of GDP.

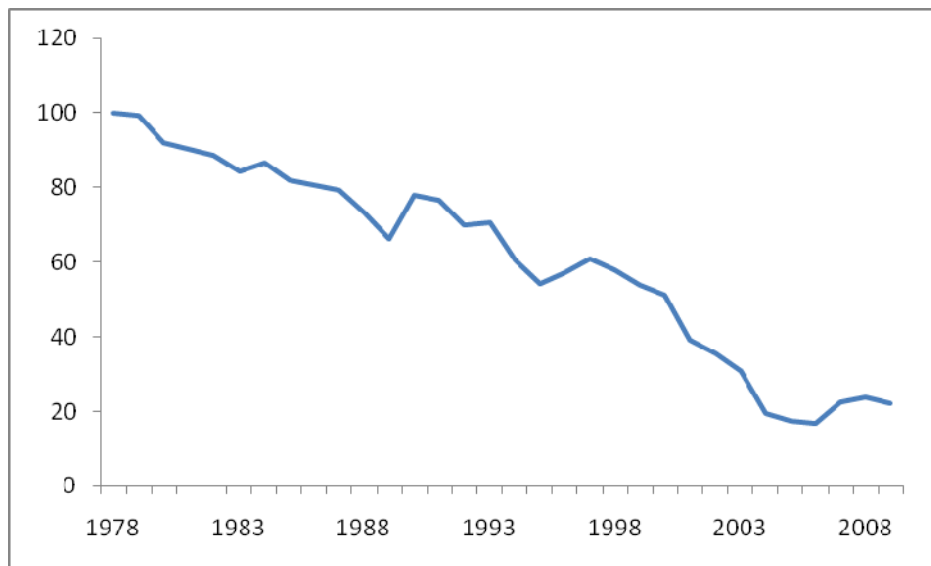
Meanwhile, Chinese policymakers also made efforts to set up capital markets. The RMB-denominated A-share market and U.S. dollar-denominated B-share market began to operate in the early 1990s. In the following years, the government also approved listing of Chinese companies in Hong Kong (H-shares), Singapore (S-shares) and New York (N-shares). Again, at the end of 2009, the market capitalization of both Shanghai and Shenzhen markets combined accounted for 45 per cent of GDP.

The overall scale of China's financial system is already large, even in comparison with market economies. The Chinese financial sector, however, has the character of a bank-dominated system. Relatively speaking, debt markets are even less developed than stock markets. And Treasury bonds remain the dominant debt instruments.

Despite its strong quantitative growth during the reform period, China's financial sector still suffers greatly from symptoms that are typical of financial repression. These include highly regulated interest rates, quantitative control of bank credit, state intervention in credit allocation and tight management of exchange rates.

One question often raised was why financial repression in China did not prevent China from growing rapidly during the reform period. While it takes more analysis to properly answer this question, one possible answer is the continuous financial liberalization that took place, despite the still high degree of financial repression. Wang Xun (2010) constructed a financial repression index (FRI) for China, following the procedure familiar from the literature. If we set degree of financial repression in 1978, the eve of economic reform, at 100, Wang's calculation confirms that it declined to around only 20 by 2004 (see Chart 2).

Chart 2. Financial Repression Index for China, 1978-2009 (1978=100)



Note: High reading indicates high degree of financial repression.
Source: Wang (2010).

The Chinese government has indeed promoted financial liberalization continuously. For instance, at the beginning of the reform period, deposit and lending rates were strictly set by the authorities. Today, even though the base rates are still fixed by PBOC, commercial banks have the freedom to set the actual rates depending on risks of individual projects or enterprises: without a ceiling for lending rates and without floor for deposit rates. Remaining interest rate regulations mainly serve to guarantee minimum interest rate spread.

Another example is changes in the system of credit allocation. At the beginning of economic reform, banks had to follow central plans in extending loans. In the mid-1990s, the central bank gave up direct control of credit quotas and reduced direct intervention in banks' lending decisions. Drastic banking reforms in 2003, including foreign strategic investors and public listing, further enhanced commercial banks' decision autonomy. Unfortunately, administrative interventions would return from time to time, such as during the 2008-09 global financial crisis. Despite that drawback, the general direction is that credit allocation increasingly became more market-oriented.

Asymmetric Liberalization of Product and Factor Markets

A unique feature of the Chinese reform, however, was the asymmetric approach toward market liberalization: the government rapidly freed up product markets but was much more reluctant to remove distortions in factor markets. After thirty years of economic reform, transactions of almost all products today are undertaken within free markets. But the markets for labor, capital, land and resources remain highly regulated. And the pricing and costs of these factors are also significantly distorted (Huang 2010).

Factor market distortions

Labor. During the pre-reform period, there was no labor mobility and wages were all set by the government, regardless of effort. This changed when surplus rural labor started to emerge following the HRS reform in the early 1980s. The underemployed rural workers found non-agricultural jobs, sometimes outside their villages. This was the beginning of China's labor market. In the early 1990s, restrictions on the urban economy loosened as the growth of the non-state sector gathered momentum. Reform of the SOEs, including laying off a massive number of redundant workers in the late 1990s, and a surge of foreign direct investment inflow facilitated labor market development in China. At the end of 2009, there were a total of about 150 million migrant workers across the country.

But operation of labor markets is still heavily distorted. And many workers, especially migrant workers, remain significantly underpaid. For instance, many companies often under-contribute to the social welfare benefits of their employees. If companies strictly follow policies on social welfare contributions, commonly their payrolls would have to rise by at least 35-40 per cent, including for contributions to pensions (20 per cent of payroll), medical insurance (6 per cent), employment benefit (2 per cent), work injury insurance (1 per cent), maternity benefit (0.8 per cent) and housing entitlement (5-10 per cent).⁶ By contributing less than required, especially for migrant workers, companies essentially reduce their cost of labor.

Again, the household registration system, which was a product of the central planning era, still restricts labor mobility and discriminates against farmers moving to work in the cities. According to this system, people cannot move legally unless it is approved by the government. When migrant workers find jobs in the cities, they are normally not entitled to pensions and medical care. Their children cannot attend local public schools. They cannot enjoy a housing subsidy. In short, they may be able to work in urban industries for years, but it is very difficult for them to settle down. For this reason, migrant workers' pay is sometimes only half of the pay of urban residents, even if they perform the same job functions.

The argument that institutional distortions repress labor costs is often strongly disputed by economists. Skepticism about repressed wage costs derives from the perception that labor should be cheap in any case, given China's massive surplus labor in the countryside. But this is not necessarily so. If social welfare policies were implemented properly and the household registration system was abolished, migrant workers would likely receive higher compensation. Many of them may choose to settle down in the cities. The real question is how much would such rise in labor compensation reduce labor demand and therefore

lower migrant workers' total income. In an economy with surplus labor, the answer to this question depends mainly on wage elasticity of demand for labor.

Capital. Distortions to the cost of capital take at least two forms. One is the undervalued currency, and the other is generally repressed domestic interest rates. Currency undervaluation is better known since it has been the focus of some international policy debates. There are different approaches measuring equilibrium exchange rates based on purchasing power parity information, the structural characteristics of the economy or the imbalances. While most economists agree that the RMB is probably undervalued, they disagree on the magnitude of the undervaluation. The normal range of the undervaluation estimated for the RMB is between 5 and 50 per cent (Clive and Williamson 2008).

Under-estimation of the domestic cost of capital is underscored by existence of financial repression (Wang 2010). Financial repression likely reduces capital efficiency and capital costs. A World Bank study suggests that financial liberalization in emerging market economies would raise domestic interest rates by a couple of percentage points (Caprio, Atiyas and Hanson 1994). This could be interpreted as financial repression reducing interest rates by a couple of percentage points.

Such distortion of capital costs can be confirmed by comparison of the GDP growth potential-government bond yield relationship across countries. In theory, nominal GDP growth potential indicates average return to investment. Therefore, the risk-free government bond yields should converge with this rate of return. In China, however, the gap is close to 10 percentage points – assuming nominal GDP growth at 11 percent and 5-year government bond yield at 3 per cent. This is high compared with 6.5 percentage points in India, 6.2 percentage points in Thailand, 5.7 percentage points in Malaysia and 2.6 percentage points in Korea at the end of 2008. Clearly, capital is too cheap in China.

Land. Land is owned by collectives in the countryside and by the state in the cities. Until recently there was no market for land. Land transfer for non-agricultural uses has to be approved by the government. In the past, land fees were decided by local authorities, although users also had some bargaining power. But since all local governments were keen to attract more investment, they often provided concessions on land use fees. This was common when local governments competed with each other to attract investment projects by offering tax exemptions and lower land use fees.

In recent years, however, the governments turned to more market-oriented land transfer mechanisms, such as auctions and negotiations, to both improve transparency and boost local government revenues. This practice is more applicable in the case of property development. For industrial use it is still common for the government to apply land use fees. And on average the land use fees are only about 16 per cent of the costs through auction. Manufacturers, therefore, receive implicit subsidies on land inputs.

Energy. Institutional distortions in domestic energy markets are widespread, although the magnitudes of cost distortions have varied wildly over the years. Of the different types of energy products, coal prices are the closest to market prices. Electricity tariffs are set by the authorities through public consultation. The most visible and sometimes also most volatile distortions are in areas of oil products.

In 1998, in an important step in oil price liberalization, the State Council announced a formula linking domestic prices to the weighted average of prices in New York, Singapore and Rotterdam. NDRC would adjust domestic prices, with a couple of months' delay, if the international weighted average moves by more than 8 percent. In 2000, NDRC raised oil prices 7 times in order to bring domestic prices closer to the international levels.

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

Environment. Environment is not a conventional factor of production. However, compensation for pollution should be counted as part of production costs. Over the past three decades, the Chinese authorities instituted a relatively complete set of environmental protection regulations and policies. The problem, however, is the big gap between the intent of these policies and their implementation. Local governments, especially those in underdeveloped areas, are often not willing to protect the environment at the expenses of income and GDP growth. Such lapses in policy implementation constitute an effective subsidy to producers.

The National Development and Reform Commission (NDRC) and the Ministry of Environmental Protection (MOEP) once estimated the net damage to environment at 3 per cent of GDP in 2004. Pollution of air, water and soil not only affects economic productivity but also generates serious health problems. Environmental degradation in China contributed to global climate change, evidenced by rapid melting of the glaciers in the Himalayas. It has also led to regular drought in Northern China and frequent floods in Southern China (Woo and Huang 2004).

Crude estimation of factor cost distortions

How serious are these distortions? In order to gauge the significance of these factor market distortions, we intend to make some crude quantitative estimates. Huang (2010) made one of the first attempts at the measurement of factor market distortions and found that it amounted to 2.1 trillion yuan in 2008, or about 7 per cent of GDP. His estimation, however, was made only for one year. In a follow-up study, Huang and Tao (2010) refined some of the methods and extended the estimation to include nine years from 2000 to 2008. Based on those estimates they also made a preliminary attempt to gauge of the impact of factor market distortions in 2009 (see Table 1).⁷ It should be noted that the estimates by Huang and Tao were somewhat higher than that by Huang.

It is useful to make clear the qualifications surrounding these estimates before drawing any implications. The task of estimating the distortions is quite difficult to say the least, as in most cases there is no information about undistorted factor prices. The purpose of the estimation was not to provide accurate estimates. Rather we hope to get some idea of the possible magnitude of the distortions and, more importantly, changes in their impact over time. We acknowledge that some of the assumptions we have to make are problematic

and that, therefore, the estimates are subject to improvement once new information becomes available.

Despite potential problems, the estimation results reveal some important patterns. First, of all the distortions, capital market distortions are by far the most important. Capital cost distortions contribute about 40 per cent of total cost distortions on average. This helps to explain the persistent problem of overinvestment in China and also rapid development of capital-intensive industries despite continued job market pressures.

Table 1. Estimated Cost Distortions in China, 2000-2009 (% GDP)

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

Note: * 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.

Source: Huang and Tao (2010), page 18.

Second, labor market distortions have actually grown in recent years, despite loosening policy controls and increasing rural-urban migration. This is a result of both the rising number of migrant workers and persistent, even widening, income gaps between migrant workers and urban workers. Indeed the statistics suggest that while labor demand has increased in recent years, migrant workers' pay did not keep pace with that of urban workers, especially when social welfare benefit contributions are considered.

Third, energy cost distortions fluctuated widely across years, reflecting volatilities in international oil prices and the varying response of Chinese authorities to these changes. China has already adopted a price mechanism which closely tracks changes in international energy prices. But the authorities hold down domestic prices when international prices surge rapidly. Therefore, energy cost distortions are sometimes asymmetric. When international prices are low, there is little distortion. When international prices are high, distortions increase rapidly.

Fourth, environmental cost distortion was the only item that showed consistent improvement. This is a very important result, assuming the estimates reflect actuality. Despite the perception of worsening in the environment, the pollution problem has probably reached a turning point. And this is attributable mainly to a stepping-up of policy efforts in recent years. The growing public awareness of the problem probably also helped.

And, finally, the aggregate estimates of cost distortions show significant increase in the years after 2004, consistent with the observation that structural imbalances worsened

during the same period. The trend of continuous liberalization and recent increases in total impact of cost distortions are not necessarily contradictory with one another. These contradictory trends could arise because of a slower rise in distorted prices than undistorted prices despite loosening controls. It could also arise because the quantity of factors grew rapidly even though unit distortions declined. The moderation of the impact of total distortions after 2006, however, may suggest that the worst of the imbalance problems are already behind us.

Macroeconomic Consequences of Factor Market Distortions

Why does China pursue this approach to liberalization? In practice, only some of the factor market distortions were deliberately adopted by the government. An obvious example is price control for petroleum. The intention of policymakers was to adopt free market price mechanisms for oil and other energy products. However, when international prices rise significantly, they often fear that increases in domestic prices would hurt households and industries that are sensitive to energy price shocks. Distortions were introduced in order to minimize the shock.

Other distortions are legacies of the central planning system and are only transitional phenomena. For instance, the government clearly understands that the household registration system is discriminatory and inefficient in nature. But abolition of the system requires a number of other institutional conditions, such as social welfare systems for all rural residents. Also, while financial liberalization is probably preferred, it is also conditional on effective improvement of the SOEs and state-owned financial institutions.

Yet China's adoption of this approach to reform was not accidental. Fundamentally, this provided an effective way of achieving the fastest growth possible. The rationale is perhaps best illustrated by Deng Xiaoping's two popular phrases:

*White or black, a cat is a good cat as long as it catches mice; and
Growth is a hard principle.*

In fact, the whole economic and political system was adapted for pursuing strong economic growth. The government functioned more like a business than a provider of public services (Yao 2010). Rigorous statistical analyses confirm that GDP growth rate was the single most important variable determining the future of provincial governors and Party secretaries (Li and Zhou 2005).

Repression of factor costs in order to achieve rapid growth is not unique in China. In fact, it is commonly seen in many other developing countries. Factor cost distortions were also observed in Japan and Korea during their early stages of economic development. By adopting such distortions, the governments of these countries probably shared the same goal of achieving faster economic growth (Lin 2009).

China's pre-reform urban industrialization strategy also contained some elements of factor cost distortions. The unified purchase and marketing system (UPMS) for agricultural products was specifically designed to ensure supply of food and agricultural materials to the urban sector. Since the state prices were normally below market prices, UPMS

artificially lowered production costs for urban industries. This gave rise to extraordinary industrial profits, which were then re-invested in urban industries.

In essence, the pre-reform industrialization policy subsidized urban industries by heavily taxing farmers, who were at that time the only possible source of funds. Song Guoqing was the first to unveil the underlying logic pre-reform agricultural policies, especially the UPMS (Song 1994).⁸ He argued that the UPMS was really a substitute for a land tax.

But clearly the pre-reform industrialization policy failed in the end. This reinforces an important point that any distortions to market forces are likely inefficient and costly in the end. But why has the post-reform approach worked much better? In retrospect, the post-reform approach differs from the pre-reform strategy in at least two respects. One, in pre-reform China, there was no free market for products. Resource allocation was extremely inefficient. This was completely changed during the reform period.

And, two, in the pre-reform period, production teams, enterprises, and individuals did not have any decision-making autonomy. Often the plans did not suit local conditions. But more importantly, agricultural workers' efforts were not linked to their rewards. So there was no incentive to work hard. Again, this changed quickly during the reform period.

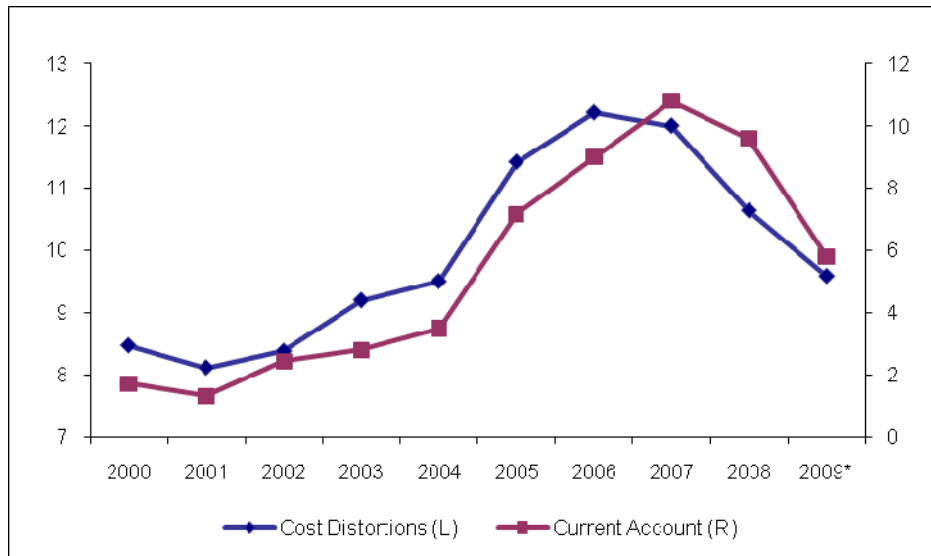
So how do cost distortions affect the economy during the reform period? At the simplest level, we may view the distortions as a production subsidy, that is, cost distortions in most of their guises are like producer subsidy equivalent (PSEs). Cost distortions boost profits from production. This was essentially why China quickly rose as a global manufacturing center within a few years following its WTO accession. There was no better place to produce than in China – labor was cheap; capital was cheap; land was cheap; energy was cheap; producers further enjoyed tax exemptions; and there was no real charge for pollution (Huang 2010).

Low costs also stimulated investment. Most importantly, capital is cheap. According to our estimates, capital was by far the most important item in total cost distortion over the past ten years. Thus, it was almost impossible for the government to control the overinvestment problem. When potential investment returns are so high, any NDRC initiatives to slow investment were bound to fail. This explains why China moved into heavy industries so quickly in the early 21st century even though the government still hoped to create more jobs. As the investment share of GDP was close to 50 per cent, it is easy to understand why China consumes such large volumes of raw materials. Perhaps it is also easy to understand why urban infrastructure was so advanced in a country where per capita GDP was only slightly above US\$3,000.

Cost distortions make Chinese products a lot more competitive in international markets. This was behind the unusual growth in China's economic openness, with the export share of GDP rising from 8 per cent in 1978 to 35 per cent in 2008, an unusually high level for a large economy. This also explains why China's international influence is disproportionate to its income level and even its economic size. Close to 70 per cent of Chinese GDP is externally-oriented (exports plus imports), compared with 20-30 per cent for the U.S. and Japan. This also explains why China exports so much capital. In fact, our factor cost

distortion estimates provide a reasonably good fit with the current account balance during the past ten years (see Chart 3).

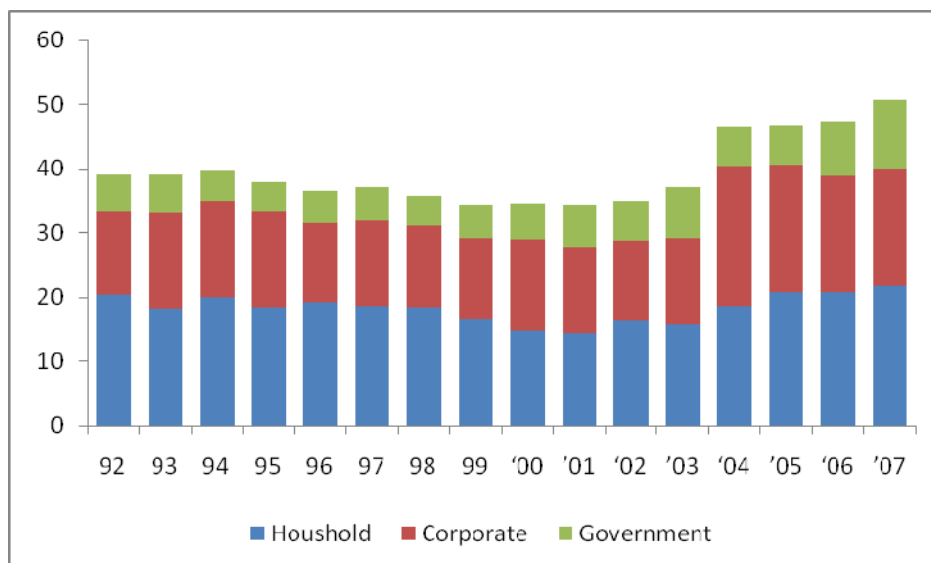
Chart 3. Estimated Cost Distortion and Current Account Balance, 2000-09 (% GDP)



Source: CEIC Data Company and authors' estimation.

While cost distortions were positive for production, investment and exports, at least in the short term, they were clearly negative for household income and consumption and welfare. While the national saving ratio rose steadily over the past twenty years, household saving as a share of GDP remained stable. Corporate saving rose from 11.7 per cent of GDP in 1992 to 22.9 per cent in 2007 (Chart 4).

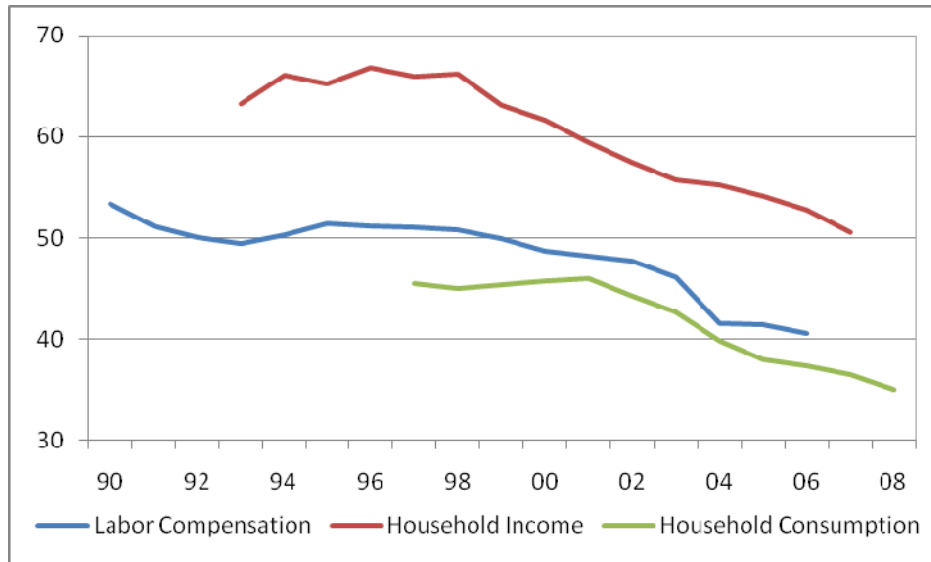
Chart 5. Composition of National Savings, 1992-2007 (% of GDP)



Source: Lin (2010).

More importantly, the share of labor compensation in national income dropped from 51.4 per cent in 1995 to 40.6 per cent in 2006, while the share of household income in national income declined from 66.8 per cent in 1996 to 50.6 per cent in 2007 (see Chart 5).

Chart 5. Shares of Labor Compensation, Household Income and Household Consumption in National Income, 1990-2007 (%)



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

All these suggest that factor cost distortions were a fundamental force behind China's recent large external imbalances. This, in turn, contributed to the global imbalances through growing current account and capital account surpluses. Distortion of incentives significantly inflated investment and export activities. At the same time, as household income relative to GDP declined over time, consumption also weakened inevitably in relative terms. This further widened external imbalances.

In explaining China's current account surpluses, the literature has proposed five possible factors: (1) measurement errors, which suggest 'hot money' inflows disguised in forms of current account items due to stricter capital account controls; (2) saving and investment gap, which is really an identity definition of the current account; (3) industrial relocation, which points to transfer of trade surpluses to China alongside relocation of manufacturing factories to China; (4) policies promoting strong growth, which hints possibility of domestic production greater than domestic demand; and (5) exchange rate, which argues that an undervalued currency boosts exports but inhibits imports (Huang and Tao 2010).

All these factors were important in contributing to China's trade surpluses and capital outflows. However, most of them, such as policies promoting strong growth and exchange rate, fail to account for the recent surge in current account surpluses. Others, such as saving and investment gap, do not offer actionable policy responses. Compared with these, factor cost distortions appear to provide a more reasonable explanation of recent fluctuations in current account surpluses with important policy implications.

While, in practice, factor cost distortions artificially lifted growth in China during the past years, it would be wrong to recommend this as a policy prescription for other developing countries. In fact, most developing countries adopted similar policies, including China in the pre-reform period, but did achieve similar performance. An extreme example of that strategy was the former Soviet Union, which mobilized all resources to support growth. Growth was strong for a while but the risks quickly took hold of the economy.

This is why we are seeing ever growing structural imbalances in China, which alongside other problems such as inefficient resource use, income inequality and pollution, could seriously affect China's ability to sustain its rapid growth. If these problems continue to cumulate, they would lead to disruption of China's growth path. This is probably also why there are always pessimists about China's growth outlook. And this is perhaps also why optimists like Wen Jiabao and Yu Yongding continue to lose sleep at night.

Concluding Remarks

Since the late 1970s, China has come a long way in reform of its policies and modernization of its economy. Extraordinary economic growth quickly transformed a large and poor economy into a global economic power. But economic risks also increased significantly during the reform period. In a way, the faster the economy expands, the greater the structural risks, and the less rosy the growth outlook becomes. This is the core of what we call the 'China Puzzle'.

The hypothesis we present in this paper to explain the 'China Puzzle is China's unique approach to reform – asymmetric liberalization of product and factor markets and price distortions for labor, capital, land, resources and the environment. In retrospect, some of these distortions, such as control of energy prices, were deliberately adopted, and others, such as the household registration system, are transitional phenomena. But they share common motivation: to achieve strongest possible economic growth.

Judging from the data, this approach to reform has been very successful in promoting economic growth. At the same time, it also underlies many growing imbalance problems. Cost distortions artificially increased profits from manufacturing production and quickly turned China into a global manufacturing center through supply of cheap labor, cheap capital, cheap land and cheap resources. Cost distortions also contributed to oversized investment and exports. In fact, factor market cost distortion estimates seem to provide a better explanation for movements of the current account over the past ten years than many other factors identified in the literature, such as the exchange rate.

Therefore, factor cost distortion was a fundamental cause behind China's growing external imbalances, including massive trade surpluses, large official capital outflows and extraordinary foreign exchange reserves. These, in turn, contributed to development of the global imbalance problems, as China is now a major surplus country in the world economy.

The growing risks for Chinese economic growth, however, suggest that the current growth pattern may not be able to continue for long. The Chinese government under Wen Jiabao's leadership has spent the past seven years trying to improve the quality of growth and rebalance the economy. But in the end almost all those policy measures failed. During

the past seven years, almost all imbalance problems became worse: current account surpluses became larger, the investment share of GDP increased, and consumption weakened further relative to GDP.

The fundamental reason for the policy failure in adjusting economic structure was because the government did not attack its root cause – the incentive structure related to factor market cost distortions. For instance, if capital is extremely cheap, the NDRC cannot succeed in controlling investment by slowing down the approvals for new projects. Similarly, the Ministry of Finance (MOF) is not able to narrow external imbalances significantly by reducing export tax rebates by a couple of percentage points.

Currently, the international community is again escalating pressure on China to revalue the currency sharply in order to rebalance the global economy. While greater exchange rate flexibility should be encouraged and is helpful for solving China's internal and external imbalance problems, singling out the RMB issue may be a counter-productive approach to addressing the current account imbalance problem. Exchange rate distortion is only one part of the broad distortion problem. It is useful to remember that China's external imbalances surged between 2005 and 2008 when RMB appreciated by almost 20 per cent.

A much more effective approach for dealing with the imbalance problem is to implement a comprehensive package of factor market reforms.⁹ Policymakers will have to eliminate distortions in the incentive structure and production costs. And this essentially calls for an end to the asymmetric approach to market liberalization. Steady liberalization of factor markets and elimination of cost distortions should be the top priority for the next stage reform. Only by so doing, will China be able to rebalance the economy, reduce the risks to economic performance, and place the economy on a more sustainable growth path.

In fact, the Chinese government has already started its process of factor market liberalization, evidenced by recent freeing of resource prices and accelerating reform of the household registration system. But complete liberalization of factor markets and elimination of cost distortions could take years to complete. It is our hope that these efforts will take less time than another thirty years.

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¹ See, for instance, reports on Premier Wen Jiabao's press conference on March 16, 2007, following the annual National People's Congress meeting. The Premier said that the Chinese growth was unstable and unsustainable.

² The only person who correctly predicted 10 percent annual growth for China during the last quarter of the 20th Century was Australia's first Ambassador to China Stephen FitzGerald. Ambassador FitzGerald is political scientist, not an economist. And he made his very brave call in 1976, even before China started economic reform. For some details about the story, see John Garnaut, "Braving new heights in Beijing", *Sydney Morning Herald*, September 28, 2009.

³ For details, please see "Transcript of Woo-Naughton Debate", *Journal of Chinese Economic and Business Studies*, 1476-5292, Volume 5, Issue 3, 2007, Pages 203 - 216.

⁴ For instances, according to media reports, Ken Rogoff said that Chinese growth could collapse to 2 percent within 10 years, sparking a recession in the region. (This was reported around the world by Bloomberg, Business Week, etc on February 24, 2010.)

⁵ Two other banks existed only nominally at that time. One was Bank of China, which was really the international face of PBOC. And the other was People's Construction Bank of China, now Construction Bank of China, which operated more like a subsidiary of the Ministry of Finance. Both quickly became independent banks after economic reforms began.

⁶ These were estimates provided in person by former Ministry of Finance official Zhai Fan in 2001.

⁷ For detailed methods of estimation, please refer to Huang and Tao (2010).

⁸ Song Guoqing's article was written in late 1982.

⁹ The need for more comprehensive approaches, rather than exclusive focus on the currency, was supported by Woo (2006) and Goldstein and Lardy (2009), although they approached the issue from different angles.