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China: Understanding a new global economic player

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China – Understanding a new global economic player

by

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China – Understanding a new global economic player

Abstract: This paper analyzes China's economic performance in the last 25 years and discusses its prospect for growth in the future. China has enjoyed high annual GDP growth rates of about ten percent in the last 25 years. Exports and investment were the two driving forces of the growth process. FDI plays an important role. However, property rights, a crucial element in transforming a communist society, are far from being clearly developed. Structural issues such as the state-owned firms and the loss-making of the banking industry have to be solved. Monetary policy is complicated by the accumulation of reserves. Major policy issues in the future include the institutional deficit, especially with respect to the rule of law and the lack of democracy.

Keywords: Growth process, FDI, developing countries, transformation, exchange rate policy, property rights, future scenarios.

JEL classification: E2, E4, F10, F43, K

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China – understanding a new global economic player¹

1 Characteristics of the Chinese economy

High GDP growth

China has seen an astonishing development since the Deng Xiaoping reforms starting in 1978. It has enjoyed high average annual GDP growth rates of nearly ten percent in the last 25 years. In US dollars, it is now a 1.93 trillion economy with a GDP larger than the UK in 2004 (revised data). It accounts for 4.7 percent of world GDP, representing the world's fourth largest economy. Gross national income at current market prices (GNI) per capita in 2004 was at 1,290 US dollar (non-revised data before December 2005), somewhat lower than the average of the lower middle income countries (US\$ 1,580) and at 3 percent of the US level. According to this measure, China ranks at position 132 in the world economy. It is powerful in the aggregate, but still poor in the disaggregate. According to World Bank data, 16.6 percent of the population live below one US (PPP) dollar per year (2004)

If instead of current market prices purchasing power parity is used, China's GNI amounts to US\$ 7,170 (non-revised data), the US having a GNI of US-\$ 11,655. In this calculation, China's GNI is about 60 percent of that of the US. According to this measure, China accounts for 13 percent of the world's GNI, the US for 21 percent and the euro area for 21.8 percent. GNI per capita is estimated at 5,530 US-dollar, i.e. at the average level of the lower middle income countries, and at 14 percent of the US level, standing at US\$ 39,100. Note that purchasing power parity is an indicator of welfare. It can be seen as denoting economic or even political power.

Looking at international statistics of Eastern European countries prior to the fall of the iron curtain in 1989, data on China may be subject to political influence. Local politicians do have an incentive to distort data. Moreover, the actual enthusiasm may be part of an international hype. In any case, it is difficult to portray such a large economy in some statistical numbers. It is therefore open how reliable the data are (Holz 2006).

¹ This paper is an abbreviated version of chapter 11 of my forthcoming book "The World Economy. A Global Analysis", 3rd ed., Routledge 2006. I appreciate critical comments, including the collection of data and preparation of figures, from Shafik Hebous, Oliver Hoßfeld, Camillo

Analyzing the production side of GDP, industry generates 40.8 percent of GDP, services account for 40.7 percent and the primary sector including agriculture for 13.1 percent (2004, revised data). On the expenditure side, gross capital formation is the dominating component of GDP with 45 percent, household final consumption coming in second with 42 percent and general government final consumption accounting for 12 percent (non-revised data 2004). It is estimated that the share of investment is somewhat lower at 41 percent when the revised data are available for the expenditure side of GDP. The external balance of goods and services accounts for one percent of aggregate expenditure (see below).

The Driving Forces of Growth

China has experienced unusually high annual real GDP growth rates of over nine percent since it started its reform in the late 1970s. In the periods 1979-1990, 1990-2000 and 2000-2004, the growth rates were 9.1, 9.9 and 9.2 percent, respectively (Table 1). Real income of people has risen markedly. According to World Bank estimates, poverty was reduced for 400 million people in the past 25 years, using the criterion of one US-\$ a day income. The driving forces for growth were exports and investment.

Table 1 China: Real growth rates of GDP, investment, FDI and exports ^a

	1970-1979	1979-1990	1990-2000	2000-2004	1979-2004
GDP ^b	6.1	9.1	9.9	9.2	9.7
Gross capital formation	11.9	8.2	9.8	13.2	10.3
Exports ^c	na	7.4	13.6	24.4	12.5
Memorandum item: Nominal FDI growth rates ^d	na	31.05	37.98	6.81	32.87

^a Arithmetic average of annual growth rates (constant 2000 U.S. dollar prices). – ^b Based on revised data including 2005. – ^c Arithmetic average of growth rates with data from World Development Indicators. ^d Based on nominal inward cash flows calculated in current US Dollars.

Sources: World Bank, *World Development Online Indicators*, April 2006; World Bank, *China Quarterly Update*, February 2006.

Export-led growth

Exports represent an important stimulus to the Chinese economy. Looking at merchandise trade, i.e. at the goods that China provides to the world economy (excluding services), China has an unusually high export share in GDP of 36 percent (2004). Its merchandise trade balance (merchandise exports minus merchandise imports) is 1.9 percent of GDP. Its current account surplus amounts to \$US 45.9 billion (Ibid. Table 4), that is 2.8 percent of GDP (2004). As mentioned above, the external balance of goods and services (exports of goods and services minus imports of goods and services) in the macroeconomic accounts is given with 1 percent of GDP (World Bank 2005d, Table 3).

The difference between these three balance concepts can be explained by several factors. First, the three concepts mean different things. The merchandise trade balance does not include services. Services in the trade and service balance of the expenditure approach in the macroeconomic accounts are measured differently from services in the balance of payments. Thus, the current account includes some services such as interest payments that are not included in the external balance. The current account also reflects unilateral remittances from abroad. Second, data are from different sources, from the World Development Report and from the country fact sheets. Both are produced by the World Bank, but these sources diverge.

China has a world market share of 6.5 percent, measured in terms of merchandise trade. Nearly all merchandise trade is produced in the manufacturing sector (91 percent). China is considered to be the manufacturing workshop of the world. Amazingly, its exports do not only consist of low technology products. A quarter of its merchandise exports (27 percent) are high technology exports. According to the World Bank classification, China is playing in the same league as Finland (24 percent), Japan (24), Korea (32), the Netherlands (31), the United Kingdom (26) and the United States (31).

Chinese exports, a strong driver for the economy, rose at a high real rate of 12.5 percent since

1979 while world exports expanded at seven percent in same period. In calculating the increase in the volume of exports, the problem arises which price deflator should be used to correct the nominal export figures given in renminbi. Usually, the trade deflator for goods published by the Customs Administration is applied. In comparisons with other countries, the US GDP deflator is used.

This increase in the trade volume is not unprecedented. It is below the rates of increase of other newly industrializing economies (NIEs), for instance Japan, Korea and the four tigers. Setting an export index 1979 for China equal to 1 and comparing it to an export index also of 1 for Japan in 1955, China's real exports in the period 1979-2002 increased at a lower rate than the exports of Japan (Figure 1). A similar result holds, when Korea with the initial year 1965 and the four tigers (Hong Kong, Korea, Singapore and Taiwan) with 1966 are considered (Prasad 2004, Figure 2.3).

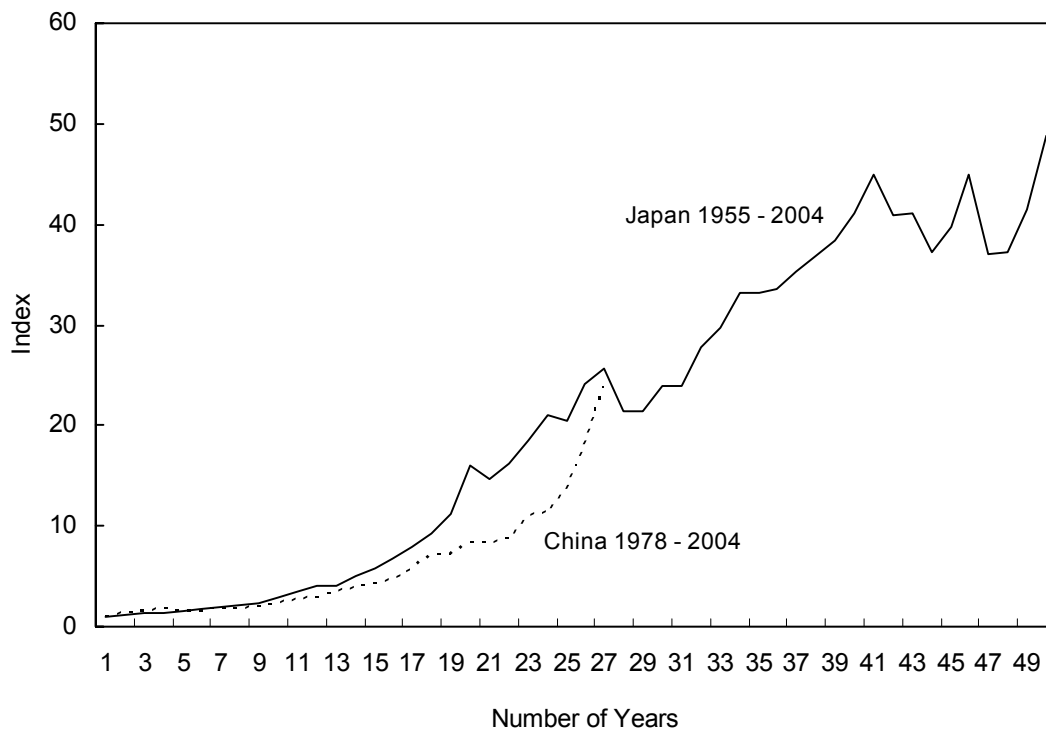


Figure 1 China and Japan: Comparative export growth ^a

^a Deflated by the US GDP-deflator and indexed, basis year = 1. Japan 1995, China 1978.

Source for data: WTO, *WTO Online Statistical Database*, April 2006. - IMF *International Financial Statistics*, Online Database, April 2006. - Own calculations

China has used its entry into the WTO in 2001 and the required adjustment to the WTO standards as means to restructure its economy. WTO membership requires the dismantling of non-tariff barriers. Although this hurts certain sectors, trade liberalization helps the country in its structural adjustment. Thus, WTO membership improves China's export conditions and enables it to continue its export-led growth. While implementing a WTO-consistent institutional arrangement in intellectual property rights, safeguards procedures and standards will hurt some exports, WTO membership reinforces confidence for international investors and makes China a favorable destination for foreign investment.

Investment – the other driving force

Gross capital formation is at unusually high over 40 percent of GDP (2004). Annual average growth rates of gross capital formation amounted to 10.3 percent in the period 1979-2004 (Table 1). It is through this new capital that the economy is restructured, that new firms are born, new technologies are embodied in new machines and new products are introduced into the product set of the economy. New capital embodies more modern technology. Investment together with exports modernizes the economy through learning by doing processes. At the same time, labor productivity is raised. Capital accumulation and total factor productivity growth contribute about 4.5 percentage points each to the GDP growth rate of about ten percent in the early 2000s, with about one percentage point coming from employment growth (IMF Country Report 2005, p.12). Marginal capital productivity is at about 13 percent, after about 16 percent in the 1990s. Capital accumulation is one of the important vehicles for growth. Labor productivity in terms of GDP per worker has increased at an annual average of between seven and 8 percent in the early 2000s, with productivity growth coming half and half from capital intensity and from total factor productivity (Ibid).

The falling capital productivity can be regarded as a sign of inefficient investment. The incremental capital output ratio, i.e. the investment need per additional unit of output, has risen from three in the 1980s to 4.5 in the early 1990s. This indicates that more capital is needed to

produce additional output. There are also signs of over-investment in several sectors, creating a distortion in the economy that will have to be corrected in the future with pain. When over-expansion is corrected, unemployment will rise. A reason behind overheating is the high money and credit growth.

Chinas economic growth process exhibits a stark sector change. Agriculture declined from a 32.0 percent share in GDP in 1984 to below 12.5 percent in 2005 (this is the figure for the total primary sector, revised data, World Bank 2005a; 2006a). Industry expanded from a share of 43.3 percent in GDP in 1984 to 47.8 percent in 1994 and to 52.9 percent in 2004, according to unrevised data. According to the revised data, industry is estimated at 40.8 in 2004; it has held that percentage more or less since 1993. The service sector expanded from 24.7 percent in 1984 to 31.9 percent in 2004 (non-revised data); according to the new data, the service sector is given with 40.2 percent. In terms of employment, the primary sector declined from 68.7 percent of total employment in 1980 to 50.0 in 2002 (non revised data) whereas the secondary sector increased from 18.2 percent to 21.4 percent and the tertiary sector from 13.1 percent to 28.6 percent in the same period (Prasad 2004, p. 55).

Migration of growth clusters and labor

China has seen a north- and westward migration of its growth clusters. Starting in the coastal regions of the South, economic dynamics has spread to the other regions through backward linkages. These were the production of intermediate inputs and migratory workers. It is estimated that the number of rural labor migrants rose to around 60 million in 2000, 94 million in 2002, and 114 million in 2003 (Ping and Shaohua 2005). These workers migrated from the interior to the coastal growth poles. Regional disparity can be regarded as the key cause of labor flows. Eventually, the growth clusters themselves started to migrate to the West.

Entrepreneurship

An important condition for growth is the entrepreneurial spirit of the Chinese. They have been traders historically; they enjoy accumulating family wealth. These characteristics together with the traditional value orientation are a sturdy basis for entrepreneurship and represent powerful incentives for effort and growth. Entrepreneurship is the essential driving force for economic

growth and development, as Schumpeter (1942) has stressed in his capstone book “*Capitalism, Socialism and Democracy*”.

Resource Inflows and the Balance of Payments

China has a surplus in the current and the capital and financial account for many years. It accumulates reserves (Table 6.2). The capital and financial account includes foreign direct investment and portfolio flows. In 2004, capital inflows of US\$ 54.9 billion were foreign direct investment (3.3 percent of GDP and about 7 percent of gross capital formation); in 2003, US\$ 52.8 billion were foreign direct investment (again approximately the same percentage of GDP). FDI inwards in 2005 was US\$ 60 billion. It is estimated that FDI in 2006 has the same magnitude. In addition to the ample supply of domestic capital due to the high savings rate, China succeeds in attracting foreign capital, and very often this also includes modern technology, management and market access in foreign countries. Some economists question the need of such a high capital inflow. However, seven percent of gross capital formation does not seem extraordinarily high.

In 2004, both the current account and the capital and financial account had a surplus of US\$ 179.5 billion (10.6 percent of GDP). Taking into account errors and omissions, China accumulated US\$ 206.1 billion of reserves in that year. In 2003, the current account and the capital and financial account together had a surplus of US\$ 143.6 billion. If US\$ 45 billion used for the recapitalization of the banking system are subtracted, the surplus is reduced to US\$ 98.6 billion.

Table 2 China's current and capital account balances

	Current account balance	Capital and financial account balance	Errors and omissions ^a	Increase in gross official reserves
Annual average 1990-2004	+ 15.2	+ 18.0	- 10.6	+ 22.6
2003 ^b	+ 45.9	+ 52.8 ^b	+ 18.0	+ 116.7
2004	+ 68.6	+ 110.7	+ 26.8	+ 206.1
2005 ^c	+129	+138 ^d	-	+204

^a Includes counterpart transaction to valuation changes. - ^b 2003 figure includes the counterpart transaction to the US\$ 45 billion of foreign exchange reserves used for bank recapitalization. With this figure, the capital and financial balance would show a surplus of US\$ 162 billion. - ^c Estimate. - ^d Including errors and omissions.

Source for data: IMF, *International Financial Statistics*, Online Database, January 2006; Own Calculation. World Bank, *Quarterly Update*, February 2006.

China's open door policy for foreign direct investment used joint ventures between foreign investors, i.e. multinationals, and state-owned enterprises in its early stage. Now whole ownership of firms by foreign investors is allowed. Foreign owners can buy out their Chinese partners. Meanwhile, China's new strategy now also includes foreign direct investment abroad. Its outward FDI in 2005 amounted to US \$ 6 billion; it is used to acquire foreign enterprises and built up Chinese multinationals.

2 Property rights

Changes in property rights are crucial in transforming a communist society into a market economy. China has developed its property rights in a step by step fashion. Property rights are far from their interpretation in market economies.

First, China introduced land use rights for peasants (outside the collective) in the Deng Xiaping reforms. With these reforms and freeing prices for some crops, agricultural output rose

considerably. Land use rights are leases on the use of land. They are granted for 30 years. According to the Land Management Law of 1998, a contract between the collective land owner and the private farm household defines the rights and duties of both parties (Article 14). A secondary market for land use rights exists; it has been constitutionalized in 1988 (deLisle 2004). Peasants can rent out the land, having to pay though a fee to the village administration. Permission is needed. Extension of the land use may be possible.

However, land use rights do not comprise full ownership. Land cannot be sold, it cannot be mortgaged. Although land readjustments are restricted (Article 14), peasants are not protected when the land is allocated to expanding firms or is needed for residential construction. Compensation, if any, is low; for rural land it is at about one tenth of the market value. De facto local bureaucrats have ultimate control and ownership of rural land. Since peasants cannot negotiate directly with locating firms and developers, they cannot use the proceeds from selling land for investment in firms and for moving to the city. Not allowing to marketize rural land impedes to reduce rural poverty and hinders structural change. Apparently, there are ideological constraints in creating property rights. Establishing a rural landowning class would undo the Mao reforms in which rural landowners were expropriated; quite a few of them were executed.

Second, municipalities were allowed to open up firms (township and village enterprises). Under conditions controlled by the party, land can be used for industrial purposes. Nevertheless, township and village enterprises, representing collectives, remain under the control of local officials and several supervisory bodies. China knows a variety of ownerships for firms, including besides local collective ownership, private-public partnerships and private ownership. Foreigners, including multinationals, can own enterprises. Enterprise ownership is linked to the ownership of land and thus hinges on the permission of the party officials. Private ownership depends on which sectors of the economy are at stake and it also depends on provinces and localities. If an entrepreneur has good connections with the local government, land use rights may not be limited in time. When there is a change in leadership, the contract may be void. The relationship of the former leader and the current leader is crucial. However, the local government has the right to take over your property whenever it likes; there is no way to prevent this. Entrepreneurs have been expropriated if they do not have a land use title, even when the shares of their firm were already transacted in Wallstreet.

Third, China allows the conversion of agricultural land into residential uses for individuals. In contrast to rural land, most of urban housing is now privately owned; residential leases run for 70 years (some for 50 or 40 years). Property owners elect their landlord committees in order to protect their property against local party politicians.

All these property rights can be bequeathed (within the limited period they are granted). Property rights may be extended.

Property rights are far from being clearly defined; neither are they strong. They are in a flux and mushy. The characteristics of property rights have simply followed what is needed for high growth. A crucial constraint is that the new rights established do not jeopardize the position of the party.

Property rights are rarely respected when an expanding firm needs new location space, when a private investor puts up new residential structures and when the government pursues an infrastructure project. A pay compensation requirement with respect to real estate was to be written into the constitution (planned in 2004). Implementation of the property rights system and of individual claims is, however, far from being established. Compensation is controlled by the state. Corruption is prevalent, the court system is in development, legal advice is scarce. The rule of law is one of China's institutional deficits. A clear bankruptcy law that would allow to sort out property claims in the case of economic failure also does not exist.

A property right seems to exist as long as it is justified by economic success. This form of mushy and adjustable property right may be appropriate to the Chinese situation where everything is in flux. Apparently, these adaptable property rights create enough certainty for people to invest in the initial periods of transformation of China when expected yields are high. They are likely not to be sufficient later on when yields become somewhat lower; lower yields require more certainty. The approach to property rights is also the result of a process of transforming a communist society in which property rights are not supposed to exist. Witness President Jiang Zemin's doctrine of the "Three Represents" according to which the entrepreneurial class – usually the class with private property – is to be included into the communist party.

With its entry to the WTO, China has taken over the obligation to respect intellectual property. Its laws and regulation must be amended so that they are in conformity with the

“Agreement on Trade-Related Aspects of Intellectual Property” (TRIPs). This applies to patents, trademarks and copyrights including production technologies, fashion and audio and video products. It requires that the Chinese government forcefully fights product pirates.

3 Structural issues

State-owned enterprises

State-owned enterprises account for less than one third of GDP (2005, Economist 2006). They do not include municipal firms that are counted as private. Another source quotes 38 percent of GDP for the state-owned firms (Pei 2006). The bulk of the non-state sector are municipal enterprises. There are only 40 private firms among the 1,520 companies listed on domestic and foreign exchanges (Ibid). The state is the monopolist or the dominant player in the most important sectors, namely in steel, automobiles, energy, transportation and in the service sectors banking and telecommunication.

State-owned enterprises make losses and are over indebted; they have to be restructured or given up. This means unemployment and a lacking insurance coverage for the unemployed in the case of illness and during old age, representing a potential area of severe future conflict.

In the past, China's policy has been to circumvent the restructuring of state-owned firms simply by letting new activities develop. In this way, the relative importance of state-owned firms declined. Due to the new firms, the J-curve effect with a valley of tears and a decline of GDP, experienced by the post-communist countries of Central and Eastern Europe, was prevented (see below). The losses of the state-owned firms are covered by credits from state-owned banks which are under pressure from local politicians to provide financial support to them. Eventually, the loans will become non-performing.

The banking sector

Banks are state-owned, for instance the four big commercial banks. Foreign ownership is limited to 25 percent. Loans of the state-owned banks are given to state-owned firms and thus lead to unproductive use. Moreover, banks are under pressure from local politicians to provide credits to

municipal and state-owned firms. Fully functioning bond and equity markets are not yet developed. More than half of investment is self-financed.

The Chinese banking system is fragile. Liquidity is high, banks hold excessive reserves and inter-bank interest rates are low. The stock of the banking system's non-performing loans is estimated to have amounted to about 40 percent of GDP in 2004 (Blanchard and Giavazzi 2005). Other sources estimate the percentage of total bad loans in GDP to 21 and –with a higher legacy – to 56 (Roubini and Setser 2005, Tables 1 and 2). According to the IMF, the proportion of non-performing loans to GDP has fallen in 2005. Recapitalizing the banks while assuming a recovery rate of 20 percent would add 30 percentage points to the debt GDP ratio, bringing it up to 55 points (Blanchard and Giavazzi 2005).

Banking deposits are the main form of banking. Apparently, the Chinese saver has confidence in the banks, in spite of their fragile situation. Recapitalizing the state-owned financial institutions from time to time adds credibility to the financial system. It cannot be ruled out that this credibility will be lost instantaneously at some time in the future and a bank run follows.

Even if banks were advised by the central government to learn to make money, the local party leader would pressure the banker to provide credit to the state-owned and municipal enterprises. Consequently, the banking system represents a risk factor in development. A bank failure and a bank run have to be prevented. From time to time, the government has to recapitalize the state banks with sizable amounts. In 1998, the government spent US\$ 32.6 billion (about 3½ percent of GDP) in order to save the four existing wholly state owned commercial banks (Prasad 2004). In 1999-2000 the government injected about US\$ 169.1 billion (RMB 1.4 trillion) or 14 percent of GDP via state owned asset management companies into the financial sector in order to clear the balance sheet of the state owned commercial banks (Ibid); bad loans in the order of US\$ 168 billion were taken off the banking system's books in 1999 and given to four asset management companies (Roubini and Setser 2005). In 2003, US\$ 45 billion – about 4 percent of GDP- were used for the same purpose. The People's Bank of China transferred the amount to a holding company in order to recapitalize two of the four state-owned banks (China Construction Bank and the Bank of China). The banks will not convert these assets into renminbi and retain them as international reserves. This means that the risks in the central bank's balance sheet increase. In 2005, an amount of US\$ 15 billion was given to the Industrial & Commercial Bank of China.

Problems with non-performing loans also exist in rural credit cooperatives and smaller city commercial banks.

Thus, China uses its international reserves to clean up the balance sheets of its banks. It is amazing that China's reserves relative to GDP amount to a similar proportion as the non-performing loans of the state banks. Viewed this way, its international reserves represent an insurance against a failure of the banking system. Following this view, it is less justified to condemn China's accumulation of international currency reserves.

After 2006, China will have to admit foreign banks according to its WTO commitment. Then Chinese banks must be competitive, at least a major part of them. Whereas this means that China will have to open its banking industry, it does not imply that the capital account will be fully liberalized (see below).

One option to continuing the piece-meal approach of cleaning up the banks' balance sheets from time to time would consist in an explicit policy of improving the risk management of banks, thus strengthening the banking system's balance sheet. This would mean to get old non-performing loans out of the system and prevent new ones from arising. This policy would conflict with the still important role of loss-making state-owned enterprises and the party's pressure on the local level. Another alternative is to follow a good bank – bad bank policy as Japan did in its crisis in the 1990s and put all the losses into one or several institutions (which the government would have to recapitalize from time to time). The good banks then could become competitive banks, striving even for competitiveness internationally. This option can go together with separating deposit taking and lending institutionally, for instance turning the existing banks with non-performing loans into closed mutual funds, holding assets of state-owned firms. The government would have to take over some of the write-offs of the assets; still the assets may be risky for the public audience. Finally, capital markets with reliance on equity capital have to be developed in order to reduce the role of the banking system.

Regional imbalances

It is not surprising that such the strong economic growth was not uniform in China's regions. Strong growth tends to be unbalanced. A strong dynamics prevails in the urban centers, especially those of the coastal regions, whereas the west and the north are not growing as

strongly. There is a stark divide between the urban centers and the country side. Migration of rural workers and the movement of the growth centers inward alleviate this structural problem over time.

Unemployment

Unemployment is high, given the high GDP growth rate. The urban unemployment rate is estimated at about 5 percent (Prasad 2004,p.52). Surplus labor in the rural areas amounts to about 150 million. 60 percent of the population lives in the rural areas.

A distorted economy

Imbalances can be seen as a vehicle to achieve high growth. But at the same time, they imply serious adjustment costs and the risk of a crisis. The strong expansion of the export sector requires sector readjustment later on, the investment boom may have to be corrected at high costs, the real estate boom may end in a bubble that bursts and a banking crisis may have a serious impact on the real side of the economy. Major distortions arise from falsely set prices due to institutional conditions: Prices for credit, land, energy and the environment - some also argue for the renminbi – are too low, leading to a distorted allocation (Roubini and Setser 2005). For instance, cheap credits favor capital relative to labor and lead to substituting labor through capital; they imply an investment and a real estate boom.

4 Monetary, fiscal and exchange rate policy

Money supply and inflation

The money supply (broad money according to the IMF definition) has been growing in the range of 13.1 percent to 19.6 percent in the period 2000-2005 (IMF 2005c, Table 4; World Bank 2006a, Table 1). Domestic credit has been expanding at a similar annual average rate (16 percent for 2000-2004), the rates fluctuating between 9.2 (in 2004) and 29.3 percent (in 2002). Consumer price inflation, being mainly driven by food prices, was between 0.26 percent (in

2000) and 3.99 percent (in 2004). These recent inflation rates are much lower on average and are far less volatile compared to the one and a half decades before for which data are available. Whereas the inflation rate stood at 18.3 percent in 1989, only one year later it had fallen to a comparably low 3.1 percent, then reaching its maximum of 24.2 percent in 1994. Inflation pressures may arise in the future, for instance when wage demands of workers surface, when environmental costs are felt and when energy becomes more expansive and other constraints materialize.

The high current account surpluses and large capital and portfolio inflows make an independent monetary policy difficult. These surpluses increase outside money. The Chinese Central Bank, the Peoples Bank of China, purchases foreign exchange and builds up reserves. In the period 1993 - 2005 the annual average built-up of reserves amounted to US\$ 61 billion; in the years 2001 to 2005 it was US\$ 131 billion. And from 2003 to 2005 the yearly built-up actually exceeded the value of 200 billion US\$. The bank's international reserves stood at US\$ 819 billion in December 2005 (a little less than Japan), accounting for 40 percent of GDP (in 2004). The accumulation of reserves can be seen as swapping Chinese export goods for US Treasuries and other papers; these papers are under the risk of losing value with an appreciation of the renminbi.

Capital account controls

Since there is the need to sterilize monetary expansion, the Bank of China sells sterilization bonds to the state-owned banks. From 2003 to 2004 the stock of sterilization papers increased by about 265 percent, from 2004 to 2005 it increased by about 88 percent or by a value of US\$ 117 billion - reaching a value of 250 billion US\$ for the overall stock of bonds (other data in Roubini and Setser (2005)). However, this vast increase covers only slightly more than half of the increase in reserves. Not all of the outside money can be sterilized; thus there is an increase in liquidity showing up in low inter-bank interest rates and the strong increase in credits.

Capital flows are controlled. Whereas current account convertibility exists since 1996, the capital account has not been liberalized. In April 2006, the permission for domestic institutional investors to do transactions outside China was introduced; private citizens can buy foreign

currency up to 20,000 US dollar instead of 6,000 US dollar. Only authorized institutions are allowed to perform transactions in foreign currency. China follows a cautious and gradual approach to capital account liberalization. Given the fragility of the banking system, this approach is appropriate. The Asian crisis and other currency disruptions, for instance in Sweden in 1992, have shown that it is risky to liberalize the capital account when the banking sector is not sufficiently regulated and when foreign exchange rates are rigid and financial markets underdeveloped, for instance when an equity market is lacking. It is therefore reasonable to first regulate the banking sector and make it robust. Moreover, the foreign exchange rate can be made flexible prior to capital account liberalization. It also would be risky to introduce resident's convertibility immediately and fully. Market participants would then place their money abroad looking for higher rates of return and for a diversified risk. That is why the option to introduce mutual funds is discussed that can absorb the savings of Chinese households, including entrepreneurs (see above).

Exchange rate policy

China uses a peg for the renmimbi. Since June 21, 2005 the renmimbi is no longer tied to the US dollar only, but to a basket consisting of the US Dollar, the euro, the yen und and the Korean won. In addition, the Singapore Dollar, the British pound, the Malaysian ringgit, the Australian dollar, the Russian rouble, the Thailand baht und the Canadian dollar are taken into consideration. The weights of the currencies in the basket are not disclosed by the Chinese central bank; they are supposed to reflect the importance of China's trading partners. Disclosure of the weights would allow speculators to guess where the renmimbi might be in the future and when the central bank is likely to intervene.

China's medium-term strategy seems to consist in achieving a greater mix and a better return for its high international currency reserves. Such a reorientation would benefit the euro and would put the US dollar under pressure.

The nominal and the real effective exchange rate of the renmimbi depreciated sharply through the 1980s and the early 1990s. The nominal rate (renmimbi to the US dollar) depreciated from 1.5 in 1980 to 8.62 in 1994 (Figure 2). The real effective exchange rate index (which is the index of the inverse of the IMF's real exchange rate index) rose from 33 in January 1980 to 150 in

June 1993, with 2000 set equal to 100 (in contrast to the index used by the IMF an increase in this index means a depreciation). This development is consistent with China's transition to a market economy and its opening up for trade, including the sizable reduction in import tariffs. Since 1994, the renmimbi appreciated relative to the US dollar until 1998, i.e. the renmimbi/dollar rate fell, and then was kept steady at 8.28 until 2004. In 2005, the renmimbi appreciated by 2.6 percent to a rate of 8.07. This looks like a soft crawling peg to the US dollar. In real terms, the renmimbi appreciated from 1993 until 2001, then depreciated, and appreciated again in 2005. The revision of the macroeconomic data from December 2005 indicate that real appreciation was ten percentage points higher than previously estimated (World Bank 2006a, p. 21).

During the Asian financial crisis in 1997, China kept the nominal rate to the US dollar steady, whereas the real exchange rate appreciated. This was due to the fact that the other Asian currencies depreciated heavily relative to US dollar and consequently also to the renmimbi.

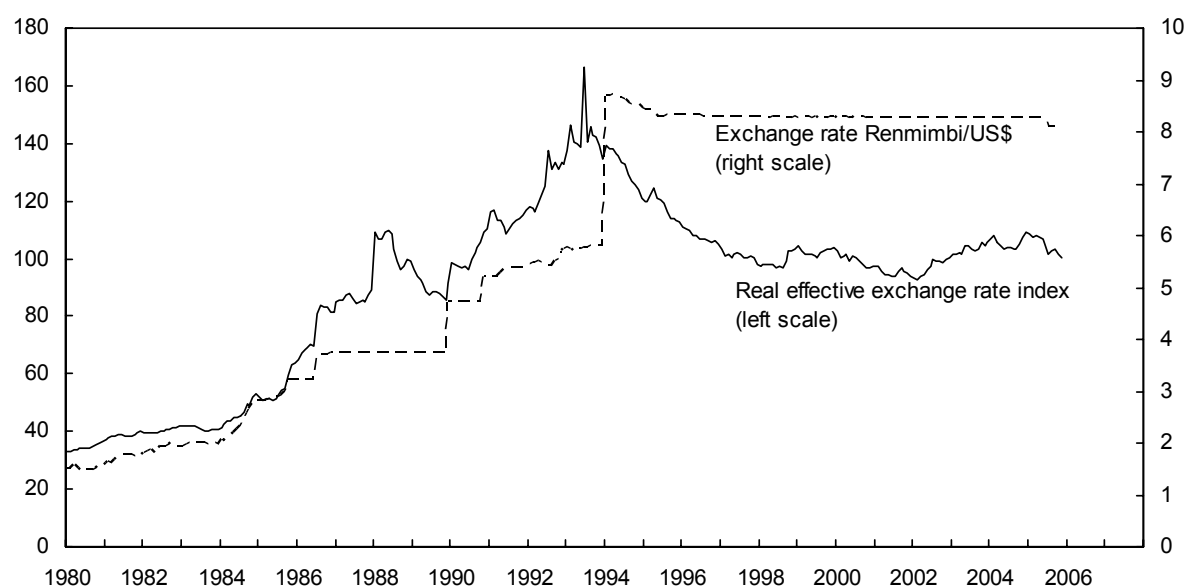


Figure 2 Renmimbi: The nominal and real exchange rate ^a

^a Monthly values.

Source: IMF, *International Financial Statistics*, March 2006, own calculation.

There is no reason why the renmimbi should not be more flexible. In the presence of large current account surpluses and capital inflows, exchange rate flexibility would help to pursue an independent monetary policy. However, it is unclear in which direction a flexible renmimbi would go. This question is related to the heavily debated issue whether the renmimbi is undervalued.

Renmimbi undervalued?

In this debate, an under-valuation of the renmimbi is seen as having the advantage to stimulate exports and to be a strong impulse for investment and growth and at the same time a vehicle for structural change. The disadvantage would lie in a higher inflation rate since inflation is imported with an undervalued currency. Moreover, an undervaluation means higher renmimbi prices for agricultural products since these products are quoted in US dollar and China is a price taker. This in turn implies a lower real income of industrial workers. Furthermore, the sector structure would be distorted in favor of the export industry. Adjustment costs could arise in having to correct this distorted allocation later on. Finally, a future depreciation of the reserve currency, especially the US dollar, would mean that the value of accumulated international reserves would be partially lost. Moreover, the renmimbi value of the state's bank capital (denominated in US dollars) falls; the banks' capital to asset ratio is reduced ((Roubini and Setser 2005). Of course an undervalued currency would have negative effects on China's immediate competitors, among them Pakistan, Egypt and the Maghreb states.

Economic forces pull the exchange rate in different directions (Table 3). Some forces clearly work in favor of an appreciation. Following the trade flow view, an increase in labor productivity and improved access to foreign markets generates pressures for appreciation. Moreover, the trade account surplus is seen to suggest an appreciation. Often, the bilateral current account surplus with the US is used as an argument. However, as already discussed in Chapter 6, China's 2004 bilateral trade deficit with the US only amounts to US\$ 80 billion (and US\$ 111 billion including Hong Kong); the figure is not too different from the bilateral surpluses

of the EU, Japan and the oil-exporting countries with the US. This suggests that a unilateral appreciation of the renmimbi by China would not solve the US problem. Reducing regulations that impede imports work in favor of a depreciation.

Following the capital flow view, labor productivity growth and improved market access would also operate in favor of an appreciation, making China more attractive for foreign capital. This would also hold if a more reliable rule of law would be introduced. Other factors would work in favor of a depreciation, among them a too high inflation rate (representing a real appreciation but requiring a depreciation) and a liberalization of the capital account. Thus, resident's convertibility with a future outflow of domestic savings would increase demand for US dollars (and euros) and would imply an increased supply of the renmimbi, dragging its value down. Consequently, the existing capital controls for residents imply an overvalued renmimbi. In terms of macroeconomic equilibrium, lacking full employment can be interpreted to indicate that internal equilibrium is not fully established, indicating the need to depreciate.

Table 3 Factors influencing the renmimbi exchange rate

	Appreciation	Depreciation
Trade flow view	Productivity growth of the export sector	Inflation
	Access to foreign markets	Unemployment
	Trade surplus	
Capital flow view	Labor productivity growth in the export sector (larger capital inflows)	Resident's convertibility
	More certainty in the rule of law, respect of property rights	Political uncertainty

Economic models run into difficulties in accommodating all these and other factors, including expectations. Applying the approach used by Wang (2004) for determining the medium term path of the real exchange rate (see chapter 6), one may conclude that the renmimbi is not

substantially undervalued (Wang 2004, p. 25).² Existing studies come up with a wide range of estimates of under-valuation, ranging from zero to nearly fifty percent (Dunaway, S. and Li, X. 2005). Different methods used, diverse explanatory variables included and instability in the empirical underlying economic functions in a rapidly growing development country are reasons for the difference in estimates.

Fiscal Policy

The public budget deficit has been in the range of 1-3 percent of GDP in the period 1999-2005, for instance 1.1 percent in 2006 (forecast). Fiscal policy was slightly expansionary. Subsidies to state-owned enterprises make up one percent of GDP. Public debt stands at about 24 percent of GDP (2004). Although this is low compared to other economies, implicit liabilities of the state are high if a system of social insurance with health payments and pensions would be developed, if the rural-urban divide would mandate additional expenditures of the government to keep social unrest from exploding and when eventually environmental degradation will have to be amended. Explicit and implicit debt are estimated at 49 per cent (IMF Staff Report China 2005, p.42). Moreover, center-local fiscal relations are crucial. The central government provides transfers to local governments. Local authorities borrow through public enterprises, thus circumventing the formal ban on direct borrowing. Clearly, implicit liabilities arising in this way have to be limited.

5 Chinese Policy Issues in the Future

The crucial issue for the future is whether the growth process of the last twenty five years is sustainable. The high savings rate, entrepreneurship, the migration of the growth clusters to the West, surplus labor, the expansion of the real estate and construction sector and exports will all

² According to this approach there are three forces affecting the real exchange rate: With respect to trade, productivity growth in the tradable sector relative to non-tradables (Balassa Samuelson effect) is a factor leading to an appreciation of the renminbi. An increase in net foreign assets also implies an appreciation. In this model, only a greater openness means a depreciation.

be drivers of growth. Moreover, China seeks to move out of its position of low-cost producer by pushing into high-value lines of production by improving its research and human capital formation. As opposing forces, structural issues and bottlenecks will represent constraints for the growth process. The structural problems already discussed such as the inefficiencies and capital losses of the state-owned firms and the fragility of the banking sector will continue. Other weaknesses will come to the fore, such as the bottlenecks in infrastructure, environmental degradation and a stronger demand for energy. Yet another major area is inadequate social security. Finally, the weak institutional fundamentals can affect growth dynamics. The institutional deficits are likely to be more relevant for the sustainability of the growth process than the economic bottlenecks.

Infrastructure

Congestion in infrastructure is likely to arise. In order to keep congestion costs from increasing excessively, more funds will have to be invested into infrastructure projects which tend to have a lower capital productivity than investment in the private sector.

Safety and environmental constraints

China will have to pay more attention to accidents at the work place and in industrial production, for instance in the chemical industry. Moreover, environmental constraints will make themselves felt more and more. Toxic industrial dumping in the countryside has to be halted; toxic dumps have to be amended. Air and water pollution and the deterioration of the soil become less and less acceptable with rising income. They cause social costs in terms of serious health damages. All these factors will increase the costs of production. Moreover, China as an international player will eventually want to be part of multilateral solutions to global environmental problems such as reducing CO₂-emissions.

Energy

Energy intensity has to be reduced. Retail gasoline prices are still lower than those in the US. The cheap energy helps to keep inflation in check, but it distorts energy use. China's appetite for energy and raw materials will drive up world market prices and this will increase energy and

resource costs for China itself. China's oil demand is projected by the Energy Information Administration to more than double and reach 14.2 million barrels per day by 2025, with net imports of 10.9 million barrels per day. Furthermore, China is both the largest consumer and producer of coal in the world. It should be mentioned that China faces major energy-related environmental problems. According to the World Health Organization, seven out of the ten most polluted cities in the world are in China.

Labor

Registered unemployment in urban centers and townships has increased due to the restructuring of state-owned firms. The excess of rural workers is estimated at 150 million. About 10 million new workers are joining the work force each year. Eventually labor will become more scarce.

Social policy

Protection against health hazards and old-age pension insurance is inadequate. With the decline of the old state-owned enterprises, which provided such an insurance, a mixed system has developed where for instance part of the health costs are covered by firms, but a large part is self-paid. In 1988, 44.1 percent of health costs in the cities were estimated to be self-paid. In the country side the percentage is much higher at 87.4 percent (Blanchard and Giavazzi 2005, Table 10). The inadequate insurance arrangements for health and old-age are one of the reasons for high savings. The private savings needed as a substitute for insurance are inferior in terms of efficiency to an insurance solution. Health insurance, for instance, can be provided more efficiently, if a large quantity of people with different health risks is insured. Apparently, China has different options than following the European social model. However, contingent liabilities of the state-owned firms from health care and from pensions may add to public debt. The need to develop a social insurance system will put a burden on the public budget, increase debt and require higher taxes.

The growing inequality in income distribution and the rural–urban divide represents a severe risk for the power of the communist party. Discontent among peasants for reasons of relative low income, high costs of health care, insufficient pensions in old age and arbitrary decisions of bureaucrats with respect to land use rights including arbitrary local levies may lead to social

unrest in the country side that traditionally has played an important role in political changes in China. Massive lay-offs in the rust belt, toxic industrial dumping affecting farming, fishing and water; industrial accidents add to the unrest. Social upheaval can threaten the ruling party. That is why rulers have fear of the Latin-Americanization of the country.

Another growth paradigm

It can be argued that the unbalanced growth in China (exports and investment instead of consumption, foreign direct investment instead of financing from domestic savings, credit expansion in favor of production, production and investment instead of social protection, pollution in favor of production, stimulation of urban centers relative to rural areas) cannot be sustained and that another growth strategy with less distortions is required (Roubini and Setser 2005). In any case, too low scarcity prices for land, capital, energy and the environment have to be corrected through institutional changes.

Demographic challenge

The aging of the population will aggravate these social policy issues in the future. Public health insurance and old age insurance will be more difficult to organize when the median age of the population increases. The systems are harder to finance and the economy is likely to become less dynamic with an older population.

Corruption

When rules and institutional frameworks for economic decisions are lacking and when bureaucratic decisions take their place, decisions become arbitrary. Informal relationships, family networks or networks of friends take the place of rules. Those who have the power to decide can hand out favors, usually against some compensation. Corruption is the unavoidable outcome.

Rule of law

An efficient economic system requires a reliable institutional frame of reference. Many decisions of economic agents need a long-run orientation with reliable rules. Arbitrary decisions by

bureaucrats, party officials or government go counter to this requirement. The rule of law therefore is a necessary requirement for a sustained growth process. An important aspect of the rule of law is that rights are given to private firms and households and that the holders of these rights can enforce them. This calls for corruption to be pushed back. In addition, the communist party has to withdraw from intervening in administrative and court decisions. Rules must be stable in order to be credible.

The demand for a stable institutional set-up is not a sufficient condition for strong growth; economic freedom for the individual to decide his affairs is another necessary stipulation. This mandates that the party defines a decision space for the private sector, guaranteeing economic freedom. To respect the dignity of man goes beyond the demand for economic freedom. All these requirements can limit the power of the party.

Democratic challenge

The actual Chinese system of governance has been described as neo-Leninist state, blending a one-party rule and state control of key sectors of the economy with market mechanism and an open economy (Pei 2006). Patronage secures support from key constituents, including the bureaucracy, the military and the business community.

It is an open question to what extent economic freedom will start a process in which citizens will eventually demand political freedom. A major aspect is that economic agents will insist on the right to elect those who make the laws governing economic freedom. Whether this demand will be forcefully articulated in China in the future, cannot be answered at this stage.

One answer is that the Chinese derive an immense happiness from being and becoming rich and will be satisfied (for a long time) with a situation in which the political party just lets them get rich. Then economic freedom is all there is. In this scenario, the government is more or less authoritarian. The disintegration of the Soviet Union is seen as a negative example by the Chinese party.

Another answer is that the communist party will introduce some cautious steps towards decentralized democratic procedures, for instance letting mayors be elected on a decentralized level. Among the political leaders there is fear that the communist party will fall apart and that the country will break up. Again, the disintegration of the Soviet Union serves as negative

example. The result may be a cautious attempt of controlled capitalism, which then may serve as a prototype for other countries, for instance the Arab oil countries and some developing countries. The least likely case is the third answer, a full move towards democracy, Western style.

Apparently, economic fundamentals may impact on the political system and vice versa. Thus, in generating Chinese multinationals, the issue arises how China's products are viewed outside China and whether their image includes the characteristics of freedom. Social inequality may lead to political unrest. Lower growth rates may put the political system into question. And political turmoil may jeopardize the economic growth dynamics of the past.

An unstable China, for instance with a growing unrest of the rural population, will represent a threat to the world. Political rulers may then be tempted to play with nationalist sentiment to bolster legitimacy.

Taiwan

Taiwan may be a bone of contention in international relations in the future, especially when China is becoming more powerful economically and will be challenging the leading economic and political position of the US.

Hard or soft landing

It is likely that constraints, such as the increased energy demand, environmental degradation, the need to introduce some social insurance and the potential necessity to take equity into consideration, will affect the growth rate. They clearly represent risk factors. From a political management point of view, all these constraints may be seen as issues that can be solved in a technocratic way if political leaders have sufficient wisdom. But more constraints mean less growth. This would mean a lower growth rate of say 6 percent annually in the next twenty years. The movement of workers from the low-paid regions in the West to the urban centers in the East may continue for some while, raising labor productivity. However, capital moving from the East to the West may find lower profitability there. Besides the constraints, the growth prospects depend on whether China can keep up or even raise the increase in total factor productivity by a continuous stream of original innovations.

A scenario for the next 25 years could be as follows. China grows at a rate of 6 percent per year, the US at 2.5 percent. The world grows at 3.5. Using the revised GDP data, putting China at 4.7 percent of World GDP (in 2004) and the US at 28.4 percent (in 2005), China would be at 8.5 percent of world GDP, the US at 22.1, using market prices. Thus, in 25 years China would represent 38 percent of the US GDP, compared to 16.6 percent in 2005. The economic core of the world economy is slowly, but steadily moving towards China. Of course, such calculations are highly questionable. Economic growth knows booms and busts, i.e. a constant growth rate is unlikely, even in a stable political environment.

A hard landing in form of crisis cannot be excluded. Such a crisis may come from the banking system, when non-performing loans can no longer be covered by accumulated reserves. It may arise from the real side of the economy, if over-investment and a distorted capital stock forces major readjustment. It may also appear if the world economy moves into a slump and if Chinese exports have to compete with other countries in a situation of oversupply. This then could feed into a capital flow reversal with FDI no longer flowing in; eventually a financial crisis may arise. Furthermore, a crisis could emerge from an energy price shock, for instance if an oil price shock that would cut China off its needed energy inputs. Last not least, a political crisis could spill over to the economy.

China's impact on Asia and the world economy

As the world's fourth largest economy, China will have its impact in Asia and on the world economy. Together with Japan, it is already the economic hub of Asia. More than half of its imports come from Asia (52.8 percent in 2003), of which 18.0 percent from Japan (Rumbaugh and Blancher 2004, Table 2.2). It accounts for an import share of six percent of the world's total imports (2004). A reduced growth in China would affect growth elsewhere, especially in Asia. A one-time decline in China's imports by ten percentage points, being consistent with an initial fall in GDP growth by 2.9 percentage points and in investment growth by 5.5 percentage points in real terms, is expected to reduce GDP growth in Asia by 0.4 percentage points (0.5 percentage points in Japan, 0.6 in the Asian newly industrializing economies, IMF 2004, p.10). An economic crisis in China, for instance zero growth for two years, would have severe repercussions.

China's import penetration is strongest in Asia. Chinese exports to Japan make up 18.5 percent of total Japanese imports (2003, Rumbaugh and Blancher 2004, Table 2.1). The corresponding figure is 12.5 percent for the US and 8.9 percent for the EU-15. Historically, Japan had reached a higher import penetration rate of the US market, peaking at 22 percent in 1986.

Appendix Different philosophies for transforming a centrally-planned economy

Three areas of reform

China's success in transforming its centrally planned system into a market economy is best understood when contrasted to the experience in the post-communist countries in Central and Eastern Europe and to the tasks that had to be solved in their transformation process.

In restructuring a centrally planned economy, three main areas of reform have to be distinguished: the creation of a new institutional framework, macroeconomic stabilization and the real adjustment of the firms and sectors on the microeconomic level. In the institutional framework, the rules and incentives of the centrally planned economy have to be replaced by institutional arrangements that allow market transactions, that let firms decide on their production and their investments autonomously and let households determine their consumption, savings and labor supply on their own. A reliable legal framework is imperative, particularly the law of contract and the law of enterprises. Property rights are needed for long-term effects to be taken into account in economic calculations. They are crucial for the incentives of individuals to do business and for decentralizing economic decisions. Above all, property rights establish an area of decisions in which the individuals can move without being influenced by government. Thus, one essential element of the framework of a market economy is from which responsibilities the government withdraws, leaving them to the private sector. Finally, a two-tier banking system, in which the responsibilities of monetary policy and intermediation are separated, can be regarded as an important aspect of the institutional framework.

In the macro-economy, monetary instabilities have to be prevented. One typical problem encountered in the Central and Eastern European countries was the existing excess supply of money. Usually, the excess supply of money was done away with by letting the price level increase. The high inflation rate implied a devaluation of the currency. As a result, there were negative effects on the real sphere of the economy during the transformation process. In order to keep these disturbances smaller, a currency reform was needed, in which a massive currency cut was carried out. Moreover, the newly independent successor states of the Soviet Union and Yugoslavia had to introduce their own new currencies. All these currency reforms remained unsuccessful unless an institutional design for the monetary sector was introduced, in which it

was prohibited, in particular, that the central bank finances government budget deficits with its monetary policy. Another important step was to guarantee the independence of the central bank.

At the core, the transformation had to take place on the microeconomic level, inside the existing enterprises or in creating new firms. After the state-owned enterprises had been converted into separate legal entities (commercialization) and had been privatized, the real adjustment process then had to take place inside the privatized firms.

Different transformation philosophies

In Central and Eastern Europe the discussion was on the big bang versus gradual adjustment.

Psychological aspects and political economy arguments spoke well in favor of the 'big bang' approach. After the collapse of a centrally planned economy, people were prepared to try a new approach and to make sacrifices for it. For example, real wages (we use producer wages for lack of data on consumer wages) in Poland (1990) and in the Czech Republic (1991) fell by more than 30 percent within one year. The mood was that the quicker the necessary and painful steps of adjustment are carried out, the quicker the country gets out of the 'vale of tears'. The Poles have expressed this philosophy with the motto: 'You cannot cross a gorge with two leaps'. When the countries of Central and Eastern Europe introduced the new economic system, they simultaneously changed their political system and introduced democracy. This is another important argument in favor of the 'big bang' approach: there is a narrow time window for reform. If the fundamental social consensus for reform loses momentum, the government can be replaced; then, the reform approach may stall or fail.

As an alternative, a gradual approach was discussed in the early literature on the transformation. The argument in favor of the gradual approach was that the transformation process would turn out to be less hard if the steps of reform were stretched over a longer period of time. But this requires a deep breath for the transformation, particularly a prolonged willingness of people to stand the necessary reform steps. If the willingness to reform is lost in the course of time, the transformation process can come to a halt. The same may hold if the government changes.

The Chinese philosophy of 'crossing the river by feeling the stones under the feet' was a cautious approach to transformation. As the other reforms mentioned above, China had to solve

the same three areas of reform. However, it proceeded gradually by first opening some coastal provinces in Southern China to the free market and eventually extending the liberalization to the coastal regions in the North and then to the whole country. It did not introduce democracy.

The valley of tears in Central and Eastern Europe

The transformation of the centrally planned economies in Central and Eastern Europe involved a collapse of national output, the so-called J-curve of transformation. A crucial reason for this breakdown was that the capital stock of the transformation country, adapted to the old conditions of a centrally planned economy, had become obsolete to a large extent due to the new scarcity relations. Therefore the reform countries had to rebuild their capital stock. This process took time and, moreover, involved adjustment costs. Additionally, the existing human capital had to be integrated into the new factor allocation. Another aspect of the economic breakdown was the institutional vacuum at the beginning of the transformation process, which implied uncertainty over the rules for a longer time.

All the countries in Central and Eastern Europe, Poland, Hungary, the then still united Czech and Slovak Republics, where the reforms started around 1989, had to face a breakdown of roughly 20 percent of their gross domestic product. In Russia where the reforms started around 1991 rather than 1989, it was even more than 40 percent (Figure A.1). The decrease in Lithuania was still stronger. While the breakdown took place at a similar pace, the Czech Republic, Hungary and the Slovak Republic needed more time to recover than Poland.

East Germany experienced a massive breakdown, with industrial production falling to one third of the former level (case study). In contrast, China did not see a J-curve of transformation (Figure A.2). GDP has continuously risen with real growth rates of approximately nine percent per year since the beginning of the reforms at the end of the 1970s. Some reasons have been given for this development already: One was the gradual cautious approach with a long breath. Another factor is that China, still being a developing country at the beginning of the reforms, had only a relatively small capital stock and a weakly developed industrial sector. Therefore it was possible to realize substantial efficiency gains by introducing property rights for land in the rural areas, even though valid for only 30 years and mushy. Moreover, liberalization was taken step by

step from the coastal regions in the South to the whole country. Last not least, as already mentioned, nearly all the countries in Central and Eastern Europe introduced democracy quickly and the voter influenced the transformation process.

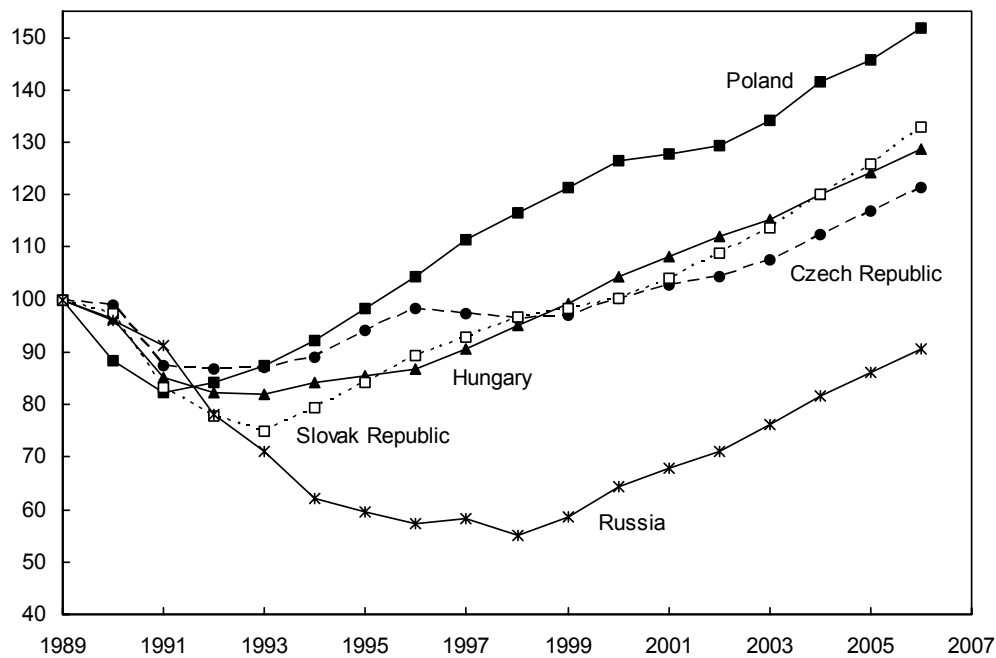


Figure A1 The J-curves in Central and Eastern Europe (GDP in real terms)^a

^a 1989 = 100.

Source for data: EBRD, Transition Report 2000; IMF World Economic Outlook, 2005.

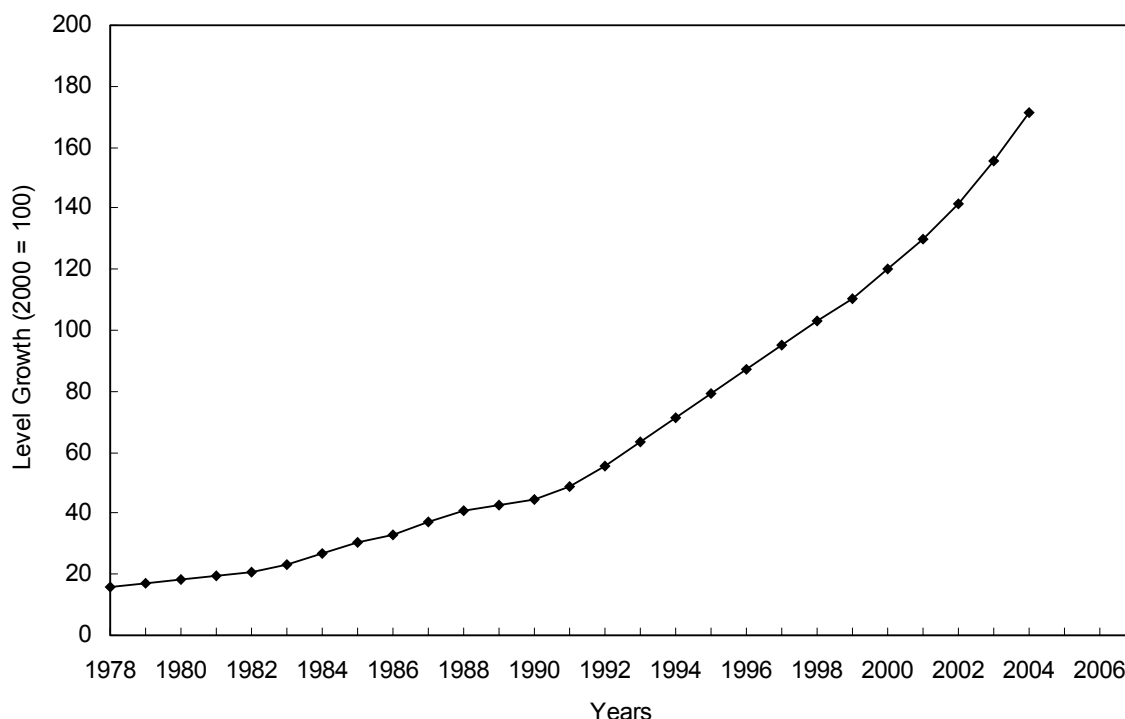


Figure A2 Growth of real GDP in China ^a

^a 2000 = 100

Source for data: World Bank, *World Development Indicators*, Online Database, January 2006.

The disintegration of the Soviet Union

The transformation crisis became particularly apparent in most of the successor states of the Soviet Union. The former Soviet Union, a union of 15 'republics', dissolved at the end of 1991 (Gros and Steinherr 1995). It dissolved into a number of now autonomous states, as the communist party lost its power. The political center was not accepted any longer; it disappeared. The individual states declared themselves independent and pushed through their own laws instead of the rules of the Soviet Union that were in place at that time. But this presupposed that each country created its own new institutional set-up. This held especially true for tax revenue and public spending, but new social security systems and a separate currency also had to be created.

The rouble zone dissolved in 1992 when the countries began to introduce their own currencies, starting with the Estonian crown. The collapse of the Soviet Union and of the rouble zone also involved an almost total collapse of the system of payments between the successor states, and thus the trade relations suffered significantly. As the successor states showed particular patterns of specialization within the former Soviet Union but maintained only minor trade relations with the rest of the world, they were severely hit by the breakdown of trade flows among themselves. The necessity to adapt their production structure to the changed scarcity conditions and to divert their trade to the world markets is therefore even bigger for the successor states of the Soviet Union than for other transformation countries.

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