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The state of China's institutions to underpin sustainable economic growth – China's institutional flaws and the prescription set forth in the Eleventh Five-Year Plan –

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The state of China's institutions to underpin sustainable economic growth

– China's institutional flaws and the prescription set forth in the Eleventh Five-Year Plan –

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Summary

1. Despite twists and turns, China has achieved rapid economic growth during the past quarter of a century. Charting a 9.5% rate of real GDP growth during the period from 2001 to 2005 under the Tenth Five–Year Plan, there have been numerous studies highlighting its high economic growth potential. However, as exemplified by warnings of the "risks of the concentration upon China", views on the future course of the Chinese economy are mixed.
2. To realize sustainable economic growth, the institutional conditions necessary for such growth must be satisfied. Moreover, a rule of thumb is that the more developed a country's institutional framework is, relative to its income level, the more likely it is to achieve high economic growth.
3. An overview of China's institutional development relative to its income level reveals that it has highly–developed institutional frameworks in comparison to countries of similar income levels in terms of: (1) good health and hygiene conditions, (2) the formation of a competitive market environment through the alleviation of market entry regulation toward non–public owned enterprises and the abundance of suppliers, and (3) the range of inputs necessary for technological progress (such as business–academia collaboration and investment in research & development) against a backdrop of fierce competition and government assistance in research and development.
4. On the other hand, China is also striking in terms of the lag in development of its financial system and financial weakness of its banks, even in consideration of its low income level. In the background are the lingering "vestiges of a planned economy" such as opaque rights and obligations among state–owned enterprises, state–owned commercial banks and government and culture of interdependence. Furthermore, China also faces

challenges in terms of the protection of property ownership. Its lag in terms of the spread of higher education relative to the level of income is also a source of concern. In addition, it is undeniable that the application of discriminatory systems/institutions in terms of geographic regions and occupation and gaps in institutional development may serve to solidify social strata and lead to political and social destabilization.

5. The Chinese government is far from being oblivious to the above–mentioned institutional flaws. The Eleventh Five–Year Plan sets forth various measures for institutional reform. That said, the foregoing flaws are oft–repeated problems. Countries succeeding in institutional reform share many common traits. In China, the low level of freedom of speech and government's accountability are weakening the incentive for institutional reform by, for example, making it difficult to break down vested interests. In reality, they are serving as distant causes for the rise of mass petitions, protests and riots in recent years. There is a growing need for political reform in order to achieve sustainable growth. Given the Chinese government's realization of the necessity for innovative political reforms, the future course of action and its results deserve close scrutiny.

1. Introduction – the issue and perspective of analysis

(1) The optimists and pessimists

Despite twists and turns since adoption of the Reform and Open–door Policy, China has achieved high economic growth averaging 9% per annum during the past quarter of a century. China's real GDP growth reached 9.5% during the period from 2001 to 2005 under the Tenth Five–Year Plan. Furthermore, driven by China's accession to the World Trade Organization (WTO) in December

2001, foreign direct investment (in actual terms) rose to US$274.1 billion during the same period. As the foregoing shows, the performance of the Chinese economy during the past five years has attracted widespread attention.

A number of studies focusing upon China's high economic growth potential were published during this time. The most typical being the series of papers by Goldman Sachs which shed light upon China as a country with high growth potential along with Brazil, Russia and India (Wilson and Purushothaman (2003), O'Niell et al. (2005)). Of these countries referred to collectively as the BRICs, China is predicted to overtake Japan in 2016 and the US in 2041, growing to be the largest economy in the World (Wilson and Purushothaman (2003)).

Meanwhile, there have also been deep–rooted concerns regarding the Chinese economy during the Tenth Five–Year Plan. These concerns are expressed most succinctly by the phrase "risks of concentration upon China". There has been wide media coverage on sources of concerns regarding the Chinese economy and ultimately political and social stability, such as (1) the shortage of electrical power and water, (2) the shortage of migrant labor and the rise of wages in coastal areas, (3) serious environmental concerns, (4) overheating of investment and the rising risks of a resurgence of non–performing loans, (5) surge of foreign exchange reserves and the escalation of trade friction, (6) increase of demonstrations and petitions and (7) the spread of the severe acute respiratory syndrome (SARS). Given the emergence of these events, many assert that it would be difficult for China to maintain sustainable growth unless it reviews its conventional economic development strategy and political system. Judging from the contents of the Eleventh Five–Year Plan, these concerns are, most likely, shared by the Chinese government.

(2) The perspective of analysis – a review of prior research regarding institutions and economic performance

This paper shall shed light upon the role of "institutions" in

sustained growth and examine the strength of the institutional base for China's sustained growth. The reasons for the emphasis upon institutions are explained in more detail below.

a. The limits of the neoclassical growth model and the endogenous growth model

The quest for the determinant of sustained economic growth is one of the key issues in the academic realm of economics. Robert M. Solow (1956) is credited for laying the theoretical groundwork for this quest (Note 1). Under the Solow Model, the higher the levels of the savings rate and technology and the lower the rate of population growth, the per capita level of income is higher in a steady state. Given the neoclassical production function of decreasing returns to inputs regarding the growth of income per worker, it follows that: (1) per capita income growth would decline as the capital–to–labor ratio rises from a low level to a steady state solution, and (2) per capita income growth would stop at a steady state solution. However, per capital income is continuing to grow even in developed countries despite these theoretical consequences. The explanation for this has been that the rate of per capita growth over the long–term will become equal to the rate of technological progress (the sustained rise of the technology level), which is an "exogenous" factor (a factor determined outside of the model).

To fill the theoretical gaps of the neoclassical model – namely that "technological progress", the determinant of long–term economic growth, is an exogenous factor – led to the "endogenous growth theory" which seeks to "endogenize" (incorporate within the model) the mechanism of what determines the pace of technological progress which serves as the key to long–term growth. Some of the major works in this field are by Romer (1986) and Lucas (1988). Romer developed a model on long–term economic growth by defining the source of technological progress as the accumulation of knowledge and applying the accumulation of physical capital as the proxy variable for the accumulation of knowledge. Lucas shed light upon the correlation between technological progress and the

accumulation of human capital.

Even if a higher savings & investment rate and the improvement of technological levels through the accumulation of knowledge and human capital influences the income level of a country, the next enigma is that even when such favorable conditions are fulfilled, there are both countries succeeding in raising their income levels and countries unable to achieve advantageous conditions for sustained growth over a long period of time.

b. Institutions which support sustained growth

Geographic, geopolitical and cultural factors have been cited as factors influencing the success or failure of sustained economic growth (the sustained accumulation of material and human capital accompanying technological progress). Note however, that levels of economic performance vary in different time periods even in the same country. Furthermore, income levels vary among countries with similar geographical, geopolitical and cultural conditions. These questions led to the focus of attention upon the differences in "institutions" which influence the cost–benefit analysis of an economic entity in determining savings & investment and the allocation of time for the accumulation of human capital (for example, North (1990)).

Ishii (2003) has extracted "several institutions deemed indispensable for long–term economic growth" by (1) reviewing previous works, (2) analyzing the spread and process of the industrial revolution and (3) analyzing the relationship between proxy variables representing the state of institutional development and long–term growth achieved. Dubbed the "minimum set of institutions", these institutions deemed indispensable for long–term growth include the six following institutions: (1) institutions which nurture technological innovation, (2) institutions which nurture human capital, (3) physical infrastructure, (4) legal institutions which protect private property rights, (5) institutions which build social cohesiveness, and (6) institutions for improvement of governance (**Figure 1**).

Figure 1: The "minimum set of institutions" for sustainable growth

Institutional categories	Significance in economic development
(1) Institutions which nurture technological innovation	Institutions which create technological innovation or enhance the ability to absorb and develop technological innovations of other countries
(2) Institutions which nurture human capital	Institutions which nurture a broad-based population possessing fundamental technology and labor ethics which contribute to the achievement of a growth pattern matching the stage of development and characteristics of each country
(3) Physical infrastructure	Going beyond the comparative merits and demerits of physical infrastructure, these refer to the efforts and abilities to overcome exogenous disadvantages (such as geographic limitations) and facilitate market expansion and global division of labor
(4) Legal institutions which protect private property rights	Symbol of the legal system to protect the fruits of economic activities
(5) Institutions which build social cohesiveness	Institutions which enable a large part of the population to participate proactively in capitalistic economic activities, institutions which provides matching results for efforts, institutions which provide job opportunities matching abilities and adequacies
(6) Institutions for improvement of governance	The degree of social readiness to put the country on a sustainable growth track. For example, the establishment of the country's identity and the existence or nonexistence of political leadership

Source: Ishii (2003).

c. The correlation between institutional development, economic growth and the income level

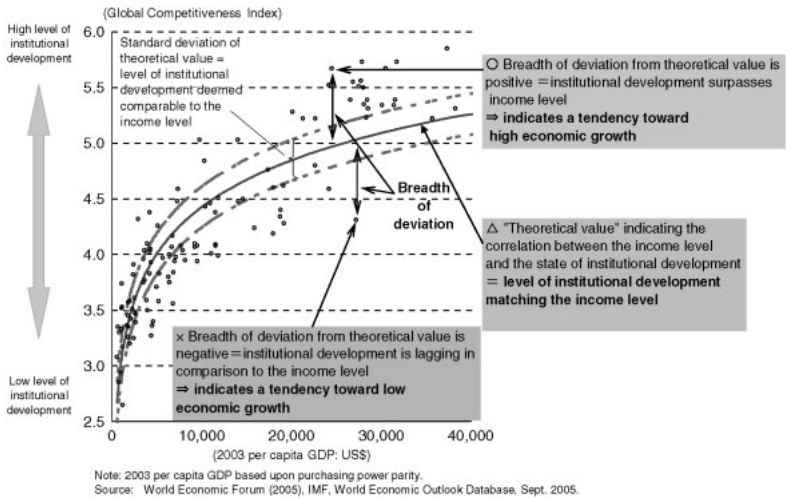
Many of the previous works on the subject indicate a significant correlation between those institutions listed by Ishii (2003) and the variation in economic performance among countries. From an empirical point of view, there is the question of what to use as the proxy variable to indicate the state of institutional development. This paper uses the Global Competitiveness Index (GCI), published on an annual basis by the World Economic Forum, to analyze the correlation between the economic performance of a country and the state of institutional development.

The GCI is an index estimated to quantify the competitiveness of a country. It is comprised of 90 sub–indexes spanning the following nine factors: (1) quality of basic institutions, (2) infrastructure, (3) macroeconomy, (4) health and primary education, (5) higher education and training, (6) market efficiency, (7) technological readiness, (8) business sophistication, and (9) innovation.

Figure 2 sets forth the relationship between the GCI and the per capita income level. The figure reveals a correlation where a higher degree of institutional development in a country, the higher the level of per capita income. Furthermore, we know from previous works

that countries with comparatively developed institutions in the light of income levels tend to have a higher rate of per capita real GDP growth and, conversely, countries whose institutions compare poorly with their income levels tend to have a lower rate of income growth (Inter–American Development Bank (2001)). For an explanation, refer to **Figure 2**. The larger the positive value of the breadth of deviation between the actual value and the theoretical value obtained by regressing the GCI to the income level, the faster the pace of income growth. On the other hand, a large negative value of the breadth of deviation is an indication of sluggish income growth.

Figure 2: The correlation between institutional development, economic growth and the income level



Note: 2003 per capita GDP based upon purchasing power parity.
Source: World Economic Forum (2005), IMF, World Economic Outlook Database, Sept. 2005.

(3) The analytical framework

This paper shall conduct a simple analysis of the institutional foundation of China's sustained growth, focusing upon the relationship between the state of institutional development and the level of income and growth rate. As indicators to show the state of institutional development, we shall use the sub–indexes of the GCI

as well as statistical indicators and questionnaire surveys published by other organizations as are necessary.

As a measure to judge the state of institutional development, we shall use the criterion in the study by Inter–American Development Bank (2001). First, we regressed the indicator showing the state of institutional development to per–capita GDP and calculated the gap between the theoretical value thus obtained and the actual value. To remove the effect due to the difference in measures from one indicator to another, the breadth of deviation is standardized by dividing it by the standard deviation of the foregoing regression. In the event the adjusted breadth of deviation surpasses +0.5, the country is given an "A" rating for having developed institutions relative to its level of income. A breadth of deviation ranging from –0.5 to 0.5 is deemed as a level of institutional development matching the level of income (a "B" rating). A measure below –0.5 is judged as lagging in institutional development relative to the income level (a "C" rating).

2. The state of institutional development to support China's sustained growth

Using this framework, we shall undertake a simple analysis of the state of development of various institutions to support China's sustained growth.

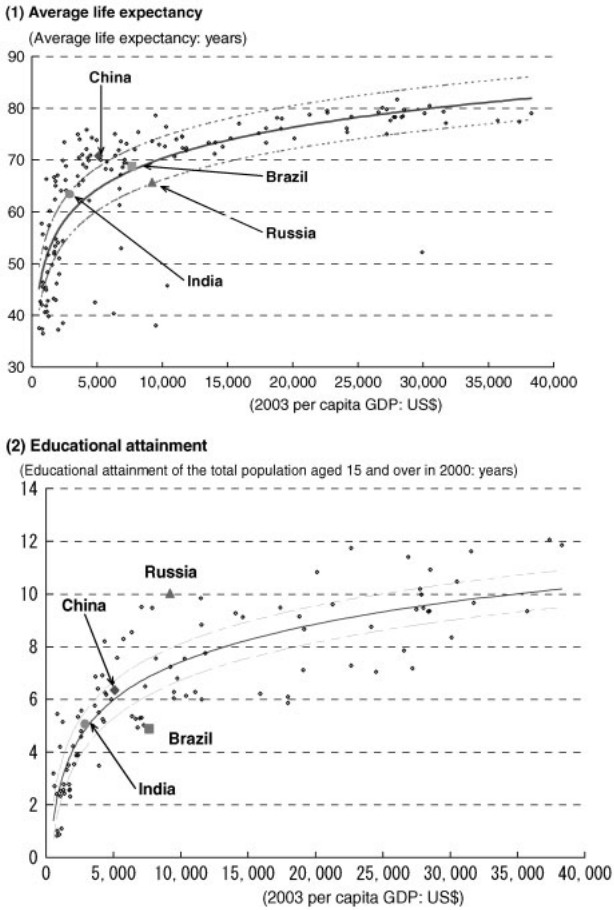
(1) Human capital

The precondition for accumulation of human capital is the supply of healthy citizens through the development of health and sanitation institutions. The average life expectancy is a frequently used proxy indicator regarding the development of health and sanitation institutions. Having an average life expectancy of 70.8 years as of 2003, China already ranks above middle income countries. The

breadth of deviation of the average life expectancy stood at +0.76, indicating that China's health and sanitation institutions are relatively developed compared to its income level (**Figure 3 (1)**). Looking at the national average, the foregoing provides us with reason to believe that China's health and sanitation institutions are not serving as a major obstacle to sustained growth.

Thus, we shall examine the state of development of China's educational institutions, which serves as the basis for accumulation of human capital. Judging from China's educational attainment as of 2000 which stood at 6.35 years when applying the educational attainment of the total population aged 15 and over as the proxy variable, the spread of basic school education more or less matches the level of income (**Figure 3 (2)**).

Figure 3: The correlation between the average life expectancy, educational attainment and the level of income



Note: 2003 per capita GDP based upon purchasing power parity.
Sources: (1) The World Bank (2005),
(2) Barro and Lee (2000), IMF, World Economic Outlook Database, Sept. 2005.

China's quality of educational services is also commensurate to its level of income. A questionnaire survey by the World Economic Forum regarding the "quality of the educational system" and the

"quality of math and science education" revealed that the quality of China's educational services is commensurate to its level of income (**Figure 4**).

Schools are not the only vehicles for the qualitative improvement of human capital. Workplace training also provides valuable opportunities for human capital improvement. The breadth of deviation of the "local availability of specialized research and training services" – one of the components of the GCI – stood at +0.89, indicating that training services are readily available in China relative to its income level. Moreover, corporate enterprises' "extent of staff training" is also up to a level matching the income level.

However, China's problem is its low rate of enrollment in higher education even when taking into account its low income level. On a nationwide average, China's gross tertiary enrollment rate is 15.8% (2003) and the breadth of deviation is –0.76. Furthermore, the results of the survey regarding the "quality of management schools" compare rather poorly in comparison to its level of income. This may be a reflection of the fact that China is still in the early stages of a full–fledged transition to a market economy.

Figure 4: The correlation between the level of income and other indicators on human capital

Indicator	China			Global average	MAX		MIN	
	Numerical value	Breadth of deviation from theoretical value	Evaluation		Country, region	Numerical value	Country, region	Numerical value
Local availability of specialized research and training services (index)	4.4	0.89	A	4.0	US	6.4	Kyrgyzstan	2.3
Quality of the educational system (index)	3.5	0.39	B	3.6	Singapore	6.1	Chad	2.0
Quality of math and science education (index)	4.2	0.39	B	4.1	Singapore	6.5	Honduras	2.3
Extent of staff training (index)	3.5	0.31	B	3.8	Germany	5.9	Chad	2.0
Gross tertiary enrollment rate (%)	15.8	-0.76	C	n/a	Finland	87.5	Malawi	0.4
Quality of management schools (index)	3.5	-0.53	C	4.1	US	6.6	Namibia	2.4

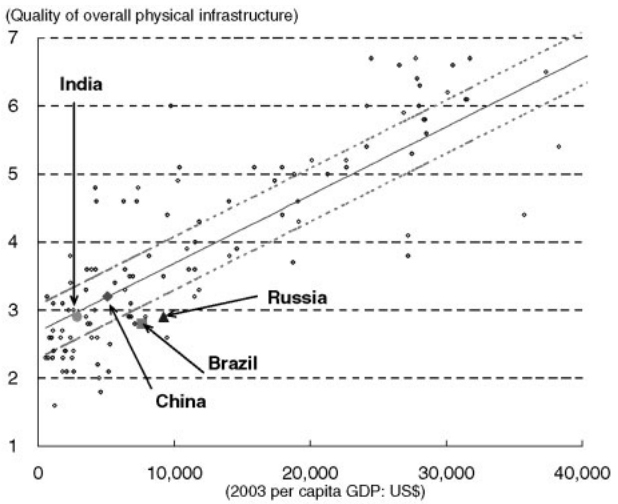
Note: 2003 per capita GDP (US$, ppp) used to calculate the breadth of deviation.
Source: World Economic Forum (2005), IMF, World Economic Outlook Database, Sept. 2005.

(2) The physical infrastructure

The physical infrastructure of a country is the foundation for

smooth economic activities and serves to promote the growth of the economy through the efficient allocation of resources. Judged overall, survey results reveal that the state of development of China's physical infrastructure is commensurate to its level of income. According to the survey results regarding the "quality of infrastructure" – a component of the GCI – the breadth of deviation of China's physical infrastructure stood at +0.01 even though the level in absolute terms still falls below the global average. (**Figure 5**).

Figure 5: Correlation between the quality of overall physical infrastructure and the level of income



Note: 2003 per capita GDP (US$, PPP) used to calculate the breadth of deviation.
Source: World Economic Forum (2005), IMF, World Economic Outlook Database, Sept. 2005.

(3) Market efficiency

A market economy promotes the efficient allocation of resources, thereby facilitating growth (Note 2). This is the reason for the Chinese government's efforts to transform its economic system from a planned economy to a market economy. During the quarter of a century since the "reform and open–door policy" at the end of 1978,

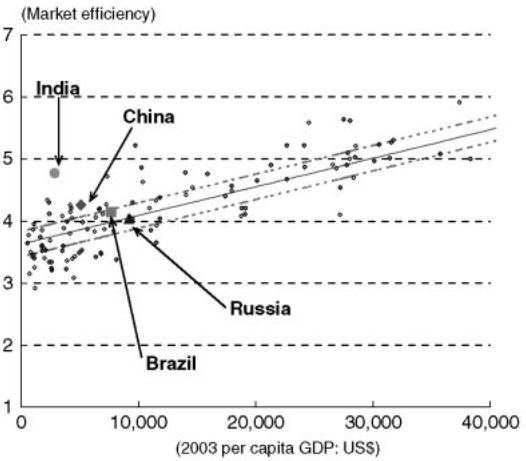
to what extent have market economy institutions developed in China?

According to the GCI's "market efficiency index", China's market efficiency is relatively high in comparison to its income level (**Figure 6**: "breadth of deviation" is +0.97). However, note that the "market efficiency index" is structured on the assumption that the larger the size of the economy (domestic demand and exports) the more efficient the country's economic activities due to the economy of scale. As a result, China's market efficiency index tends to yield a high reading. Since we focus upon institutions in this report, we have extracted only the indicators related to institutions from among the sub–indexes constituting the "market efficiency" index (**Figure 7**) (Note 3).

Figure 7 shows that the indicators on institutions related to "market efficiency" are mostly matching or slightly above China's income levels. In particular, China is evaluated highly by business entrepreneurs due to China's "low agricultural policy costs", "intensity of local competition" and "pay and productivity".

China is given an "A" rating for its "agricultural policy costs". In China's case, the size of income transfers from consumers & taxpayers to farmers through measures on pricing and financial assistance is smaller in comparison to other countries. According to the OECD (2005a), China's Producer Support Estimate as a percentage of total agricultural income is only 6%, falling below the OECD average (31%).

Figure 6: Correlation between market efficiency and the level of income



Note: 2003 per capita GDP (US$, PPP) used to calculate the breadth of deviation.
Source: World Economic Forum (2005), IMF, World Economic Outlook Database, Sept. 2005.

China is also rated highly for the "intensity of local competition". This is an outcome of China's relaxation of entry regulations toward private enterprises and foreign enterprises over the past quarter of a century. For example, a comparison of the share of value–added of industry by corporations according to their type of ownership shows that the share of state–owned and state–controlled enterprises is declining in businesses with low capital intensity, suggesting the rise of competition among these business categories (Note 4). Moreover, the price of consumer goods and producer goods in the processing and assembly industries has been moving at a low level since the second half of the 1990s. This suggests a shift from a "seller's market" to a "buyer's market", thus intensifying competition.

China is also given a high rating regarding "pay and productivity". In fact, the unit labor cost in China's manufacturing sector has been declining. Despite a slight rise since 2000, unit labor costs have been relatively stable.

In contrast, the inefficiency and instability of China's financial

market is considered a point which cannot be ignored even in consideration of its low level of income (**Figure 7**). In particular, the "breadth of deviation" regarding China's "soundness of banks" and "financial market sophistication" are deep in negative territory (–1.75 and –1.04 respectively).

Despite the improvement of state–owned commercial banks' financial stability, the reforms for the rehabilitation of state–owned commercial banks are only half completed. Even though the non–performing loan (NPL) ratio of China's state–owned commercial banks has fallen from 26.1% at the end of the year 2002 to 9.8% at the end of March 2006 according to China's official statistics, NPL disposals are still heavily dependent upon various government assistance measures.

Figure 7: Correlation between the indicators related to "market efficiency" and the level of income

Indicator	China			Global average	MAX		MIN	
	Numerical value	Breadth of deviation from theoretical value	Evaluation		Country, region	Numerical value	Country, region	Numerical value
A. Goods markets								
1. Distortions								
- Agricultural policy costs (index)	4.3	1.24	A	3.6	New Zealand	5.6	Zimbabwe	2.0
- Efficiency of legal framework (index)	3.6	0.49	B	3.8	Denmark	6.3	Venezuela	1.7
- Extent and effect of taxation (index)	3.6	0.40	B	3.4	Hong Kong	6.0	Brazil	1.6
- Number of procedures to start a business *	12.0	0.35	B	n/a	Chad	19.0	Australia Canada New Zealand	2.0 2.0 2.0
- Time required to start a business (days)*	41.0	-0.41	B	n/a	Mozambique	153.0	Australia	2.0
2. Competition								
- Intensity of local competition	5.3	1.23	A	4.7	United States	6.3	Chad	3.1
- Effectiveness of anti-trust policy (index)	3.8	0.44	B	4.0	Germany	6.3	Dominican Republic	2.3
- Prevalence of trade barriers (index)	4.0	-0.36	B	4.6	Luxembourg	6.5	Dominican Republic	2.8
- Foreign ownership restrictions (index)	4.7	-0.19	B	5.0	Luxembourg	6.5	Kuwait	3.3
B. Labor markets								
1. Flexibility								
- Cooperation in labor/employer relations (index)	4.5	0.39	B	4.5	Singapore	6.3	Rumania	3.1
2. Efficiency								
- Pay and productivity (index)	4.9	1.51	A	4.0	Hong Kong	5.9	Paraguay	2.7
- Brain drain (index)	3.8	1.17	A	3.5	United States	6.4	Guyana	1.4
- Reliance on professional management (index)	4.1	-0.06	B	4.5	United States	6.4	Chad	2.3
- Private sector employment of women (index)	4.5	-0.16	B	4.7	Singapore	6.1	Ethiopia	3.2
C. Financial markets								
- Venture capital availability (index)	2.9	0.15	B	3.3	United States	5.9	Ethiopia	1.7
- Local equity market access (index)	4.0	-0.51	C	4.7	Iceland	6.6	Albania	1.5
- Ease of access to loans (index)	2.4	-0.65	C	3.3	Iceland	5.4	Benin	1.6
- Financial market sophistication (index)	2.9	-1.04	C	4.0	United Kingdom	6.7	Chad	1.7
- Soundness of banks (index)	3.8	-1.75	C	5.4	Switzerland	6.8	Zimbabwe	3.0

Notes: 1. 2003 per capita GDP (US$, PPP) used to calculate the breadth of deviation.
2. * Reverse scale: the "breadth of deviation with theoretical value" is positive when the actual value is smaller than the theoretical value and is negative when the actual value is larger than the theoretical value. (This is because the fewer the number of days or cases, the higher its evaluation.)
Source: World Economic Forum (2005), IMF, World Economic Outlook Database, Sept. 2005.

The Chinese government is writing off NPLs in step with capital injections; in 1999, 2004 and 2005, it transferred massive NPLs held

by state–owned commercial banks to asset management corporations. Based upon a trial calculation of NPLs in a case where no such government measures for NPL disposals were taken, the outstanding balance of NPLs would be virtually unchanged since 2000. As of the end of June 2005, the NPL ratio of state–owned commercial banks would have risen to 35.9% (according to official statistics, the NPL ratio as of the end of June 2005 is 10.1%). In sum, China's state–owned commercial banks are not yet strong enough to accomplish a speedy disposal of NPLs on its own and still lacks sufficient corporate governance to avoid a resurgence of NPLs.

In the background to the state–owned commercial banks' NPLs are the low performance of state–owned enterprises which are their main borrowers. Using profit on asset as a measure to gauge the recent performance of state–owned enterprises and state–controlled enterprises in China's mining & manufacturing sector, profit on asset has been improving since it fell to 0.7% in 1998 at the time of the Asian currency crisis (5.2% in 2004 and 5.4% in 2005). While the acceleration of the reforms of state–owned enterprises have definitely contributed to the improvement of their performance, state–owned enterprises still fall below the performance of other types of enterprises (profit on asset was 6.0% with respect to the entire mining & manufacturing sector and 5.4% with respect to state–owned enterprises). Moreover, the recent rise of profit on asset among state–owned enterprises stems largely from the growth of profits of enterprises in the petroleum and natural gas extraction business reflecting the rising price of natural resources. Furthermore, of the 39 industrial categories in the mining & manufacturing industry, the average profit on asset of state–owned enterprises was higher than the average profit on asset of the entire mining & manufacturing sector in only five industrial categories with highly oligopolistic characteristics such as the following: tobacco manufacturing, smelting and pressing of ferrous metals and smelting and pressing of non–ferrous metals (Note 6).

The resulting scores regarding "financial market sophistication" also compare poorly in comparison to China's income level (**Figure**

7). China does not have a highly sophisticated financial market, as exemplified by the lagging deregulation of interest rates and foreign exchange controls, the slow development of risk hedging tools, the paucity of financial products and strict capital controls (Note 7). The weak competitiveness, low performance and low risk management capabilities of state–owned financial institutions such as state–owned commercial banks and local enterprises such as state–owned enterprises are serving as obstacles to the alleviation of entry controls in the financial market and the deregulation of interest rates and foreign exchange controls.

The slow development of basic infrastructure such as auditing institutions, credit evaluation institutions and information disclosure institutions which affect the development and stability of financial markets is also a future challenge. On the basis of research by the World Economic Forum, China's "strength of auditing and reporting standards" and "efficacy of corporate boards" are deemed insufficient even in consideration of its income level (**Figure 8**). Furthermore, China is rated as "C" in terms of the "protection of minority shareholders' interests". In China, many of the listed corporate enterprises are state–controlled enterprises, suggesting that state–owned enterprises possess problems in terms of governance.

As shown above, "the vestiges of a planned economy"– namely the opacity of powers and responsibilities among state–owned enterprises, state–owned commercial banks and government and interdependence – are serving as obstacles to lasting growth.

Figure 8: Correlation between the indicators related to corporate accountability and the level of income

Indicator	China			Global average	MAX		MIN	
	Numerical value	Breadth of deviation from theoretical value	Evaluation		Country, region	Numerical value	Country, region	Numerical value
・Strength of auditing and reporting standards	3.9	-0.51	C	4.7	United Kingdom	6.6	Chad	2.3
・Efficacy of corporate boards (index)	3.9	-0.91	C	4.6	United Kingdom	6.1	Chad	2.8
・Protection of minority shareholders' interests (index)	3.1	-1.46	C	4.4	United Kingdom	6.2	Ukraine	2.8

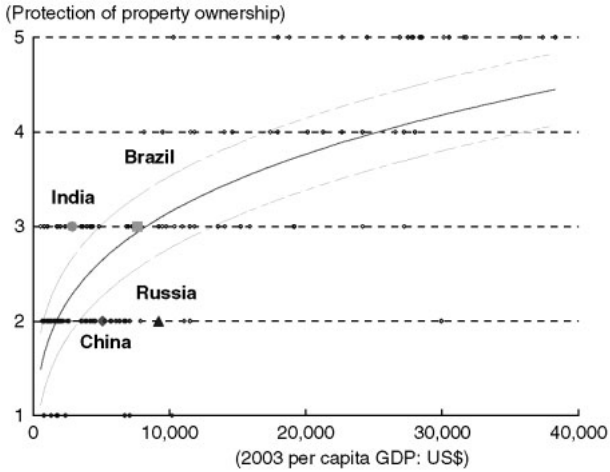
Note: 2003 per capita GDP (US$, PPP) used to calculated the breadth of deviation.
Source: World Economic Forum (2005), IMF, World Economic Outlook Database, Sept. 2005.

(4) Institutions for the protection of property ownership

Institutions for the protection of property ownership are important institutions which support the basic foundations of economic activity. The government of China has also taken measures to reinforce protection and widen the scope of property ownership protection. However, according to research results on the state of property ownership protection by the Heritage Foundation, China is given a score of "2", indicating a "low level of protection" (**Figure 9**). The score indicates a state where "property ownership is weakly protected; the court system is inefficient; corruption is present; the judiciary is influenced by other branches of government and expropriation is a possibility". The results indicate that the level of property ownership protection is low in China, even in consideration of its low income level.

There are actual occurrences of property ownership violations in China. For example, there are frequent disputes regarding land expropriations and enforced evacuations for the purpose of development. Of the 92,613 first trial administrative cases accepted by courts in 2004, the largest in number (20.5% of the total) were administrative cases related to city construction. The next in number of cases were administrative cases related to resources such as land (19.0% of the total).

Figure 9: Correlation between the protection of property ownership and the level of income



Source: Miles et al. (2005), IM, World Economic Outlook Database, Sept. 2005.

(5) Institutions nurturing technological innovation

As shown in Section 1, the ability to generate technological progress is a major factor determining whether or not a country can achieve sustainable growth. Although China's index on technological innovation in the GCI is not necessarily high in absolute terms, the results show that China possesses relatively high capabilities in comparison to other countries with the same income level.

The index on technological innovation is classified broadly into the three following sub–indexes: "technological readiness", "innovation", and "business sophistication". The "breadth of deviation" of each of the sub–indexes are +0.30 (B evaluation), +0.96 (A evaluation) and 0.63 (A evaluation).

Of the foregoing, a selection of sub–indexes with a strong correlation with income levels, are set forth in **Figure 10**. In terms of "technological readiness, China's "firm–level technology absorption" is surpassing its level of income (**Figure 10 (1)**). According to a questionnaire survey of Japanese firms (as of 2002)

conducted by Japan Patent Office, 54.1% of a total of 580 respondents which were victims of counterfeit goods, said that they were harmed by counterfeit goods made in China (including Hong Kong). Moreover, according to anecdotal evidence, the qualitative level of these Chinese counterfeits is improving (Note 10). While such anecdotal evidence indicates the low level of protection of intellectual property rights (Note 11), it also serves as an indicator of the high level of technology absorption of Chinese firms.

Figure 10: Correlation between the indicators related to technological innovation and the level of income

(1) Indicators on technological readiness

Indicator	China			Global average	MAX		MIN	
	Numerical value	Breadth of deviation from theoretical value	Evaluation		Country, region	Numerical value	Country, region	Numerical value
Firm-level technology absorption (index)	5.0	1.06	A	4.5	United States	6.3	Kyrgyzstan	2.8
Laws related to ICT (index)	3.6	0.14	B	3.8	Singapore	5.9	Guyana	1.8
Technological readiness (index)	3.4	-0.06	B	3.7	United States	6.5	Chad	1.7
Internet users (user/10,000 persons)	632.0	-0.25	B	n/a	Iceland	6747.0	Tajikistan	6.0
Personal computers (unit/100 persons)	2.8	-0.30	B	n/a	Switzerland	74.2	Malawi	0.2

(2) Indicators on innovation

Indicator	China			Global average	MAX		MIN	
	Numerical value	Breadth of deviation from theoretical value	Evaluation		Country, region	Numerical value	Country, region	Numerical value
Government procurement of advanced technology products (index)	4.6	2.12	A	3.7	Singapore	5.3	Albania	2.2
University/industry research collaboration (index)	3.9	1.66	A	3.1	United States	5.7	Albania	1.7
Company spending on research and development (index)	3.6	1.06	A	3.3	United States	5.9	Kyrgyzstan	1.9
Quality of scientific research institutions (index)	3.8	0.41	B	3.8	United States	6.4	Paraguay	2.1
Intellectual property protection (index)	3.2	0.21	B	3.7	United States	6.4	Guyana	1.7
Availability of scientists and engineers (index)	4.4	0.01	B	4.5	India	6.4	Gambia	2.5
US utility patents granted (patent/1,000,000 population)	0.3	-0.03	B	n/a	United States	283.7	many	0.0

(3) Indicators on business sophistication

Indicator	China			Global average	MAX		MIN	
	Numerical value	Breadth of deviation from theoretical value	Evaluation		Country, region	Numerical value	Country, region	Numerical value
Local supplier quantity (index)	5.1	0.90	A	4.8	Japan	6.6	Mongolia	3.1
Value chain presence (index)	3.8	0.64	A	3.8	Japan	6.5	Algeria	1.9
Willingness to delegate authority (index)	3.5	0.46	B	3.7	Denmark	6.0	Paraguay	2.3
Production process sophistication (index)	3.4	0.32	B	3.8	Japan	6.5	Ethiopia	2.0
Nature of competitive advantage (index)	3.2	0.23	B	3.6	Japan	6.4	Bangladesh	2.1
Control of international distribution (index)	3.8	-0.03	B	4.1	Iceland	5.8	Chad	2.7
Local supplier quality (index)	4.1	-0.09	B	4.4	Japan	6.5	Chad	2.5
Extent of marketing (index)	4.0	-0.19	B	4.3	United States	6.7	Chad	1.8

Note: 2003 per capita GDP (US$, PPP) used to calculate the breadth of deviation.
Source: World Economic Forum (2005), IMF, World Economic Outlook Database, Sept. 2005.

China's rating on "innovation" is also commensurate to or above its income level (**Figure 10 (2)**). In particular, China's level of "government procurement of advanced technology products",

"university/industry research collaboration" and "company spending on research and development" is higher than other countries with the same level of income.

Academia–industry research collaboration is steadily gaining depth along with the transformation of Chinese universities into corporate entities. The progress in this area is evidenced by, for example, the increase of collectively written academic papers in science and technology by research between research institutes and corporate enterprises (Note 12) and the steady increase of research & development (R&D) investment funds procured by higher education from corporate enterprises.

Corporate R&D investment is also growing amid developments in the Chinese government's preferential tax treatment of high technology firms and the rise of local competition. As a percentage of GDP, R&D investment by Chinese corporate enterprises has reached 1.3% (as of 2003), surpassing most middle income countries (Note 14).

"Business sophistication" indicates the ability to produce goods and services in an highly efficient manner, which in turn indicates a country's ability to raise productivity (Note 15). The sub–indexes which comprise the "business sophistication" index reveal that China is given a relatively high evaluation in comparison to its income level. China scored an A evaluation in terms of "local supplier quantity" and "value chain presence". The relaxation of entry regulations toward non–state–owned enterprises stimulated the entry of foreign enterprises, leading to the construction of value chains.

The foregoing results show that China has relatively high technological innovation capabilities in comparison to other countries with similar income levels. That said, the absolute level is not necessarily high. The number of patent acquisitions in the US by Chinese nationals (per million people) totaled 0.3 patents, ranking 58th place among 117 countries and regions surveyed for the GCI (Note 16). While the odds are high that patent acquisitions will grow at a fast pace to match its output, judging from the comparatively high level and rapid rise of input toward R&D relative to its income level

and strong incentive toward R&D such as intense competition, what remains to be seen is whether China can continue to improve and develop its institutions regarding technological innovation and whether such high potential can be maximized in order to produce objective results

(6) Quality of governance

The Governance Index released every other year by the World Bank is a leading indicator compiled for the purpose of international comparison of the quality of governance (Note 17). Even though China's absolute level of "aggregate governance measure" is low, the results are more or less commensurate to its level of income (**Figure 11**).

Figure 11: Correlation of the indicators on governance and the level of income

Indicator	China			Global average	MAX		MIN	
	Numerical value	Breadth of deviation from theoretical value	Evaluation		Country, region	Numerical value	Country, region	Numerical value
Aggregate governance measure	-0.5	-0.18	△	0.0	Finland	1.9	Myanmar	-1.7
Government effectiveness (index)	0.1	0.92	○	0.0	Switzerland	2.3	Haiti	-1.9
Political stability (index)	-0.1	0.62	○	-0.1	Finland	1.6	Haiti	-1.9
Rule of law (index)	-0.5	-0.03	△	-0.1	Switzerland	2.0	Haiti	-1.7
Control of corruption (index)	-0.5	-0.13	△	0.0	Finland	2.5	Equatorial Guinea	-1.6
Regulatory quality (index)	-0.5	-0.20	△	0.0	Singapore	1.9	Myanmar	-2.3
Voice and accountability (index)	-1.5	-1.53	×	-0.1	Denmark	1.6	Myanmar	-2.2

Note: 2003 per capita GDP (IUS$, PPP) used to calculate the breadth of deviation.
Source: Kaufmann et al. (2005), IMF, World Economic Outlook Database, Sept. 2005.

Of the six sub–indexes constituting the "aggregate governance measure", the results show that China's "government effectiveness" and "political stability" are evaluated as surpassing its level of income (**Figure 10**). Despite the difficulty to interpret these results, the effectiveness of policy execution stemming from a one–party rule system and the absence of large–scale protests comparable to the Tiananmen Incident may be a source of the high evaluation on "government effectiveness" and "political stability".

In contrast, China is deemed insufficient in terms of "voice and accountability" even in consideration of its low income level. Despite

China's progress in terms of freedom of speech and government accountability, evidenced by the increase of mass media and public disclosure of information, the foregoing results show that the pace of progress is still quite slow.

3. Domestic disparities in the state of institutions – its correlation to "social cohesiveness"

(1) Domestic diversity, disparity and social cohesiveness

The foregoing provides an analysis of the state of institutions in terms of the country as a whole. Nevertheless, China is a large country with vast land area (9.6 million square kilometers) and the largest population in the world (1.31 billion as of the end of 2005). It has a diverse domestic landscape with large regional disparities.

Secondly, note that the analysis in Section 2 is based mainly on questionnaire surveys and therefore may be affected by a sample bias. A large number of results of surveys on executives are incorporated in the GCI (Global Competitiveness Index) cited frequently in this paper. Furthermore, the respondents share the following characteristics: (1) many hold managerial positions of relatively large enterprises, and (2) many hold managerial positions of state–owned enterprises. Since these characteristics imply that the respondents enjoy relatively strong government protection and that they possess relatively large bargaining powers toward the government, we cannot rule out the possibility that the GCI reflects the opinions of a group of enterprises which are relatively unscathed by institutional underdevelopment (such as small and medium enterprises). A survey of managers of small and medium enterprises, peasants, consumers and employed workers might yield different results. It should be noted that entities with strong powers will tend to form and maintain institutions matching their interests and that

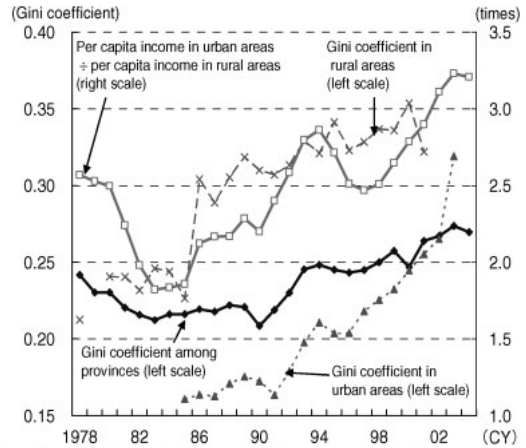
such tendencies will tend to work to the disadvantage for the socially vulnerable.

Although Ishii (2003) cites "institutions to build social cohesiveness" as one of the "minimum set of institutions" which support sustained growth, disparities in the development of institutions will hamper the formation of a society in which members are able to achieve results commensurate to their efforts and enable members to seek jobs which match their capabilities and adequacy. Moreover, discriminatory institutions and large income disparities will serve to destabilize society and politics and may create faults between social strata. Thus, the following section shall examine the disparities in progress of institutional development in China.

(2) Institutional discrimination among regions and attributes

Income disparities are widening in China (**Figure 12**). Furthermore, China's income gap is considered to be relatively large in comparison to other countries of the world. According to the World Bank (2005), China's comprehensive Gini coefficient was 0.441 as of 2001, ranking 46th place among the 109 countries and regions surveyed.

Figure 12: China's income gap



Note: Per capita income in urban areas is based upon disposable income and per capita income in rural areas is based upon net income.
Sources: National Bureau of Statistics of China, *China Statistical Yearbook*, Rural Survey Organization of National Bureau of Statistics of China, *Yearbook of Rural Household Survey*

The ongoing expansion of the income gap over a long time period and the absence of absolute convergence provide reasons to believe that there are regional disparities in the development of institutions in China. As a matter of fact, there are wide regional disparities in the state of development of institutions regarding basic public services in China. To look at the state of development, we shall refer to the Human Development Index (HDI) of the United Nations Development Programme (UNDP). The HDI is a synthetic index incorporating factors such as life expectancy at birth, adult literacy, combined enrolment ratio and per capita real GDP. It takes into consideration factors not only limited to income but also factors such as the existence of institutions to facilitate accessibility to healthcare and educational services.

Even though China's HDI rose dramatically from 0.557 in 1980 to 0.755 in 2003, (85^{th} in 2003), there are extremely large regional gaps (Note 18). For example, in contrast to an average HDI of 0.816 in urban areas, the average in rural areas is 16.5% lower (0.685). Comparing

the highest region (Shanghai) to the lowest region (Tibet), urban areas of Shanghai have an HDI of 0.922, surpassing Hong Kong which ranks 22nd place in the world, whereas rural areas of Tibet have an HDI of 0.562, falling below Botswana which ranks 131st place in the world (Note 19). As the foregoing shows, there are extremely large regional disparities in terms of the provision of basic public services in China.

There are in fact, disparities in institutional development and discriminatory institutions depending upon regions and occupations (Note 20).

For example, provinces still failing to provide 9–year compulsory education are concentrated in poverty–stricken rural areas. The problem is that the poorer the region, the lower the public spending on education per student. The same is also true with respect to healthcare. The number of physicians per population of 1,000 is an average of 2.3 physicians in urban areas and an average of 1.2 physicians in rural areas (2001). A large regional gap is also evident in the number of hospital beds. The number of beds per population of 1,000 in urban areas is approximately four times the number of beds in rural areas. Moreover, the share of fiscal revenue of county/township governments in national fiscal revenue has contracted from 31.6% in 1993 to 19.7% in 2000 and the share of fiscal expenditures of county/township governments in national fiscal expenditures has also contracted from 31.4% to 26.4% during the same time period (Note 21).

There are also discriminatory institutions according to attributes such as (1) the widening wage gap between oligopolistic sectors and other sectors with fierce competition reflecting the existence of entry restrictions, and (2) discrimination between urban residents and rural migrant workers in terms of employment and wages (for example, employment restrictions stemming from the residence register).

As shown above, there are institutions which work to the disadvantage for the socially vulnerable. Unless these disparities in institutional development are corrected, they would serve to rigidify

China's social strata, lead to a further widening of the income gap and wreak social and political instability by turning the "China Dream" into "unfulfilled dreams" for the poor.

4. The Chinese government's measures for the "institutional flaws"

(1) The Eleventh Five–Year Plan as a "prescription" for the institutional flaws

No doubt, the government of China is acutely aware of the various "institutional flaws" mentioned above. While the Eleventh Five–Year Plan was adopted at the fourth session of the 10th National People's Congress in March 2006, the Chinese government's sense of crisis is reflected in its development philosophy referred to as "the scientific concept of development" running through the Eleventh Five–Year Plan.

The term "scientific concept of development" expresses the philosophy that (1) it is necessary to promote "the development of each individual's capabilities", (2) by realizing "sustainable development" not by a quantitative expansion but by promoting "the qualitative improvement of the economic structure", (3) through "human resource development", "science & technology development" and "deepening further the reform and open–door policy", (4) by emphasizing the "balance" between regions, the economy, politics, society, cultures, the natural environment and among human beings. This is a clear departure from the former growth–centered approach. In fact, the average annual growth target during the period from 2006 to 2010 is held low at 7.5% in the Eleventh Five–Year Plan.

The Eleventh Five–Year Plan also provides numerous measures to correct the "institutional flaws" which have emerged from the foregoing analysis.

For example, the Eleventh Five–Year Plan states that the government will exert more efforts for the spread and qualitative upgrade of higher education and step up the level of public spending on education.

The Eleventh Five–Year Plan also advocates the promotion of further reforms to address the lack of transparency regarding the powers and responsibilities and inter–dependence between the government, state–owned enterprises and state–owned commercial banks. To carry out these objectives, the Eleventh Five–Year Plan lists specific targets and measures including the following. (1) Reform of the administrative system: introduction of "wrong decision making liability ascertainment system", relaxation of investment authorization regulations. (2) Further reforms of state–owned enterprises: separation of government – enterprises, government – state–owned asset management and administrative activity – business activity, transformation of state–owned enterprises into joint stock corporations and further promotion of a "mixed ownership economy", relaxation of entry restrictions in railways, electrical power, petroleum, communications, private–sector aviation, postal services, urban public works which have a high degree of monopolization or oligopolization by state–owned enterprises. (3) Reforms of state–owned commercial banks: improvement of balance sheets, transformation into joint stock companies & stock market listing, improvement of corporate governance.

Given its emphasis upon technological innovation, the Eleventh Five–Year Plan also sets forth various measures regarding industrial sector advancement, science & technology development, reinforcement of the protection of intellectual property rights, modernization of the service sector.

In addition, a significant portion of the Eleventh Five–Year Plan is devoted to the correction of the gap in institutional development among different regions and attributes and the abolition of discriminatory institutions. In particular, the Eleventh Five–Year Plan places emphasis upon resolving the problems facing

agriculture, rural areas and farmers. Under the slogan of "building a new socialist countryside", the Chinese government has professed the promotion of: (1) the strict application of farmland protection, (2) deregulation of migrant workers from rural areas and the reinforcement of the protection of the rights of migrant rural workers in urban areas, (3) abolition of the agriculture tax and prohibition of the collection of expenses without a legitimate basis, (4) infrastructure development, improvement of social security systems and transfer of financial resources to rural areas, and (5) the spread of nine–year compulsory education in rural areas. To address the gap between coastal and inland areas, the Eleventh Five–Year Plan includes measures such as (1) inland area development exemplified by the Western Development and the promotion of the rise of the central region and the rejuvenation of old industrial bases in northeast China, (2) the development northern areas along the coast which are relatively lagging in development (for example, the construction of the Tianjin New Coastal Area), and (3) development of a national unified market through infrastructure development and the elimination of regional protectionism.

In addition to the measures to address the problems facing agriculture, rural areas and farmers, the Eleventh Five–Year Plan sets forth the following measures for the protection of the socially vulnerable: (1) the reinforcement of workers' rights through the reexamination of the dispute settlement system with regard to labor disputes and systems related to restructuring, and (2) improvement of the system to guarantee minimum living standards of urban residents and the improvement of other social security systems.

(2) Institutional momentum and the conditions which promote institution reform

The section above highlights the Chinese government's acute awareness of its country's institutional flaws and its sense of crisis that the achievement of sustained growth would be difficult without the continuation of institutional reforms. However, despite variations in the degree of seriousness, China's institutional flaws have always

been present. Nevertheless, the institutional reforms have not been necessarily smooth because of the inherent "momentum" of institutions (Note 22).

The institutions which constitute political, economic and social systems have a complementary effect, which in turn, makes large scale overhauls of institutions extremely costly. Thus, even if reforms were to be carried out on a small scale targeting a limited number of institutions in order to avoid large costs, unless the institutional reform possesses a domino effect leading to reforms of other institutions, the impact of the institutional reform will most likely turn out to be limited due to interference by other existing institutions. In particular, "informal rules" – the most well–known being established practices and protocol – will not change readily as a result of formal institutional reforms. These institutions will tend to follow their momentum.

Even so, Lall et al. (2005) indicate that there are common tendencies among countries which have succeeded in large scale institutional reforms. The four tendencies cited are: (1) trade openness, (2) high institutional quality of neighboring countries, (3) high levels of education, and (4) high levels of press freedom.

The relationship between these tendencies and the impetus for institutional reform is interpreted as follows. (1) A country with a high degree of trade openness tends to invite intense competition by imports and foreign enterprises, which in turn tends to put reform pressures upon and weaken its social strata with established interests. (2) High levels of press freedom facilitate monitoring of strata with established interests and government. (3) High educational levels generate human resources capable of drafting and carrying out institutional reforms in a more effective manner. (4) Countries with neighbors possessing high institutional quality can easily learn from the past successes of their neighbors and also tend to be subject to institutional reform pressures due to intense competition with its neighbors.

(3) Is China ready for institutional reform?

Of the forgoing conditions, the high institutional quality of neighbors has been excluded from our analysis given (1) the difficult for a country to control the quality of institutions of its neighbors, and (2) the existence of countries with relatively high institutional quality such as Japan, the NIEs of Asia and Thailand among China's neighbors. From the perspective of trade openness, China may be rated as relatively open in comparison to other developing countries (**Figure 13**).

Figure 13: Trade barriers of the BRICs (2004)

(%)

Country		Brazil	China	India	Russia
Binding coverage		100.0	100.0	73.8	–
Simple mean bound rate	Simple mean tariff	31.4	10.0	46.1	–
	Tariff rate	13.2	9.8	28.3	10.4
Weighted mean tariff		8.0	6.0	28.0	8.7
Share of lines in the tariff schedule with tariff rates that exceed 15 percent		38.0	16.0	92.4	8.4
Effect of non-tariff barriers (converted to tariff rates)		2.4	1.5	3.2	–

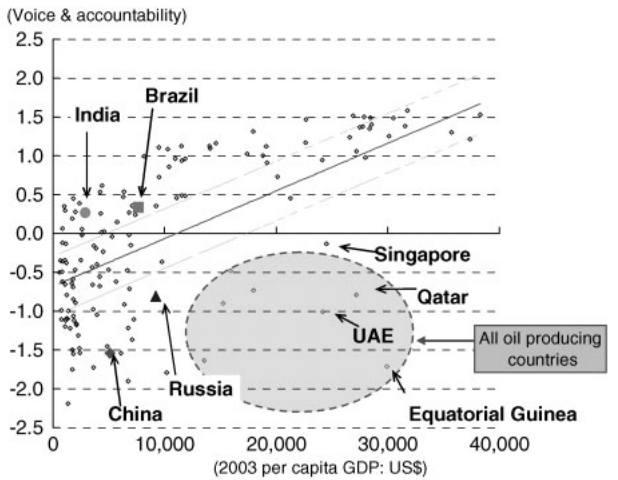
Note: The numerical values regarding Russia pertain to 2002. The "effect of non-tariff barriers" are estimates in 2000.
Source: The World Bank (2005).

Turning to the level of education, China's level of education is commensurate to its income level in terms of average educational attainment. However, in terms of the gross tertiary enrollment rate, it compares somewhat poorly relative to its income level. Thus, China is expected to focus more heavily upon the spread of tertiary education and increase its human resources to carry out its institutional reforms.

Press freedom is what China lacks the most among the conditions for institutional reform cited above. According to the "voice and accountability" index among the governance indicators,

China's level of voice (freedom of speech) and government accountability is low even in consideration of its low income level (**Figure 14**).

Figure 14: Correlation between voice and accountability and the level of income



Source: Kaufmann et al. (2005), IMF, World Economic Outlook Database, Sept. 2005.

Of course, a low voice and accountability level does not necessarily rule out the possibility of high growth. The correlation coefficient between the voice and accountability index and the income level is a mere 0.38. Furthermore, it is also true that countries formerly under authoritarian rule such as Singapore, South Korea and Taiwan have been able to achieve long–term high economic growth.

Nevertheless, it should be noted that the correlation between voice and accountability and income level which is not so strong in the case of developing countries, grows stronger along with the rise of income levels. (Note that most of the high income countries with low levels of voice and accountability are oil producing countries). Even though careful and comprehensive discussions are necessary

to form any conclusion on the causal relationship between economic development and freedom of speech and the strength or weakness thereof, it goes beyond doubt that the freedom of speech and government accountability stimulates institutional reform and has a positive impact upon economic performance.

As a matter of fact, a low level of voice and accountability is affecting China's political and social stability. Mass appeals, protests and riots (so–called "mass incidents") are on the rise in China, increasing from approximately 8,700 incidents in 1993 to 74,000 incidents in 2004. The number of participants in such incidents has increased from 700 thousand to 3.76 million people (Note 23). In many of these mass incidents, the direct causes were mass dissatisfaction toward infringements of interests. More specifically, they were dissatisfaction toward labor–management relations, farmland expropriations, evictions in urban areas, corporate restructuring and indemnifications for relocation of residents. Looking deeper into the background to such mass incidents, many cite (1) the low quality of administrative officials coming in direct contact with the people and their low problem–solving abilities, (2) dissatisfaction toward corruption and bureaucratic handling of matters, (3) lack of consideration toward the socially vulnerable in formulation of public policy, and (4) problems in the political system which make it difficult for the socially vulnerable to make appeals for their interests because of their weak social and political powers (Note 24).

The Chinese government is coming face to face with the fact that further efforts in terms of the freedom of speech and government accountability are indispensable for political and social stability which serves as the basic foundation for sustainable growth.

The government of China is not totally oblivious to the connection between political reform and sustainable growth. The Eleventh Five–Year Plan also lists various targets regarding the promotion of political reforms. For example, the Plan includes reforms of institutions for petitions, the expansion of channels for hearings, the establishment of the rule of law, restoration of administration oversight and controls, transparency of

administration, promotion of democracy at fundamental levels and the guarantee of legal voting rights, the "right to know" and the right to political participation and political oversight.

Obviously when undertaking political reforms, the design of institutions would require a considerable amount of time so that the political reforms do not undermine social stability. Furthermore, it is unlikely that the political reforms will progress at a rapid pace, given the difficulty to coordinate interests. Even so, as the increase of "mass incidents" indicates, China is approaching the crossroads where the steady promotion of political reforms determine the success or failure of sustainable development. The extent of the political reforms achieved by the Eleventh Five–Year Plan and its impact upon China's progress, reform and stability will serve as a test on the future course of the Chinese economy.

5. Concluding remarks and pending challenges

(1) Concluding remarks

The results derived from the foregoing analysis are as follows.

China's institutional foundation to support sustainable growth is more or less commensurate to or surpasses its level of income. In addition to its healthcare environment matching middle income countries, the spread of primary education in China is commensurate to its level of income. China's incremental reform is leading to the formation of a competitive market through the market entry of non–state–owned enterprises and the construction of a widespread value chain, which in turn are serving as an advantage in comparison to countries of the same income level. Moreover, given the intensity of market competition and the success of government measures toward the advancement of science and technology, China is characterized by a high level of input toward technological

innovation relative to its income level. This is also serving as an advantage for China's achievement of sustainable growth.

That said, the negative effects of China's incremental reform are the "vestiges of a planned economy" such as the opaque powers and obligations and interdependence of state–owned enterprises, state–owned commercial banks and the government, which are serving as obstacles toward sustainable growth. In China's case, the development of the financial system and soundness of banks is lagging, even in consideration of its level of income. The lagging reforms in these areas stem in part from the "vestiges of a planned economy" mentioned above. Moreover, China also faces challenges in terms of the protection of property ownership, the spread and quality of higher education and the strength of auditing and reporting standards.

The regional and occupational disparities in institutional development are so large that they may no longer be ignored. The disparity stems in part from the insufficient transfer of funds to local governments. There are also many areas in which there are discriminatory institutions which treat urban and rural areas differently. Measures to close such gaps must be taken as quickly as possible since these disparities may lead to the entrenchment of social stratification and serve as causes for political and social instability.

Given its awareness of the aforementioned institutional flaws, the Chinese government has set forth various measures in the Eleventh Five–Year Plan. However, despite variations in the degree of severity, China's institutional flaws have always been present. While countries succeeding in institutional reform share common tendencies such as (1) its neighbors having higher institutional quality, (2) trade openness, (3) high levels of education, and (4) high levels of press freedom, the low level of press freedom is weakening the incentive or institutional reform in China's case. As a matter of fact, the lag in political reforms such as the freedom of press is leading to the rise of "mass incidents". While China has set forth its

policy to promote incremental political reforms, its steady achievement will serve as a major determinant of future growth.

(2) The pending challenges

The foregoing results of analysis are derived from cross–country data based upon questionnaire surveys of persons in managerial positions. The merits of this method of analysis are that it enables the incorporation of subjective evaluations regarding institutional operations having an impact upon economic performance and the introduction of a perspective involving multilateral comparisons.

Nevertheless, the analysis falls short of presenting the contents and state of operation of each of the institutions and its impact upon economic performance. Moreover, as stated before, there are problems stemming from a sample bias.

Therefore, for a deeper examination of the institutional foundation for China's sustainable growth, we would need to (1) select countries suitable for comparison in each of the institutional areas, (2) examine the specific contents of the institutions and the state of enforcement or execution of such institutions, (3) examine the existence of complementary relationships and any inconsistencies with related institutions, and (4) conduct a detailed comparative analysis of the causal relationship between institutions and economic performance.

* * * * * * * * * *

Notes:

1. For a review on the economic growth theory, refer to Ishii (2003), Barro and Sala–i–Martin (1995), Jones (1998) and Akiyama (1999).
2. World Bank (2003), World Bank (2003).
3. Indexes on the size of the economy and sub–indexes with a weak correlation with the level of income have been excluded.
4. Imai (2006).
5. Shi (2005).
6. National Bureau of Statistics of China, *China Statistical Yearbook,* 2005.
7. For the state of development of China's financial market, refer to Kuwata (2005), ibid (2006),

8. In the original text (Miles et al. (2005)), the best condition regarding the protection of property ownership is given a numerical value of "1" and the worst condition is given a numerical value of "5".
9. National Bureau of Statistics of China, *China Statistical Yearbook,* 2005.
10. Japan Patent Office (2004).
11. Although the state of intellectual property protection in China is commensurate to its level of income, the level in absolute terms falls below the global average (Figure 10 (2)).
12. Sunami (2003).
13. National Bureau of Statistics of China, Department of Science and Technology, *China Statistical Yearbook on Science and Technology,* 2004.
14. OECD (2005b).
15. World Economic Forum (2005).
16. World Economic Forum (2005).
17. Kaufmann et al. (2005).
18. UNDP (2005a).
19. UNDP (2005b).
20. UNDP (2005a).
21. UNDP (2005a).
22. Aoki, Okuno (Fujiwara) (1996).
23. Uno (2005), Kojima (2006).
24. Chen Li–hua, "Mass incidents – China's ordeal" (Xinhua online, August 1, 2005).

Bibliography

– Japanese–language reference material –

Aoki, M and M. Okuno (Fujiwara), "Keizai shisutemu no hikakubunseki" (Comparative analysis of economic systems), University of Tokyo Press, 1996

Akiyama, Y., "Keizai hattenron nyumon" (Introduction to economic development theory), Toyo Keizai Shimposha, 1999

Ishii, N., "Chohki keizai hatten no jisshobunseki – seicho mekanizumu wo kinou saseru seido ha nanika" (Positive analysis of long–term economic development – what are the institutions

which facilitate the growth mechanism?), Nihon Keizai Shimbun, Inc., 2003

Uno, K., "Chugoku no gunshu hanzai jiken no gainen to tokucho" (The concept and characteristics of mass crimes in China), (Waseda University School of Commerce "*Bunka ronshu*" No. 27, September 2006)

Onishi, Y. ed., Chugoku Kokintou seiken no chosen – dai juichiji gokanen chokikeikaku to jizokukano na hatten" (The challenge of the Hu Jin Tao administration – the Eleventh Five Year Plan and sustainable development), Institute of Developing Economies, Japan External Trade Organization, 2006

Kuwata, Y., "2005–nenban chugoku no kin–yu seido to ginko torihiki – chugoku deno kin–yu kikan riyo no tebiki" (China's financial system and banking transactions 2005 – a handbook on utilization of banks in China) Mizuho Research Institute Ltd., 2005

–––– "Gaishikei kigyo ni taisuru chugoku no gaika kanri – 2006–nenban" (China's foreign currency controls toward foreign enterprises – 2006) Mizuho Research Institute Ltd., 2006

Kojima, T., "Chugoku keizai ga kakaeru shomondai" (The problems of the Chinese economy), (Japan Center for International Finance "Chugoku keizai ga kakaeru shomondai ni kansuru kenkyukai" March 2006)

Sunami, A., "Chugoku no kagakugijutsu seisaku to inobeshon (gijutsukakushin) shisutemu – shinka suru chugokuban sangakuken gassaku'" (China's science & technology and innovation system – the evolution of China's "industry–academia research and collaboration") PRI Discussion Paper Series No.03A–17, June 2003)

World Bank, *World Development Report (WDR) 2000/2001: Attacking Poverty*

World Bank, *World Development Report (WDR) 2002: Attacking Poverty*

Japan Patent Office, "2003–nendo moho higai chousa hokokusho" (Research report on damages caused by imitations in FY2003), 2004

– English–language reference material –

Barro, Robert J., "Government Spending in a Simple Model of Endogenous Growth," *Journal of Political Economy,* Vol.98, No.5, 1990, pp.103–126

Barro, Robert J. and Jong–Wha Lee, "International Data on Educational Attainment: Updates and Implications," CID Working Paper, No.42, April 2000

Barro, Robert J. and Xavier Sala–i– Martin, *Economic Growth,* McGraw–Hill, 1995.

Dullien, Sebastian, "China's Changing Competitive Position: Lessons from a Unit–Labor–Cost–Based REER," *International Trade,* 0502016, Economics Working Paper Archive at WUSTL, 2005

Inter–American Development Bank, *Economic and Social Progress in Latin America 2001 Report,* 2001

Jones, Charles I., *Introduction to Economic Growth,* W. W. Norton, 1998

Imai, Ken, "Explaining the Persistence of State–ownership in China," Institute of Developing Economies Discussion Paper No.64, June 2006

Kaufmann, Daniel, Aart Kraay and Massimo Mastruzzi, "Governance Matters IV: Governance Indicators for 1996–2004," World Bank Policy Research Working Paper, No. 3630, May 2005

Lall, Subir, Nikola Spatafora and Martin Sommer, "Building Institutions," *World Economic Outlook,* IMF, September 2005

Lucas, Robert E., Jr., "On the Mechanics of Economic Development," *Journal of Monetary Economics,* Vol.22, No.1, 1988, pp.3–12

MacFarlan, Maitland, Hali Edison and Nicola Spatafora, "Growth and Institutions," *World Economic Outlook,* IMF, April 2003

Maddison, Angus, *Monitoring the World Economy 1820–1992,* OECD, 1995

Miles, Marc A., Edwin J. Feulner and Mary Anastasia O'Grady, *2005 Index of Economic Freedom,* The Heritage Foundation, The Wall Street Journal, 2005

North, C. Douglass, Institutions, *Institutional Change and Economic Performance,* Cambridge University Press, 1990

OECD, *OECD Review of Agricultural Policies: China,* 2005a

–––, *OECD Science, Technology and Industry Scoreboard 2005 – Towards a knowledge–based economy,* 2005b

O'Niell, Jim, Dominic Wilson, Roopa Purushothaman and Anna Stupnytska, "How Solid are the BRICs?" Goldman Sachs Global Economics Paper, No.134, December 2005

Ravallion, Martin and Shaohua Chen, "China's (Uneven) Progress Against Poverty," World Bank Policy Research Working Paper, 3408, September 2004

Rodrik, Dani, "Institutions for High–Quality Growth: What They Are and How to Acquire Them," NBER Working Paper Series, 7540, February 2000

Romer, Paul M., "Increasing Returns and Long–Run Growth," *Journal of Political Economy,* Vol.94, No.5, 1986, pp.1002–1037

The World Bank, *World Development Indicator,* 2005

United Nations Development Plan, *China Human Development Report 2005,* 2005a

——, *Human Development Report 2005,* 2005b

Wilson, Dominic and Roopa Purushothaman, "Dreaming with BRICs: The Path to 2050," Goldman Sachs Global Economics Paper, No.99, October 2003

World Economic Forum, *The Global Competitiveness Report 2005–2006,* Palgrave Macmillan, 2005

– Chinese–language reference material –

红旗大参考编写组 『国民经济和社会发展〝十一五〟规划大参考』红旗出版社，2005 年

(Hongqi Dacankao Group, *"A Reference Book on the Eleventh Five–Year Plan on the National Economy and Social Progress,"* Hongqui Publishing House, 2005)

施华强 「国有商业银行賬面不良贷款· 调整因素和严重程度： 1994－2004」(中国金融学会『金融研究』总第 306 期，2005 年第 12 期)
(Shi Huaqiang, "On the NPLs of State-owned Banks from 1994 to 2004," *Journal of Financial Research,* No. 306, December 2005)

王梦奎 主编 『中国中长期发展的重要课题 2006-2020』 中国发展出版社，2005 年
(Wang Mengkui eds., *Key Issues in China's Development 2006-2020,* Development Press of China, 2005)

中国人民银行金融稳定分析小组 『中国金融稳定报告』 中国金融出版社，2005 年
(Financial Stability Analysis Group of the People's Bank of China, *China Financial Stability Report,* China Financial Publishing House, 2005)

中国社会科学院经济研究所 编『＂十五＂计划回顾与＂十一五＂规划展望』中国市场出版社，2006 年
(Institute of Economics of the Chinese Academy of Social Sciences eds., *"Review of the Tenth Five-Year Plan and Outlook on the Eleventh Five-Year Plan",* China Market Press, 2006)

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