



The Challenges of Governance Structure, Trade Disputes and Natural Environment to China's Growth

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Viewing the Chinese economy as a speeding car, there are three types of development that could crash the car: (1) a hardware failure, which is the breakdown of an economic mechanism (analogous to the collapse of the chassis of the car), for example, a banking crisis; (2) a software failure, which is a flaw in governance that creates social disorders (analogous to a fight among the people inside the car), for example, the state not being able to meet the rising social expectations about its performance because many of the key regulatory institutions are absent or ineffective; and (3) a power supply failure, which is the loss of economic viability (analogous to the car running out of gas or having its ignition key pulled out), for example, an environmental collapse or an export collapse. The fact that China has recently declared that its most important task is to build a Harmonious Society (described as a democratic society under the rule of law and living in harmony with nature) suggests that improvements in governance and protection of the environment are among the most serious challenges to achieving sustainable development. The greatest inadequacy of the Harmonious Society vision is the absence of an objective to build a harmonious world because a harmonious society cannot endure in China unless there is also a harmonious world, and vice versa. The large amount of structural adjustments in the developed countries generated by rapid globalisation and technological innovations has made the international atmosphere ripe for trade protectionism; and environmental degradation has made conflict over the global environmental commons more likely. China's quest for a harmonious society requires it to help provide global public goods, particularly the strengthening of the multilateral free-trade system, and the protection of the global environmental commons. Specifically, China should work actively for the success of the Doha Round and for an international research consortium to develop clean coal technology.

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WHAT COULD DERAIL CHINA'S HIGH GROWTH?

China's watchers in the main are optimistic about continued high growth of the Chinese economy. This optimism is in line with the more generalised optimism about the future of the world because of accelerating globalisation and technological innovation.¹ For example, *Smart Money* on Wall Street is predicting robust growth in Brazil, India and Russia as well.² The combined GDP of Brazil, Russia, India and China (BRIC) which amounted to only 15% of the GDP of the G-7 in 2005 (\$27.3 trillion) is expected to grow rapidly to become equal to the GDP of the G-7 in 2040 (\$52.3 trillion); see Table 1. In this redistribution of global economic power, economic leadership would pass from the United States to China, whose GDP would equal the US GDP in 2040 and exceed it by 40.6% in 2050.

The road to prosperity for China might not be a smooth one, however, despite the fact that China's economy has been like a speeding car for almost 30 years.³ The reality is that the past is not necessarily a good predictor of the future; otherwise, there would not be turning points in history like the fast disintegration of the Soviet Union and the rapid, radical transformation of Japan upon the Meiji restoration. A good clue as to what the most likely precipitating factors are is found in the discussions of the 6th Plenum of the 16th Central Committee of the Communist Party of China (CPC) that concluded on 11 October 2006. The 6th Plenum passed a resolution to commit the CPC to establish a Harmonious Society by 2020. The obvious implication from this commitment is that the present major social, economic and political trends within China might not lead to a harmonious society or, at least, not lead to a harmonious society fast enough.

¹ One of the more elegant expression of this sentiment would be Friedman (2005).

² For example, Jim O'Neill *et al.* (2005) of Goldman Sachs.

³ For a review of the debate on how to interpret China's high growth in the 1978–2000 period and why China, unlike the economies of the former Soviet bloc, did not experience a recession when it made the switch from a centrally planned economy to a market economy, see Sachs and Woo (2000) and Woo (2001).



Table 1: The future distribution of economic power: GDP in trillions of US\$, in 2005 prices

	G-7	BRIC	USA	China	India
2005	27.3	4.2	12.5	1.9	0.7
2025	39.3	20.4	19.6	11.7	3.6
2040	52.3	52.3	29.2	29.4	12.9
2050	64.0	90.0	37.7	48.6	27.2

Source: O'Neill *et al.* (2005).

G-7 = USA, Japan, Germany, France, UK, Italy and Canada BRIC = Brazil, Russia, India and China.

The harmonious socialist society proposed by the 6th Plenum would encompass:

- a democratic society under the rule of law;
- a society based on equality and justice;
- an honest and caring society;
- a stable, vigorous and orderly society; and
- a society in which humans live in harmony with nature.

The important inference from the explicit affirmation of the above five objectives is that China has not been making satisfactory progress towards them. This new emphasis in 2006 on democratic practice, the rule of law, and income equality represents a turning point because, ever since the famous December 1978 Plenum put China on the road to capitalism, every Plenum had ended with the declaration that the foremost work of the Party for the coming year was economic construction because China was still in the primary stage of socialism.⁴

What is the origin of the CPC's decision to change its primary focus from 'economic construction' to 'social harmony'? And why include a target date of 2020? I believe that the policy change has come about because the younger and better educated CPC leadership led by Hu Jintao and Wen Jiabao recognises that:

1. material conditions and public expectations in China have changed so much since 1978 that without accelerated institutional reforms and new major policy initiatives on a broad front, economic construction that continues using the 1978–2005 policy framework, which had produced an average annual GDP growth rate of almost 10%, is unsustainable; and

⁴ For example, the 2005 Plenum reiterated the Dengist mantra that 'economic development is the top priority for the CPC, all efforts should be focused on economic development'; see 'CPC Plenary session calls for developing the economy based on scientific concept,' *People's Daily Online*, 12 October 2005; http://english.people.com.cn/200510/12/eng20051012_213891.html



2. unless their new policies could produce significant improvements in social harmony by 2020, social instability would reduce China's economic growth, hence, making the leadership of CPC in Chinese politics unsustainable.

To return to the analogy of China's economy being like a speeding car, the Hu–Wen leadership saw several high-probability failures that could cause the car to crash in the near future. Analytically, three classes of failures could occur (1) hardware failure, (2) software failure, and (3) power supply failure.

A *hardware failure* refers to the breakdown of an *economic mechanism*, a development that is analogous to the collapse of the chassis of the car. Probable hardware failures are (1) a banking crisis that causes a credit crunch that, in turn, dislocates production economy-wide, and (2) a budget crisis that necessitates reductions in important infrastructure and social expenditure (and also possibly generates high inflation, and balance of payments difficulties as well).

A *software failure* refers to a flaw in *governance* that creates frequent widespread social disorders that disrupt production economy-wide and discourage private investment. This situation is similar to a car crash that resulted from a fight among the people inside the speeding car. Software failures could come from (1) the present high-growth strategy creating so much inequality, and corruption that, in turn, generates severe social unrest which dislocates economic activities; and (2) the state not being responsive enough to rising social expectations, hence causing social disorder.

A *power supply failure* refers to the economy being unable to move forward because it hits either *a natural limit or an externally imposed limit*, a situation that is akin to the car running out of gas or having its engine switched off because an outsider reached in and pulled out the ignition key. Examples of power supply failures are (1) an environmental collapse, for example, climate change, a type of disaster that has happened quite often in history (Diamond, 2005); and (2) a collapse in China's exports because of a trade war.

My perception is that the Chinese leadership is moderately confident that it could prevent most hardware failures and respond appropriately to ones that occur. The leadership is less confident however about its ability to prevent, and react optimally to, software failures and power supply failures. Even more, the leadership knows that the negative trends since the mid-1990s of widening income disparity, worsening corruption, rising social expectations, growing trade imbalances, and deteriorating natural environment have increased the probability of software failures and power supply failures. This increased attention by the Hu–Wen leadership on possible software failures and power supply failures is the origin of China's quest for a harmonious society.



This paper will focus on three events that could make China's high growth unsustainable (1) social disorder caused by outmoded governance; (2) trade protectionism generated by the fast integration of China into the international economy; and (3) environmental collapse (especially water shortage) as a result of inept environmental management. It must be emphasised that these three events have high probabilities of happening only as long as the present socio-economic policy regime continues. With the root-and-branch reform of China's society as specified in the Harmonious Society programme, and with drastic reform of the economic system and the economic management system, China would move to a more sustainable mode of economic development.⁵

THE NEED FOR IMPROVED GOVERNANCE TO SUSTAIN ECONOMIC GROWTH

The well functioning of a market economy requires a wide array of regulatory institutions that range from straightforward law-and-order administration to complicated legal adjudication that would, for example, have the prerequisite scientific understanding to determine whether a patent case involves real technological innovation or not. China's strategy of incremental reform combined with the fact that institution building is a time-consuming process meant that many of its regulatory institutions are either absent or ineffective. The results have been governance failures on many fronts, of which the most well-known recent governance failures are the violations against the welfare of consumers and workers.

There have been significant regulatory failures in keeping China's food supply and pharmaceutical products safe. The misuse of chemicals to lower production costs has resulted in the addition of poisonous substitutes into toothpaste,⁶ cough medicine,⁷ and animal feed;⁸ the application of lead paint to children toys;⁹ and the over-employment of antifungals and antibacterials

⁵ This fundamental change in the overall policy regime will not only reduce poverty, income inequality, and financial shenanigans, but also reduce the possibility of hardware failures; see Woo (2005) and Woo (2006).

⁶ 'China investigates contaminated toothpaste,' *The New York Times*, 22 May 2007; and 'China prohibits poisonous industrial solvent in toothpaste,' *The New York Times*, 12 July 2007.

⁷ 'From China to Panama, a trail of poisoned medicine,' *The New York Times*, 6 May 2007.

⁸ 'Filler in animal feed is open secret in China,' *The New York Times*, 20 April 2007; and 'Another chemical emerges in pet food case,' *The New York Times*, 9 May 2007.

⁹ 'As more toys are recalled, the trail ends in China,' *The New York Times*, 19 June 2007; 'Train wreck,' *The New York Times*, 19 June 2007; and 'Fisher-Price recalls 1.5m China-made toys,' *Financial Times*, 2 August 2007. The first article also reported the recall of a ghoulish fake eyeball that was filled with kerosene, and of an infant wrist rattle that had a choking hazard.



in fish farming.¹⁰ Most of these above abuses received enormous attention because these items were exported to other countries and their harmful effects were reported widely in the international press.¹¹ Clearly, the Chinese consumers have been suffering much more from such types of malfeasance, the scope of which has not been realised because of the considerable press censorship in China.¹²

Dereliction in duty by government officials is the fundamental reason for such governance failures. The most well-known recent case was the conviction of Zheng Xiaoyu, the former director of China's food and drug safety agency, for accepting bribes to approve production licenses for pharmaceutical companies and food companies. Such dereliction in official oversight has resulted in:

*'tens of thousands of people.[being] sickened or killed every year as a result of rampant counterfeiting of drugs, and tainted and substandard food and drugs. For instance, last year 11 people died in China with an injection tainted by a poisonous chemical. Six people died and 80 others fell ill after taking an antibiotic that had been produced ... with a substandard disinfectant. Small drug makers in China have long been accused of manufacturing phony or substandard drugs and marketing them to the nation's hospitals and pharmaceutical companies. And mass poisonings involved tainted food products are common.'*¹³

There have also been significant regulatory failures in the treatment of labour, especially in the areas of occupational safety and punctual wage payments. One of the most recent horrifying accounts involved forced labour of kidnapped children in the brick kilns of Shanxi and Henan provinces.¹⁴ The official *China Daily* reported that 'as many as 1,000 children may have been sold into slave labor in central China'.¹⁵ This deplorable affair was exposed partly 'because of an open letter posted online by a group of 400 fathers appealing for help in tracking missing sons they believed were sold to

¹⁰ 'F.D.A. curbs sale of 5 seafoods farmed in China,' *The New York Times*, 29 June 2007; and 'A slippery, writhing trade dispute,' *The New York Times*, 3 July 2007.

¹¹ For example, radial tires were manufactured without the gum strips that prevented the tires from separating; see 'Chinese tires are ordered recalled,' *The New York Times*, 26 June 2007.

¹² 'When fakery turns fatal,' *The New York Times*, 5 June 2007.

¹³ 'Ex-Chief of China Food and Drug Unit sentenced to death for graft,' *The New York Times*, 30 May 2007; and 'For 2 children, ban of a drug came too late,' *The New York Times*, 13 July 2007.

¹⁴ 'China to investigate into "slave labor" incident,' *China Daily*, 16 June 2007. *The New York Times* ('China slave scandal brings resignation calls,' 18 June 2007) reported that: 'The workers endured prison-like confinement with fierce dogs and beatings ... Released workers were shown on television with festering wounds and emaciated bodies.'

¹⁵ 'China brickwork slave children may number 1,000,' *China Daily*, 15 June 2007.



kiln boss'.¹⁶ A parent visiting the brick kilns in her quest to find her son found that the local police were not only unwilling to help but also demanded bribes instead.¹⁷ In one case, the brick kiln was owned by the son of the village Party secretary.¹⁵

Perhaps, the two most dismaying revelations from the news reports on the brick kiln slavery are that this sad state of affairs had been going on for a decade,¹⁸ and the 'forced labor and sexual exploitation have increased as the trend in human trafficking in China has taken a turn for the worst.'¹⁹ Yin Jianzhong, the senior official at the Ministry of Public Security who identified the worsening trend in human trafficking in China, recognised a reason for the negative development to be 'the loopholes in the legal and labor systems ... [Specifically,] the Criminal Law on human trafficking protects women and children only and leaves out grown-up and teen males. It doesn't have provisions for punishing those trafficking people for forced labor or prostitution.'¹⁹ The fact that such legal loopholes exist supports our contention that the main cause behind the administrative failures in China is the 'dereliction of duty by government officials.'²⁰

Inadequate institutions of governance are not the only cause of social tensions in China, however. The present economic development strategy, despite its ability to generate high growth, also generates high social tensions because, in the last 10 years, it has had great difficulties in reducing extreme poverty further and in improving significantly the rural-urban income distribution and the regional income distribution; see Woo *et al.* (2004), and Démurger *et al.* (2002). In the first half of the 1990s, the \$1 poverty rate (ie the proportion of rural population receiving a daily income of \$1 or less), dropped rapidly from 31.3% in 1990 to 15.0% in 1996. But in the following 6 years, the decline was only 5 percentage points, see Table 2. The \$1 poverty rate stayed in the 10%–12% rate in the 1998–2003 period even though the GDP growth rate averaged 8.5% annually. It was only after the sustained large-scale effort to develop western China began in 2001 and the post-2002 rise in the GDP growth rate to 10% or higher that the \$1 poverty rate dropped to 7.9% in 2004 and then to 7.2% in 2005.

¹⁶ '5 Chinese arrested in enslavement case,' *The New York Times*, 18 June 2007.

¹⁷ 'Reports of forced labor unsettle China,' *The New York Times*, 16 June 2007.

¹⁸ This point was made by the popular tabloid Southern Metropolis Daily, see 'China slave scandal brings resignation calls,' *The New York Times*, 18 June 2007.

¹⁹ 'More forced into prostitution, labor,' *China Daily*, 27 July 2007.

²⁰ This point was made by the Shanxi governor, Yu Youjun, who said: 'For a long time, relevant government departments did little to regulate rural workshops, small coal mines and small factories, and they are basically out of control and are not being supervised ... The dereliction of duty by civil servants and the corruption of individuals have made it possible for illegal labour to exist, particularly the abductions of migrant workers, and forced labour of children and mentally disabled people' – see 'Fears linger over child slaves at kilns,' *South China Morning Post*, 23 June 2007.



Table 2: The headcount measure of the incidence of poverty in rural China, 1990–2002

Poverty line	\$0.50	\$0.71	\$0.75	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00
1990	3.78	13.72	15.76	31.25	47.74	62.28	73.29	80.96
1991	5.00	14.96	17.08	31.70	47.49	61.69	72.64	80.37
1992	3.83	12.96	15.00	30.13	44.56	58.58	69.76	77.91
1993	4.58	12.83	14.70	29.10	43.81	56.85	67.47	75.68
1994	4.50	11.81	13.43	25.90	37.46	50.46	62.10	71.46
1995	3.63	9.97	11.36	21.80	33.13	44.70	55.46	64.68
1996	1.82	5.59	6.55	15.04	25.36	36.02	46.14	55.32
1997	2.11	5.44	6.26	13.49	22.59	32.32	41.87	50.82
1998	1.87	4.55	5.20	11.45	19.96	29.51	39.14	48.28
1999	1.68	4.30	4.93	11.05	19.29	28.46	37.70	46.49
2000	2.79	5.65	6.29	12.10	19.77	28.41	37.26	45.79
2001	3.05	5.65	6.21	11.38	18.38	26.53	35.11	43.55
2002	2.87	5.38	5.92	10.90	17.60	25.39	33.59	42.19
2003	3.03	5.30	5.78	10.19	16.26	23.53	31.41	39.35
2004	2.20	3.94	4.32	7.90	13.11	19.63	26.93	34.50
2005	2.81	4.24	4.54	7.21	11.08	16.20	22.38	29.27

The 1990–1997 figures are from World Bank (2001) Annex 1 Table 3, and the post-1997 figures are computed by Ximing Yue (private communication).

Headcount measure, number of rural poor/rural population (in percent).

Poverty line is in 1985 PPP US\$ per day.

However, the progress in poverty alleviation in the last decade is considerably much less impressive when the poverty line is lowered. The \$0.71 poverty rate stayed unchanged from 1998 (4.6%) to 2005 (4.2%); and the \$0.50 poverty rate actually increased from 1.9% in 1998 to 2.8% in 2005. In short, the higher growth rate in the 2003–2005 period did not cause income to trickle down to the poorest 5% of the rural population, and hence caused income inequality to worsen.

In the 1985–1987 period, China’s Gini coefficient was below 0.3.²¹ According to a report in the official *China Daily* in June 2005:

‘China’s income gap widened in the first quarter of the year [2005], with 10 percent of the nation’s richest people enjoying 45 percent of the country’s wealth ... China’s poorest 10 percent had only 1.4 percent of the nation’s wealth ... No precise Gini coefficient was provided [by the state statistical agency], but state press reports in recent weeks said the value was more than 0.48 and approaching 0.5 Most developed European nations tend to have coefficients of between 0.24 and 0.36, while the United States has been above 0.4 for several decades.’²²

²¹ The Gini coefficient has a value between 0 and 1, and the higher the value, the greater the degree of income inequality. Wu and Perloff (2005) put the rural and urban Gini coefficients to be 0.272 and 0.191, respectively, in 1985; and Benjamin *et al.* (2005) estimated them to be 0.32 and 0.22, respectively, in 1987.

²² ‘Income gap in China widens in first quarter,’ *China Daily*, 19 June 2005–2006.



Table 3 presents the income inequality in China within the international context. China's Gini coefficient climbed from 40.74% in 1993 to 47.25% in 2004 and overtook the four Asian countries (Thailand, Philippines, Malaysia and Turkmenistan) that had higher Gini coefficients than China in 1993–1994. While Nepal has the highest Gini coefficient in Asia in 2001–2004, its value of 47.30% is statistically indistinguishable from China's value of 47.25%. If we combine this with the fact that China's income ratio of the richest 20% to the poorest 20% (11.37) is the highest in Asia and is significantly higher than the next highest income ratio (9.47 for Nepal), China is probably statistically the most unequal country in Asia today.

Table 3: Comparative inequality in income distribution

	Period	Gini coefficients		Income ratio of top 20%/bottom 20%	
		Initial year	Final year	Initial year	Final year
<i>1. Asian member of Asian development bank</i>					
Nepal	1995–2003	37.65	47.30	6.19	9.47
China	1993–2004	40.74	47.25	7.57	11.37
Philippines	1994–2003	42.89	43.97	8.34	9.11
Turkmenistan	1998–2003	41.08	43.02	7.88	8.33
Thailand	1992–2002	46.22	41.96	9.41	7.72
Malaysia	1993–2004	41.22	40.33	7.72	7.70
Sri Lanka	1995–2002	34.36	40.18	5.34	6.83
Cambodia	1993–2004	31.80	38.05	5.24	7.04
Viet Nam	1993–2004	34.91	37.08	5.40	6.24
Azerbaijan	1995–2001	34.96	36.50	6.09	5.96
India	1993–2004	32.89	36.22	4.85	5.52
Lao PDR	1992–2002	30.40	34.68	4.27	5.40
Indonesia	1993–2002	34.37	34.30	5.20	5.13
Bangladesh	1991–2005	28.27	34.08	4.06	5.03
Kazakhstan	1996–2003	35.32	33.85	6.20	5.61
Taipei, China	1993–2003	31.32	33.85	5.41	6.05
Armenia	1998–2003	36.01	33.80	5.87	5.08
Mongolia	1995–2002	33.20	32.84	5.53	5.44
Tajikistan	1999–2003	31.52	32.63	4.97	5.14
South Korea	1993–2004	28.68	31.55	4.38	5.47
Pakistan	1992–2004	30.31	31.18	4.22	4.46
Japan	1993	24.90		3.37	
<i>2. Latin America</i>					
Colombia	2003	58.60		25.30	
Paraguay	2002	57.80		27.80	
Panama	1997	57.19		28.86	
Brazil	2004	56.99		23.00	
Chile	1998	55.77		16.72	
Peru	2002	54.60		18.60	
Ecuador	1998	53.53		18.70	
Mexico	1998	53.11		16.90	



(continued)

	Period	Gini coefficients		Income ratio of top 20%/bottom 20%	
		Initial year	Final year	Initial year	Final year
Argentina (Urban)	2003	51.28		18.40	
El Salvador	1997	50.79		15.20	
Costa Rica	2001	49.90		14.20	
Venezuela	2000	44.10		10.60	
<i>3. Sub-Saharan Africa</i>					
South Africa	2000	57.77		20.50	
Cote d'Ivoire	2002	44.60		9.70	
Nigeria	2003	43.60		9.80	
Kenya	1997	42.50		8.20	
Burundi	1998	42.40		9.50	
Zambia	2002–2003	42.10		8.00	
Senegal	1995	41.30		7.50	
Ghana	1998	40.75		8.40	
Burkina Faso	2003	39.50		6.90	
Benin	2003	36.50		6.00	
Tanzania	2000	34.60		5.80	
Ethiopia	1999–2000	30.00		4.30	
<i>4. Other countries</i>					
United States	2000	39.42		8.45	
United Kingdom	2002	34.37		5.59	
Spain	1998	34.00		5.86	
Italy	2002	33.30		5.80	
Canada	2000	32.45		5.48	
Australia	2002	30.90		...	
Norway	2002	29.60		4.64	
France	2001	27.00		4.11	
Finland	2003	25.80		3.58	
Sweden	2002	25.80		3.58	
Germany	2001	25.00		3.50	
New Zealand	1997	23.65		...	

Sources:

Asian Development Bank (2007)
and United Nations (2006).

Parts 2–4 of Table 3 reveal that China's income inequality today is generally lower than in Latin America but generally higher than in Africa and in the non-Asian developed countries. The steady increase in China's income inequality since 1985 raises the possibility that China is heading towards the Latin American degree of income inequality.

The reason why doing more of the same economic policies in today's China will not produce the same salubrious results of quick reduction in poverty and slow increase in inequality as in the early phases of economic



reform is because the development problems have changed. In the first phase of economic development, the provision of more jobs (through economic deregulation) was enough to lower poverty significantly. At the present, many of the people who are still poor require more than just job opportunities, they need an infusion of assistance (eg empowering them with human capital through education and health interventions) first in order to be able to take up these job opportunities. Effective governance for equitable growth has now become even more challenging, and so the probability of improving social harmony has been diminished.

Furthermore, the present mode of economic development also generates immense opportunities for embezzlement of state assets, seizure of farmlands for industrial development, and corruption because of the absence of effective mechanisms to supervise government employees; see Woo (2001). These features certainly make social harmony hard to sustain.

The data on social unrest are consistent with the hypothesis of rising social disharmony. First, the incidence of public disorder, labelled 'social incidents', has risen steadily from 8,700 in 1993 to 32,500 in 1999 and then to 74,000 in 2004. Second, the average number of persons in a mass incident has also risen greatly, from eight in 1993 to 50 in 2004.²³ It should be noted, however, that these numbers might not portray accurately the degree that social unrest has increased because the data include disco brawls and gambling den raids as well as social protests; see EastSouthWestNorth (no date).

Clearly, the number of mass incidents would have been lower if China had better governance. There would have been more pre-emptive efforts at conflict mediation by the government and less abuse of power by government officials if the government's actions had been monitored closely by an independent mechanism, and the government had also been held more accountable for its performance. It is therefore not naive to see the Harmonious Society programme as a serious attempt at fundamental reform of China's institutions of governance, going well beyond the reform of economic institutions. This assessment is substantiated by the identification of the first component of a harmonious society as 'a democratic society under the rule of law'. This point was confirmed in a meeting between Premier Wen

²³ 1993 number is from Keidel (2006, p. 1), and 2004 number is from Pei (2005) who wrote that, in 2004, there were 74,000 'mass incidents' involving 3.7 million people compared to 10,000 such incidents involving 730,000 people in 1994. Possibly, because of the widespread attention in the Western media on the marked rise in mass incidents, the post-2004 definition of mass incidents appeared to have been changed, making post-2004 data not comparable with the 1994–2004 data; see discussion in EastSouthWestNorth (no date).



and the Brookings Board of Trustees in October 2006, where Premier Wen dwelt at length on how China intends to make greater use of democratic mechanisms (eg extending free elections to above the village level) to mediate social conflicts and to improve public administration.

One main source of recent social unrest in rural China has been the conversion of farm land to industrial parks without adequate compensation to the farmers. It is interesting therefore that the No. 1 Document issued jointly in January 2006 by the CPC Central Committee and the State Council pledged not only to 'stabilise and regulate the transfer of land-use rights and accelerate land acquisition reforms' but also to 'expand channels to express public opinions in the countryside and improve the mechanism to resolve social conflicts.'²⁴

The desire by the Hu–Wen leadership to improve the institutions of governance is also borne out by the following report from the *South China Morning Post* about what Premier Wen said when he met a group of Chinese citizens in Japan in April 2007:²⁵

'During 30 minutes of impromptu remarks, he said the key to pursuing social justice, the mainland's most important task, was to "let people be masters of their houses and make every cadre understand that power is invested in them by the people".'

.... Although he did not deviate from the official line and spoke informally on both occasions, Mr Wen is known for being careful about what he says, whether in prepared remarks or speaking off the cuff. The fact that he highlighted, in the presence of Hong Kong and overseas journalists, the need for political reform is uncharacteristic and interesting, particularly in the context of the leadership reshuffle looming at the Communist Party's 17th congress later this year. There have been signs that the leadership under President Hu Jintao is under increasing pressure to undertake drastic political reforms to consolidate the party's grip on power and stamp out widespread corruption.'

While there are reasonable grounds for an analyst to doubt either the sincerity of Premier Wen's words or his ability to act on them,²⁶ the analyst cannot

²⁴ 'New pledge to give farmers a louder voice,' *South China Morning Post*, Tuesday, 30 January 2007. The No. 1 Document designation is designed to show that this is the most important task in the new year.

²⁵ 'Impromptu remarks reveal the party's pressure for reforms,' *South China Morning Post*, Monday, 16 April 2007.

²⁶ The following quote from *The New York Times* (20 April 2007) report 'In China, Talk of Democracy Is Simply That' makes a plausible case against optimism about democratisation of Chinese political life:

Like the spring showers that give the parched landscape a veneer of green ... Communist Party



doubt that Premier Wen is at least aware that democracy is one way to solve many of China's problems of governance. More importantly, the analyst cannot doubt that Premier Wen, like many of his countrymen, must be well acquainted with the history of democratic development in Eastern Europe and in East Asia, particularly in Taiwan and Hong Kong.

To understand the reasons behind Hu-Wen's switch to democracy as the new important instrument to introduce external supervision and accountability into governance, it is worth quoting at length from two recent insightful analyses on social unrest in China.

In Albert Keidel's (2006) assessment:

'Large-scale public disturbances have been on the rise in China for more than a decade. Media reports describe violence, injuries, and even deaths ... Issues include labor grievances, taxation, land confiscation, and pollution. Corruption worsens common injustices and further inflames citizen anger ... It is important to emphasize that China's social unrest is not made up of street demonstrations demanding a new government or western-style democracy ... China's social unrest should be understood as the unavoidable side effects – worsened by local corruption – of successful market reforms and expanded economic and social choice ... Managing this unrest humanely requires accelerated reform of legal and social institutions with special attention to corruption'

Murray Scot Tanner (2004a, b) reports from his examination of documents prepared by China's police that:

'Most available police analyses now blame unrest primarily on approximately the same list of social, economic, and political forces., implicitly relegating enemy instigation [ie conspiracy theories] to the role of a secondary catalyst ... In terms of internal security strategy, this characterization typically, though not always, reduces reliance on coercion ... [Many] police see a new social logic taking hold, with disgruntled citizens increasingly convinced that peaceful

journals and the state-run news media have published a stream of commentaries by retired officials and academics on 'political system reform' and the need for 'socialist democracy', including a bold-sounding call for China to mimic Switzerland's worker-friendly democratic governing style ... [The above developments might well reflect Hu Jintao's attempt] to rally support among younger party members and intellectuals ahead of an important party congress in the fall ... In an internal party document issued last year, Mr. Hu sharply criticised the Communist government of Vietnam for moving too rashly toward so-called inner-party democracy. He argued that the Chinese party had to maintain tight discipline to prevent the promotion of a figure like the former Soviet leader Mikhail S. Gorbachev, whom Chinese Communists consider a traitor to socialism, party officials who read Mr. Hu's comments on the subject said. The essays in party journals do not endorse multiparty democracy. Most of the authors argue that democracy can be functionally consistent with single-party rule.



protests is significantly less dangerous and not only effective but often unavoidable as a means to win concessions. Police sources now routinely quote a popular expression: 'Making a great disturbance produces a great solution. Small disturbances produce small solutions. Without a disturbance, there will be no solution.' ... Socioeconomic change may generate these underlying demands and clashes of social interest, but it is usually government failures that cause these contradictions to turn antagonistic and dangerous.'

Clearly, the large economic dislocations caused by the reform of the planned economy, and the institutional failures in governance²⁷ are important factors behind the higher frequency of large social disturbances. However, like Tanner, I am of the opinion that there is a third important factor behind the increasing readiness to resort to civil disorder, which is that the richer and more knowledgeable Chinese population now has higher expectations about the performance of the government.²⁸ The implication of the third factor is that 'Beijing may be kidding itself if it believes economic growth alone will bring unrest under control.'²⁹

The CPC is too astute to kid itself. In its search for new mechanisms to improve its performance on governance, it naturally had to consider democratic institutions as an option because democracy is the well-tested means of governance in all of the developed world. The two basic considerations for the CPC in deciding upon whether democracy should become the new centrepiece in its governance structure are:

1. whether democracy, the rule of law, and a stable income distribution comprise an indivisible combination that is necessary to ensure the social stability that will keep the economy on the high growth path to catch up with the United States (a vision which acts as the bedrock of CPC's legitimacy to rule)?
2. whether the CPC will be skilful and lucky enough to lead the democratic transition and emerge afterward as the most important political force?

By proposing the Harmonious Society programme, the Hu-Wen leadership has replied affirmatively to both questions. Objectively, this attempt by the CPC to reinvent itself is a difficult and risky undertaking. A functioning

²⁷ To get a sense of how abusive the local leaders could be, the reader should consult Chen and Wu (2006) for documentation on five incidents in the 1990s in Anhui province that suggest that '[many] of China's underclass live under an unchanged feudal system'.

²⁸ Tanner (2004a, b) pointed out that the 'data demonstrate that unrest began rising rapidly no later than 1993–1995 when the rate of economic growth exceeded 10 percent. Protests also show a ratchet effect, remaining quite high (and continuing to rise in at least two provinces) even as the rate of economic growth revived'.

²⁹ Tanner (2004a, b).



democracy requires not just free elections but also a free press that is responsible and a competent judiciary that is independent. So, how would the rank and file of CPC (who are used to exercising unchallenged power for 50 years) react to these institutional changes which produce a power-sharing arrangement that is alien and chaotic? Furthermore, a plan of gradual democratisation might be initially lauded and endorsed by most segments of society but subsequent changes in social expectations about governmental responsiveness and personal freedom could easily outpace the actual developments as implemented according to the plan.³⁰ So, would the CPC then be sufficiently pragmatic to accelerate the plan to avoid being run over by events?³¹

One possible answer to both these questions is that the CPC would rise to the demands of the occasions and transform itself into a social democratic party. An alternative answer based on the experiences from the Soviet bloc is that CPC would split and social instability would follow. While any answer to the two previous questions is necessarily speculative, what is much more definitive is the genesis of the programme to achieve a Harmonious Society by 2020. The fact that the Hu-Wen leadership, which is well known for its political caution, has embarked on this technically difficult and politically risky project suggests that it has concluded that new far-reaching reforms are less dangerous than partial reforms, and that, given the deep entrenchment of the disharmonious elements, time might not be on its side.³²

THE NEED FOR A HARMONIOUS WORLD TO SUSTAIN ECONOMIC GROWTH

China's current account in the balance of payments has been in surplus since 1994 and it has shown a clear upward trend, reaching \$184 billion in 2006 or 9% of GDP. China's emergence as a major trading nation has been accompanied by increasing conflicts with the European Union (EU) and the

³⁰ For example, in the same meeting with the Trustees of Brookings Institution in October 2006, Premier Wen outlined a step-by-step extension of free election from the village level to the provincial level. While such a plan, if proposed, would most likely receive wide societal approval in 2006, it is possible that Chinese society in 2020 might have raised its expectations to that free election should also be held at the national level.

³¹ If such escalations in social expectations are natural, then it is likely that regardless of whether or not the CPC defines 'democracy' the same way as the US constitution (or the Taiwanese constitution), the form of the democracy that will finally emerge in China will be closer to the latter's definition. Perhaps this is why the former Party Secretary Zhao Ziyang warned his colleagues in 1986–1987: 'Democracy is not something socialism can avoid. The people's demand for democracy is a trend. We must meet their demand to the fullest extent' (Zhao's remarks are quoted in Minxin Pei, 'How Far Has China to Go?' *Financial Times*, 18 January 2005.)

³² This sense of urgency explains why there is an explicit deadline of 2020.



United States (US) about China's trading practices and its exchange rate policy. On 12 June 2007, Peter Mandelson, the trade commissioner for the European Union described China's trade policy as 'illogical', 'indefensible' and 'unacceptable' and accused of doing nothing to rein in rampant counterfeiting.³³ On 14 June 2007, a bill was introduced in the US Senate 'to punish China if it did not change its policy of intervening in currency markets to keep the exchange value of the currency, the yuan, low'.³⁴

It is not uncommon to encounter allegations that the bilateral US-China trade deficit represented the export of unemployment from China to the United States, and that it lowered the wage for labour. These allegations are not supported by the facts, however. The steady rise in the US trade deficit from 1.2% of GDP in 1996 to 5.9% in 2006 was accompanied by a fall in the civilian unemployment rate from 5.4% in 1996 to 4.6% in 2006, and by a rise in the total compensation (measured in 2005 prices) received by a full-time worker from \$48,175 in 1996 to \$55,703 in 2005.³⁵ What is actually fuelling the rising resentment towards imports from China is that the US worker is feeling more insecure in the 2000s than in the 1980s because of the faster turnover in employment. For example, the median job tenure for males in the 45-54 age group has decreased from 11.8 years in 1987 to 8.1 years in 2006. The two most important causes for the more frequent job turnover are the large shift in the international division of labour that has been set in motion by the post-1990 acceleration of globalisation³⁶ and by the continued fast pace of technological innovations.³⁷ The resentment comes because the median US worker finds that there are considerable costs associated with the job change because of the inadequacies of the US social safety nets.³⁸

³³ 'Surplus fuels EU-China war of words,' *Financial Times*, 13 June 2007.

³⁴ '4 in Senate seek penalty for China,' *New York Times*, 14 June 2007.

³⁵ Compensation estimates are from Burtless (2007). Woo (forthcoming) attributes this rise in compensation to the accelerated technological innovations in the US in the 1990s.

³⁶ The single biggest boost to economic globalisation in the 1990s was perhaps the post-1990 integration of the labour force in the former Soviet Union bloc, India and China (SIC) into the international division of labour. The number of workers already engaged in the international division of labour in 1990 was 1,083 million, and the combined labour force of SIC was 1,232 million. The international division of labour in 1990 was certainly an unnatural one because half of the world's workforce had been kept out of it by the SIC's autarkic policies. By 2000, the number of workers involved in the international economic system in 2000 had increased to 2,672 million (with 1,363 million workers from SIC); data are from Freeman (2004).

³⁷ Feenstra and Hanson (1996) estimates the impact of these two developments on US wages. Immigration has also increased the anxiety of US worker; see Ottaviano and Peri (2005).

³⁸ These inadequacies are discussed in Brainard (1997) and Gary Burtless (2005). The latter reports that within the G-7 in 2004, only the United Kingdom has a less generous unemployment benefits scheme than the United States. An unemployed person in the US received initial unemployment benefits that equaled 53% of previous income compared to 78% in Germany, 76% in Canada and France, 61% in Japan, 60% in Italy, and 46% in UK. The duration of unemployment



It would be wrong, however, to think that China is blameless in the rapidly escalating trade tensions between China and its trading partners. China's chronic and growing overall trade surplus reveals a deep-seated problem in China's economy, its dysfunctional financial system. This problem is revealed by the aggregate-level accounting identity that the overall current account balance (of which, in China, the overall trade account is the biggest part) is determined by the fiscal position of the government, and the savings–investment decisions of the state-controlled enterprise (SCE) sector and the private sector, which together make up the non-government sector.³⁹ Specifically:

$$CA = (T - G) + (S_{SCE} - I_{SCE}) + (S_{private} - I_{private})$$

where CA is the current account in the balance of payments; $CA = (X - M) + R$; X is the export of goods and non-factor services; M is the import of goods and non-factor services; R is the net factor earnings from abroad (ie export of factor services); T is the state revenue; G is the state expenditure (including state investment); S_{SCE} is the saving of the SCEs; I_{SCE} is the investment of the SCEs; $S_{private}$ is the saving of the private sector; $I_{private}$ is the investment of the private sector.

The Chinese fiscal position ($T - G$) has for the last decade had a small deficit, and so it is not the cause of the swelling current account surpluses in the 2000s. The current account surplus exists because the sum of savings by SCEs and the private sector exceeds the sum of their investment expenditures.

Why has China's financial system failed to translate the savings into investments? Such an outcome was not always the case. Before 1994, the voracious absorption of bank loans by SCEs to invest recklessly usually kept the current account negative and the creation of nonperforming loans (NPLs) high. When the government implemented stricter controls on the state-owned banks (SOBs) from 1994 onward (eg removing top bank officials whenever their bank lent more than its credit quota or allowed the NPL ratio to increase too rapidly), the SOBs slowed down the growth of loans to SCEs. This cutback created an excess of savings because the SOB-dominated financial sector did not re-channel the released savings (which were also increasing) to finance the investment of the private sector. This failure in financial intermediation by the SOBs is quite understandable. Firstly, the legal status of private

benefits was 6 months in the US compared to 12 months in Germany, 9 months in Canada, 30 months in France, 10 months in Japan, and 6 months in Italy and the UK.

³⁹ The SCE category covers companies that are classified as state-owned enterprises, and joint-ventures and joint-stock companies which are controlled by third parties (eg legal persons) who are answerable to the state.



enterprises was, until recently, lower than that of the state enterprises; and, secondly, there was no reliable way to assess the balance sheets of the private enterprises, which were naturally eager to escape taxation. The upshot was that the residual excess savings leaked abroad in the form of the current account surplus. Inadequate financial intermediation has made developing China a capital exporting country!

This perverse current account outcome is not new. Taiwan had exactly this problem up to the mid-1980s when all Taiwanese banks were state-owned and were operated according to the civil service regulation that the loan officer had to repay any bad loan that he had approved. The result was a massive failure in financial intermediation that caused Taiwan's current account surplus to be 21% of GDP in 1986. The reason why China has not been producing the gargantuan current account surpluses seen in Taiwan in the mid-1980s is because of the large amount of SCE investments.

Why is the savings rate of the non-government sector rising? The combined savings of the SCE and private sector rose from 20% in 1978 to 30% in 1987, and then went above 45 since 2004. In discussions on the rise of the savings rate, a common view is that the rise reflects the uncertainty about the future that many SCE workers feel in the face of widespread privatisation of loss-making SCEs. We find this explanation incomplete because it seems that there has also been a rise in the rural saving rate even though rural residents have little to fear about the loss of jobs in the state-enterprise sector because none of them are employed there.⁴⁰

We see two general changes that have caused both urban and rural saving rates to rise significantly. The first is 'increased worries about the future'. The steady decline in state subsidies to medical care, housing, loss-making enterprises, and education, and mismanagement of pension funds by the state have led people to save more to insure against future bad luck (eg sickness, job loss), buy their own lodging, build up nest eggs for retirement, and invest in their children.

The second change is the secular improvement in the official Chinese attitude towards market capitalism. Given the high rate of return to capital, this increasingly business-friendly attitude the Communist Party of China has encouraged both rural and urban residents to save for investment, that is, greater optimism about the future has spawned investment-motivated saving.⁴¹

⁴⁰ Economist Intelligence Unit (2004, p. 23) reported that 'farmers' propensity to save seems to have increased.'

⁴¹ Liu and Woo (1994) and Woo and Liu (1995) contain formal modelling and econometric support for the investment-motivated saving hypothesis.



In our explanations for the existence of the current account surpluses and the growth of the surplus, there is a common element in both and that common element is China's financial system. The fact is that savings behaviour is not independent of the sophistication of the financial system. An advanced financial system will have a variety of financial institutions that would enable pooling of risks by providing medical insurance, pension insurance, and unemployment insurance; and transform savings into education loans, housing loans, and other types of investment loans to the private sector. *Ceteris paribus*, the more sophisticated a financial system, the lower the savings rate. China generates the current account surplus because of inadequate financial intermediation, and the surplus grows over time because the dysfunctional financial system fails to pool risks to reduce uncertainty-induced savings and fails to provide loans to reduce investment-motivated saving.

What is to be done in China? The obvious short-run policy package has three components. First, the steady process of yuan appreciation begun in July 2005 should be quickened, and be used more aggressively as an anti-inflation instrument. Second, import liberalisation should be accelerated (eg implement seriously the commitments made in negotiations for WTO membership like intellectual property right protection) and expanded beyond WTO specifications. The third component of the short-run policy package is to have an expansionary fiscal policy (eg rural infrastructure investments) to soak up the excess savings, with an emphasis on import-intensive investments (eg buying airplanes and sending students abroad).⁴²

Clearly, the optimum solution to the problem of excess saving is not for the government to absorb it by increasing its budget deficit but to establish an improved mechanism for coordinating private savings and private investments. But, as international experiences show, this improvement in financial intermediation could be achieved only if, one, the private banks displace the SOBs from their dominant position, and, two, if an adequate system of prudential supervision is put into place.

It should be noted that this establishment of a modern financial system will generate two other significant benefits. First, it will enhance welfare and lower the savings rate by pooling risks through vehicles like medical insurance and pension insurance. Second, the end of the SOBs will mean the

⁴² It is important that time limits be put on the expanded public works and SCE investments because, in the long-run, the increased public investments could follow an increasingly rent-seeking path that is wasteful (eg building a second big bridge to a lowly-populated island to benefit a politically-connected construction company as in Japan), and the increased SCE investments could convert themselves into nonperforming loans at the SOBs.



end of the frequent recapitalisation of the SOBs (because of their proclivity to generate NPLs), and hence the end of a constant threat to the fiscal solvency of the state, which I regard to be one of the high-probability hardware failures in China.

The important conclusion from this section is that the push for protectionism in EU and US would be lowered much more if both sides undertake corrective policies rather than if China acted alone, and if there is a wider range of policy instruments used (eg wage insurance programme in US and financial market development in China) rather than just relying on exchange rate adjustment alone.

THE NEED FOR ENVIRONMENTAL PROTECTION TO SUSTAIN ECONOMIC GROWTH

The present mode of economic development has given China the dirtiest air in the world, is polluting more and more of the water resources, and, is, possibly, changing the climate pattern within China. The reality is that CPC's new objective of living in harmony with nature is not a choice because the Maoist adage of 'man conquering nature' is just as unrealistic as creating prosperity through central planning. China's fast growth in the last two decades has done substantial damage to the environment. Elizabeth Economy (2004, pp. 18–19) summarised the economic toll as follows:

'China has become home to six of the ten most polluted cities in the world.⁴³ Acid rain now affects about one-third of China's territory, including approximately one-third of its farmland. More than 75 percent of the water in rivers flowing through China's urban areas is [unsuitable for human contact⁴⁴] ... deforestation and grassland degradation continue largely unabated⁴⁵ ... The [annual] economic cost of environmental degradation and pollution ... are the equivalent of 8–12 percent of China's annual gross domestic product.'

Water shortage appears to pose the most immediate environmental threat to China's continued high growth.⁴⁶ Presently, China uses 67%–75% of the

⁴³ '300,000 people die prematurely from air pollution annually, which is twice the number for South Asia, which has a roughly comparable population', *Economy* (2004, p. 85)

⁴⁴ *Economy* (2004, p. 69)

⁴⁵ '...degradation has reduced China's grassland by 30–50 percent since 1950; of the 400 million or so hectares of grassland remaining, more than 90 percent are degraded and more than 50 percent suffer moderate to severe degradation', *Economy* (2004, p. 65)

⁴⁶ Air pollution is a serious problem. Of the 20 cities in the world identified by the World Bank



800–900 billion cubic meters of water available annually, and present trends in water consumption would project the usage rate in 2030 to be 78%–100%.⁴⁷ The present water situation is actually already fairly critical because of the uneven distribution of water and the lower than normal rainfall in the past 15 years. Right now, '[about] 400 of China's 660 cities face water shortages, with 110 of them severely short.'⁴⁸

The extended period of semi-drought in northern China combined with the economic and population growth have caused more and more water to be pumped from the aquifers, leading the water table to drop 3–6 m a year.⁴⁹ And a study using measurements from satellites (the Global Positioning System) has established that the part of China north of the 36th parallel latitude has been 'sinking at the rate of 2 mm a year'.⁵⁰ Specifically, 'Shanghai, Tianjin, and Taiyuan are the worst hit in China, with each sinking more than two meters (6.6 feet) since the early 1990s.'⁵¹

The overall water situation in northern China is reflected in the fate of the Yellow River,

*'which started drying up every few years from 1972, did so for increasing periods of time over longer distances in the 1990s until 1997, when it dried up for almost the entire year over a stretch of several hundred kilometres.'*⁵²

The utilisation rate of Yellow River's water is 60%, far exceeding the internationally recommended utilisation limit of 40%. All the mentioned factors have contributed to lowering the 'amount of Yellow River water feeding into the Bohai Sea' from an annual 49.6 billion cubic meters in the 1960s to 14.2 billion cubic meters in the 1990s to the present 4.65 billion cubic meters.⁵³

as having the dirtiest air, 16 of them are located in China. It is shocking that lead and mercury poisoning are more common than expected, see, 'China's economic miracle contains mercuric threat,' *Financial Times*, 18 December 2004; and 'A Poison Spreads Amid China's Boom,' *Wall Street Journal*, 30 September 2006.

⁴⁷ 'Top official warns of looming water crisis,' *South China Morning Post*, 7 November 2006.

⁴⁸ 'China may be left high and dry,' *The Straits Times*, 3 January 2004. The shortage is reported to be most acute in Taiyuan in Shanxi and Tianjin (Becker, 2003).

⁴⁹ 'Northern cities sinking as water table falls,' *South China Morning Post*, 11 August 2001 and Becker (2003).

⁵⁰ 'Northern China sinking. as the south rises,' *The Straits Times*, 18 March 2002. 'Some 60 percent of the land in Tianjin municipality is plagued by subsistence' (Becker, 2003).

⁵¹ 'Chinese cities, including Olympic host Beijing, slowly sinking,' *Agence France-Presse*, 23 July 2004.

⁵² 'China may be left high and dry,' *The Straits Times*, 3 January 2004.

⁵³ 'Top official warns of looming water crisis,' *South China Morning Post*, 7 November 2006.



Water shortage and the increasing pollution of what water there is⁵⁴ are not the only serious environmental threats to the economy of northern China. The desert is expanding (possibly, at an accelerating pace), and man appears to be the chief culprit. The State Forestry Administration reported that 28% of the country's land mass was affected by desertification in 1999, and 37% was affected by soil erosion. The report identified about 65% of the desert as having been created by 'over-cultivation, overgrazing, deforestation and poor irrigation practices.'⁵⁵ The rate of desertification is 3,900 square miles a year,⁵⁶ an annual loss of a land area twice the size of Delaware. One direct upshot is a great increase in the frequency of major sandstorms⁵⁷ that play 'havoc with aviation in northern China for weeks, cripples high-tech manufacturing and worsens respiratory problems as far downstream as Japan, the Korean peninsula and even the western United States.'⁵⁸ In the assessment of Chen Lai, Vice-Minister of water resources: 'It will take nearly half a century for China to control the eroded land and rehabilitate their damaged ecosystems in accordance with China's present erosion-control capabilities.'⁵⁵

While northern China has been getting drier and experiencing desertification, nature as if in compensation (or in mockery) has been blasting southern China with heavier rains, causing heavy floods which have brought considerable deaths and property damage almost every summer since 1998.⁵⁹

⁵⁴ Examples of serious water pollution are 'Main rivers facing a "pollution crisis";' *South China Morning Post*, 6 June 2003; 'Booming cities polluting scarce water supplies,' *The Straits Times*, 18 September 2003; 'Rivers run black, and Chinese die of cancer,' *New York Times*, 12 September 2004; "'Cancer villages" pay heavy price for economic progress,' *South China Morning Post*, 8 May 2006; and 'Rules ignored, toxic sludge sinks Chinese village,' *New York Times*, 4 September 2006.

⁵⁵ 'Quarter of land now desert - and Man mostly to blame,' *South China Morning Post*, 30 January 2002.

⁵⁶ This is average of the 3,800 square miles reported in 'Billion of Trees Planted, and Nary a Dent in the Desert,' *New York Times*, 11 April 2004, and the 4,014 square miles reported in 'Quarter of land now desert - and Man mostly to blame,' *South China Morning Post*, 30 January 2002.

⁵⁷ The number of major sandstorms in China was five in the 1950-1959 period, eight in 1960-1969, 13 in 1970-1979, 14 in 1980-1989, 23 in 1990-1999, 14 in 2000, 26 in 2001, 16 in 2002, and 11 in 2003 according to Yin Pumin, 'Sands of time running out: desertification continues to swallow up "healthy" land at an alarming rate,' *Beijing Review*, 16 June 2005.

⁵⁸ 'Billion of trees planted, and Nary a dent in the desert,' *New York Times*, 11 April 2004

⁵⁹ The National Development and Reform Commission (2007) reported: 'The regional distribution of precipitation shows that the decrease in annual precipitation was significant in most of northern China, eastern part of the northwest, and northeastern China, averaging 20~40 mm/10a, with decrease in northern China being most severe; while precipitation significantly increased in southern China and southwestern China, averaging 20~60 mm/10a ... The frequency and intensity of extreme climate/weather events throughout China have experienced obvious changes during the last 50 years. Drought in northern and northeastern China, and flood in the middle and lower reaches of the Yangtze River and southeastern China have become more severe.'



The sad possibility is that the northern droughts and southern floods may not be independent events but a combination caused by pollution that originates in China. I will have more to say about this possibility later.

Clearly, without water, growth cannot endure. And in response, the government begun implementation in 2002 of Mao Zedong's 1952 proposal that three canals be built to bring water from the south to the north: an eastern coastal canal from Jiangsu to Shandong and Tianjin, a central canal from Hubei to Beijing and Tianjin, and a western route from Tibet to the northwestern provinces, and each canal will be over a thousand miles long.⁶⁰ Construction of the eastern canal (which would be build upon a part of the existing Grand Canal) started in 2002, and the central canal in 2003. Work on the western canal is scheduled to begin in 2010 upon completion of the first stage of the central canal.

The scale of this water transfer project is simply unprecedented anywhere:

*'Together, the three channels would pump about 48 billion liters of water a year – enough to fill New York's taps for a quarter century. Only a tenth as much water flows through the next-largest water diversion project, in California.'*⁶¹

This massive construction project will not only be technically challenging but also extremely sensitive politically and fraught with environmental risks. The central canal will have to tunnel through the foot of the huge dyke that contains the elevated Yellow River, and the western canal will have to transport water through regions susceptible to freezing. The number of people displaced by the Three Gorges Dam was 1.1 million, and this water transfer scheme is a bigger project. The enlargement of the Danjiangkou Dam (in Hubei) alone to enable it to be the source of the central canal will already displace 330,000 people.⁶² Moving people involuntarily is certainly potentially explosive politically. The project could also be politically explosive on the international front as well. One plan for the western canal calls for 'damming the Brahmaputra river and diverting 200 billion cubic metres of water annually to feed the ageing Yellow river,' a scenario that is reportedly 'giving sleepless nights to the Indian government ... [which is concerned that

⁶⁰ 'Ambitious canal network aims to meet growing needs,' *South China Morning Post*, 27 November 2002.

⁶¹ 'China approves project to divert water to arid north,' *South China Morning Post*, 26 November 2002.

⁶² 'Massive scheme aims to quench China's thirst,' *Financial Times*, 26 July 2004; a lower estimate of 300,000 is given in 'China will move waters to quench thirst of cities,' *New York Times*, 27 August 2002.



this 'Great Western Water Diversion Project] could have immense impact on lower riparian states like India and Bangladesh.'⁶³

The environmental damages caused by this project are the most serious for the central and western canals. In the case of the central canal,

*'environmental experts [in Wuhan where the Hanjiang River flows into the Yangtze] are worried about ... [whether the annual extraction of eight billion cubic metres of water could affect] the river's ability to flush out the massive pollution flows released by the thousands of factories and industries along the tributaries ... The reduced flows could increase the frequency of toxic red algae blooms on the Yangtze near the confluence with the Hanjiang River. There have already been three blooms ... [by May of that year, 2003].'*⁶⁴

The western canal has generated a lively controversy. Some scientists are contending that it 'would cause more ecological damage than good'⁶⁵ because it 'could cause dramatic climate changes ... [and] the changed flow and water temperature would lead to a rapid decline in fish and other aquatic species.'⁶⁶

Many opponents of the water transfer project have argued that water conservation could go a long way towards addressing this problem because currently a tremendous amount of the water is just wasted, for example, only 50% of China's industrial water is recycled compared to 80% in the industrialised countries,⁶⁷ and China consumes 3,860 cubic meters of water to produce \$10,000 of GDP compared to the world average of 965 cubic meters.⁶⁸ The most important reason for this inefficient use of water lies in the fact that 'China's farmers, factories and householders enjoy some of the cheapest water in the world'⁶⁹ even though China's per capita endowment of water is a quarter of the world average.⁶⁸

There is, however, the unhappy possibility that neither the price mechanism nor the three canals can solve China's water problem and make its growth sustainable unless the present mode of economic development is drastically amended. There is now persuasive evidence that China's voluminous emission of black carbon (particles of incompletely combusted carbon) has contributed significantly to the shift to a climate pattern that produces northern droughts and southern floods of increasing intensity.⁷⁰ The

⁶³ 'China's river plan worries India,' *Times Of India*, 23 October 2006.

⁶⁴ 'Massive scheme aims to quench China's thirst,' *South China Morning Post*, 12 May 2003.

⁶⁵ 'China water plan sows discord,' *Wall Street Journal*, 20 October 2006.

⁶⁶ 'Chinese water plan opens rift between science, state,' *American-Statesman*, 10 September 2006.

⁶⁷ 'China may be left high and dry,' *The Straits Times*, 3 January 2004.

⁶⁸ 'Alert sounded over looming water shortage,' *The Straits Times*, 10 June 2004.

⁶⁹ 'Water wastage will soon leave China high and dry,' *South China Morning Post*, 8 March 2006.

⁷⁰ Menon *et al.* (2002) and Street (2005).



biggest source of what has been called the 'Asian brown cloud' in the popular media is burning of coal and bio-fuels in China. If the pollution-induced climate change analysis is valid, it means that:

1. China's massive reforestation programme will not succeed in reducing sandstorms in the north because trees cannot survive if the amount of rainfall is declining over time; and
2. the number of south-north canals will have to be increased over time in order to meet the demand for water in northern China;

until China reduces its emission of black carbon significantly (presuming no new large emissions from neighbouring countries like India).

The general point is that effective policy-making on the environmental front is a very difficult task because much of the science about the problem is not known. For example, China must no longer select its water strategy and its energy strategy separately. A systems approach in policy-making is necessary because the interaction among the outcomes from the different sectoral policies can generate serious unintended environmental damage. If part of the shift in China's climate is integral to global climate change, then a sustainable development policy would require a complete rethinking about the location of population centres, and types of enhanced international cooperation on global environmental management.

The uncomfortable reality for China is that unless ecological balance is restored within the medium-term, environmental limits could choke off further economic growth. And the uncomfortable reality for the rest of the world is that the negative consequences of large-scale environmental damage within a geographically large country are seldom confined within that country's borders. The continued march of China's desertification first brought more frequent sand storms to Beijing and then, beginning in April 2001, sent yellow dust clouds not only across the sea to Japan and Korea but also across the ocean to the United States. China's environmental management is a concern not only for China's welfare but for global welfare as well.

In discussing the environmental aspects of the water transfer plan, it is important to note that there is now an open controversy in China involving a key government infrastructure project, and that this controversy is not limited to members of the technocracy. The very public nature of the controversy and the involvement of more than just scientists, engineers and economists in it reveal how very far social attitudes have progressed. The important point is that this change in social expectations will require any government in China to live in harmony with nature. However, any government will have great



difficulties in doing so even if it wants to because a green growth policy involves a systems approach, and scientific understanding of many ecological sub-systems and the nature of their interactions is still rather incomplete.

Proper management of the environment has now become critical if China is to continue its industrialisation process. The expurgated version of a 2007 World Bank reported that 'about 750,000 people die prematurely in China each year, mainly from air pollution in large cities'⁷¹; and a 2007 OECD study has estimated that 'China's air pollution will cause 20 million people a year to fall ill with respiratory diseases.'⁷² Pan Yue, the deputy head of the State Environmental Protection Agency, summed up the present situation in China very well when he said:

*'If we continue on this path of traditional industrial civilization, there is no chance that we will have sustainable development. China's population, resources, environment have already reached the limits of their capacity to cope. Sustainable development and new sources of energy are the only road that we can take.'*⁷³

The bad news is that there is no sign of significant progress in China's efforts to reduce pollution. China failed to meet its 2006 target for modest improved energy efficiency;⁷⁴ and the Netherlands Environmental Assessment Agency has claimed that China became 'the world's top producer of carbon dioxide' in 2006.⁷⁵ The worrying sign is that there might not be significant progress in the near future because of the concern that environmental protection might slow growth down too much. This concern might be the reason for the recent suspension of the release of green GDP estimates,⁷⁶ and for the planning agency's objection to the proposed new auto emissions standards.⁷⁷

⁷¹ '750,000 a year killed by Chinese pollution,' *Financial Times*, 2 July 2007. 350,000–400,000 died prematurely from air pollution in Chinese cities, 300,000 from poor air indoors, and 60,000 (mostly in countryside) from poor-quality water.

⁷² 'OECD highlights Chinese pollution,' *Financial Times*, 17 July 2007.

⁷³ Quoted in James Kynge, 'Modern China is facing an ecological crisis,' *Financial Times*, 26 July 2004.

⁷⁴ 'China fails to hit target for saving energy,' *Financial Times*, 11 January 2007.

⁷⁵ 'Report on mainland's No. 1 emissions status "flawed";' *South China Morning Post*, 21 June 2007. Chinese officials have questioned the credibility of the report's conclusion 'that the mainland's carbon dioxide emissions, which topped 6.2 billion tonnes last year, had surpassed those of the United States by 8 percent.'

⁷⁶ 'China's bid to gauge cost of pollution is set back,' *The Wall Street Journal*, 17 July 2007; and 'Faith in green GDP idea lost amid the bickering,' *South China Morning Post*, 24 July 2007.

⁷⁷ 'China's new car fuel in disarray,' *Financial Times*, 19 June 2007.



CONCLUSION

In appraising whether the attainment of the October 2006 vision of a Harmonious Society would be sufficient to sustain high economic growth in China, the greatest inadequacy I see is the absence of an objective to build a harmonious world. A harmonious society cannot endure in China unless there is also a harmonious world, and vice versa. China's pursuit of a harmonious society requires it to actively help provide the global public goods that makes a harmonious world possible; and the two global public goods that come readily to mind are the strengthening of the multilateral free-trade system, and the protection of the global environmental commons.

China has benefited immensely from the GATT-WTO free-trade regime, and yet it has, up to this point, played a very passive role in pushing the Doha Round negotiations forward to completion. By default, Brazil and India have assumed the leadership of the developing economies camp in the trade negotiations. According to Susan Schwab, the US Trade Representative, at the G4 (US, EU, Brazil and India) meeting in Potsdam in June 2007, Brazil and India retreated from their earlier offers to reduce their manufacturing tariffs in return for cuts in agricultural subsidies by the developed economies because of 'their fear of growing Chinese imports.'⁷⁸ The Brazilian-Indian action caused the Potsdam talks to fail and hurt the many developing economies that were agricultural exporters.

China should now seek a leadership role in the Doha Round negotiations that is commensurate with its participation in international trade. Failure of the Doha Round could set in motion the unravelling of multilateral free trade because the present international atmosphere is right for protectionism. The US, which has traditionally been at the forefront for expanding the multilateral free-trade system, is now beset by self-doubt for three major reasons.

First, the US was willing to put up with the pains of structural adjustments in the 1960-1990 period to accommodate the growing imports from Japan, South Korea, Taiwan, and ASEAN because they were frontline allies in the Cold War. With the end of the Cold War, it is natural for the US to re-consider the economic cost of structural adjustment because the security and ideological benefits from it have gone down.

Second, the amount of required structural adjustment in the US to accommodate the rise of the SIC bloc is far greater than the earlier adjustment to the rise of its Cold War allies. As noted, the entry of the former Soviet,

⁷⁸ 'Schwab surprised by stance of India and Brazil,' *Financial Times*, 22 June 2007; and 'China's shadow looms over Doha failure,' *Financial Times*, 22 June 2007.



Indian and Chinese economies has doubled the labor force participating in the international division of labor.

Third, the strongest lobby for free trade in the US has been the economics profession, and the free-trade doctrine has come under strong internal criticism in the last few years. Paul Samuelson has made many fundamental contributions to the development of the standard trade models that convinced mainstream economists that free trade is the best policy, and it was therefore an intellectual earthquake when he argued in 2004 that under free trade, where outsourcing accelerates the transfer of knowledge to the developing country, there could be a decline in the welfare of the developed country.⁷⁹ Intellectual apostasy is spreading; for example, in 2005, Alan Blinder joined Paul Samuelson in criticising free-trade fundamentalism.

In terms of policy recommendations, Samuelson and Blinder are pushing for temporary, not permanent, retreat from free trade. They want to slow down the adjustment process for a decent interval to produce a less painful transition for US workers. For Samuelson, 'You need more temporary protection for the losers. My belief is that every good cause is worth some inefficiency.'⁸⁰ For Blinder, he wants the temporary protection to allow the US to revamp its education system to prepare 'workers for jobs that can't easily go overseas' and to revamp its tax system to 'reward companies that produce jobs that stay in the US'.⁸¹ While it is not yet clear about the veracity of the Samuelson–Blinder hypothesis, it is clear, however, that the hypothesis reflects the widespread pains of structural adjustment that they witness around them – a phenomenon captured by the decreasing length of median job tenure.

In April 2007, the US bypassed multilateralism in free trade by agreeing to form a Free Trade Area (FTA) with South Korea. With the US weakening in its resolve to protect the multilateral free-trade system, China should now become more active in the Doha Round negotiations to deregulate world trade further. Such a role will be very much in China's interest because Brazil is now bypassing multilateral trade liberalisation by entering into FTA negotiations with the European Union. The fact is that a growing number of nations like Brazil 'are increasingly wary of a multilateral deal because it would mandate tariff cuts, exposing them more deeply to low-cost competition from China. Instead, they are seeking bilateral deals with rich countries that are tailored to the two parties' needs'.⁸² It is the time for China

⁷⁹ See Samuelson (2004); and 'Shaking up trade theory,' *Business Week*, 6 December 2004.

⁸⁰ 'An elder challenges outsourcing's orthodoxy,' *The New York Times*, 9 September 2004.

⁸¹ 'Pain from free trade spurs second thoughts,' *The Wall Street Journal*, 28 March 2007.

⁸² 'Brazil, others push outside Doha for trade pacts,' *The Wall Street Journal*, 5 July 2007.



to show that it is a responsible stakeholder by joining in the stewardship of the multilateral free-trade system.

The global environment is the second area where China can help to build a harmonious world system. Specifically, China should be mobilising international consensus to form an international research consortium to develop ways to burn coal cleanly because China is now building a power station a week and is hence able to facilitate extensive experimentation on prototype plants to burn coal cleanly. If successful, this global cooperation on clean energy research will unleash sustainable development in China as well as in the rest of the world.

We realise of course that while the need to maintain high growth could motivate China to become more active in supplying global public goods, it might not be allowed to do so however because of the usual reluctance of the existing dominant powers to share the commanding heights of the world political leadership. The sad experience of Japan being denied permanent membership in the Security Council of the United Nations is a case in point. Harmonious international relations are the omitted item in China's perception of a Harmonious Society in 2006, and it could turn out to be a very soft spot in the Chinese growth engine.

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