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Beijing Bubble, Beijing Bust: Inequality, Trade, and Capital Inflow into China

James K. Galbraith, Sara Hsu, and Wenjie Zhang

Abstract: This paper explores the relationships between inequality, trade, and capital flows into China since the early 1990s and particularly in the first years of the present decade. We show that the rise in economic inequality in China has more to do directly with the activities associated with China's financial and building boom, notably in Beijing, than with the massive growth in manufacturing employment and in Chinese exports since China joined the WTO in 2001. Nevertheless, it is likely that a flow of profits from the export boom did feed the speculative fires in the capital and elsewhere, and therefore it should be no surprise that the fall of one should be linked to the fall of the other, in a particularly painful reduction of economic inequality.

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Keywords: China, inequality, trade, finance, speculation

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Introduction

The world crisis that began in 2008 has brought a double shock to China: one to export employment, notably in the southern coastal provinces, and the other to high-end real estate prices, most notably in Shanghai and Beijing. This paper explores the complex relationships between trade and capital flows into and within China since the early 1990s, the concurrent rise of export earnings and real estate prices, and measures of overall economic inequality, a development of much concern to Chinese citizens and policymakers.[1] Using data disaggregated by region and economic sector, we show that the rise in inequality in China since 2000 has more to do directly with the speculative activities associated with China's stock market and building boom, notably in Beijing, than with the massive growth in manufacturing employment and in Chinese exports since China joined the WTO in 2001. However, it seems evident that the two phenomena are connected: the flow of profits from the export boom has helped to feed the speculative fires in the capital and elsewhere, and it is not therefore surprising that the fall of one should be linked to the fall of the other. This phenomenon raises questions relevant to a discussion of capital account regulation in China, as well as larger issues of economic management and resource allocation.

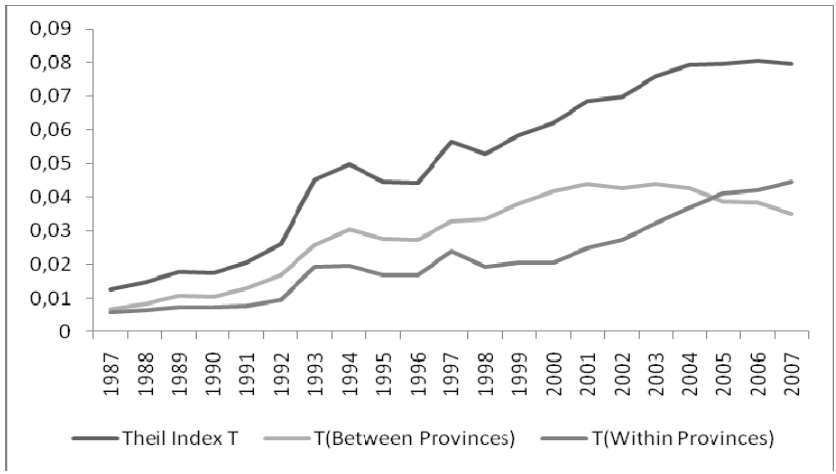
The Evolution of Inequality in China through 2007

By all measures, inequality rose rapidly in China beginning in the early 1990s (Riskin, Zhao, and Li 2001). Measurements by Galbraith, Krytynskaia, and Wang (2004) showed that much of the rise in that decade could be attributed to the relative gains of just one province and two municipalities: Guangdong, Shanghai, and Beijing, and to the relative earnings gains of just three sectors: transportation, utilities, and banking. Major regional losers in relative terms included the Northeast (Manchu-

1 The authors thank the editors of the *Journal of Current Chinese Affairs* and two anonymous referees. They also thank Joseph Stiglitz, David Kennedy, and the participants in the 2008 Manchester University Seminar on Chinese Economic Problems, as well as Jianjun Li for his work on an earlier, closely related paper, and Stephen Greene and Ping Chen for comments.

ria) and the Southwest (Sichuan); across sectors the major losers included manufacturing, farming, and trade.[2]

Figure 1: Inequality between and within Provinces in China, 1987-2007.



Sources: *China Statistical Yearbook* 1988-2008 and authors' calculations.

Figure 1 presents a broad overview of the evolution of pay inequality in China, overall and by region and sector, updated through 2007. The method consists of calculating the contribution of each sector within each province to the between-groups component of Theil's T statistic for the whole country,[3] and then aggregating the components by sectors

2 These results are drawn from data on pay and employment in the *State Statistical Yearbook*. They are consistent with, but considerably more revealing than, surveys which have tended to characterize the growing gap in Chinese incomes as "urban/ rural" or "coast/ interior".

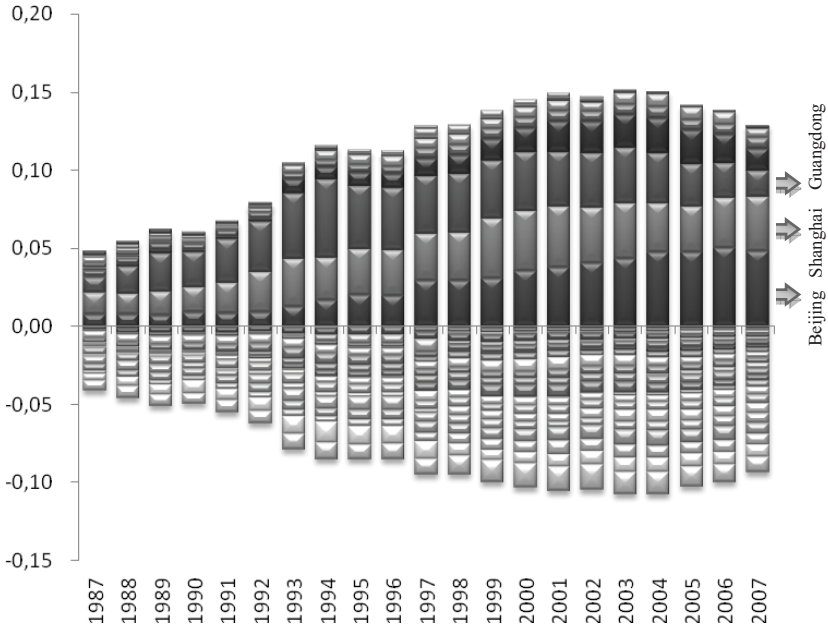
3 The between groups component of Theil's T is equal to the sum of the "Theil element" for each group, where the Theil element is the product of the group share in population, the ratio of group average income to total average income, and the log of that same ratio. Thus, for m groups: $T^B = \sum_{i=1}^{m} \left\{ \left(\frac{p_i}{P} \right) * \left(\frac{y_i}{\mu} \right) * \ln \left(\frac{y_i}{\mu} \right) \right\}$ where $\frac{p_i}{P}$ is a group population weight, and $\frac{y_i}{\mu}$ is the ratio of average income in group i to the average income of the whole population. Theil elements are positive for groups with above-average income and negative for groups with below-average income. The sum across groups is, however, always positive.

and provinces to achieve measures of inequality between provinces and within provinces. The figure shows that whereas during the 1990s inequality between provinces and inequality within provinces both rose, in the 2000s the behaviour of these two dimensions of inequality has diverged. Inequality between provinces peaked early in the decade, and declined after 2001. In contrast, inequality within provinces (equivalently, inequality between sectors) continued to rise.

Figure 2 breaks out the changing inter-regional dimensions of Chinese inequality in a stacked bar graph. Each bar represents a year, and each segment represents the contribution of a province to overall inequality in that year (as measured by the "Theil element" discussed in footnote 3). Each segment reflects both the population weight of the province (measured by observed employment) and the ratio between average provincial income and national average income. Contributions greater than zero indicate provinces with mean incomes above the national average. Contributions below zero indicate provinces with incomes below average. Overall inter-provincial inequality is measured by the sum of all the elements in a given year; however, the statistic is constructed so that longer bars represent higher inequality and vice versa. The legend is read across, from largest to smallest (largest positive to largest negative) contributions in 2007. The largest positive contribution (Beijing) is placed next to the zero line, while the largest negative (Henan) is placed at the bottom of the bar. In this way, the eye easily tracks the evolution of relative contributions to inequality over time.

The figure shows that the enormous *relative* contribution of Guangdong province to overall inequality in China actually peaked as far back as 1994, while that of Shanghai reached its zenith around 2000 or 2001. Despite their respective positions as the seat of Chinese export trade and the financial center, both were regressing moderately toward mean income by 2005 – as incomes elsewhere rose. Uniquely among the big three, the relative contribution of Beijing continued to rise. The recent rise of a fourth contender – Zhejiang province – rounds out the contrasting picture of convergence and divergence among the rich provinces as the great Chinese coastal development boom matured.

Figure 2: Contribution of Provinces to Inter-provincial Inequality in China, 1987-2007



Richer Regions *(From Zero Up)*
Beijing
Shanghai
Guangdong
Zhejiang
Tianjin
Jiangsu
Tibet
Ningxia
Qinghai

Poorer Regions *(From Zero Down)*
Hainan
Chongqing
Xinjiang
Inner Mongolia
Liaoning
Guizhou

Poorer Regions *(From Zero Down)* **continued:**
Gansu
Guangxi
Anhui
Jilin
Fujian
Shaanxi
Shanxi
Yunnan
Hunan
Jiangxi
Shandong
Sichuan
Hubei
Hebei
Heilongjiang
Henan

Sources: *China Statistical Yearbook* 1988-2008 and authors' calculations.

Table 1 presents some evidence on trends in manufacturing employment across China during the early years of the new century. The table shows that in most Chinese provinces manufacturing employment declined from 2002 through 2006. But there were five great exceptions to this: Guangdong, Zhejiang, Fujian, Jiangsu, and Shandong, where manufacturing employment rose by a cumulative total of 4.9 million jobs during these four years. All are deeply involved in China's integration into world markets following accession to the WTO. Their expansion offset a net decline in manufacturing employment of 1.5 million jobs spread across the rest of the country, giving China as a whole a net gain in manufacturing employment exceeding ten per cent in that period. Or, in four years these five provinces added manufacturing jobs equal to thirty-six per cent of the remaining manufacturing employment in the United States as of April 2008. We do not yet have complete data on the ensuing collapse, but it seems evident from press reports that a substantial part of this growth in employment and export production has since been reversed.

Table 1: The Total Number of Manufacturing Workers by Provinces (10,000 Persons)

Year	Jiangsu	Fujian	Shandong	Guangdong	Zhejiang	Rest of Country
2002	216	134	272	255	97	1,933
2003	217	152	270	282	109	1,869
2004	223	181	280	315	152	1,810
2005	245	198	334	357	201	1,762
2006	281	215	342	387	240	1,786

Sources: *China Statistical Yearbook* 1988-2008.

Obviously, these gains in manufacturing employment were closely tied to exports. After rising at just over 10 per cent per year, on average, from 1999 through 2001 (two years of boom and one of recession in the US), China's exports started to surge in 2002. They rose 21 per cent that year, and then 35 per cent in each of the two following years, before settling back to a reported rate of 28 per cent in 2005 and 27 per cent in 2006. Overall the reported increase in exports in dollar terms from 2002 to 2006 amounts to a staggering 264 per cent. Again, clearly the subsequent

crisis of export manufacturing has greatly reduced, if not reversed, those gains.

As figure 2 illustrates, apart from the rise of Zhejiang the post-2001 export boom in China had little apparent direct effect on inequality as measured between provinces. This may seem strange on the surface, but the explanation is not complicated. Though manufacturing in China is a low-wage sector, in high-wage provinces average pay in manufacturing is close to, or even slightly above, national average pay rates. Thus an increase in the manufacturing share of employment would not necessarily increase overall pay inequality in China: the contribution to overall inequality of a sector whose average pay is close to the national average is necessarily small. This is sufficient to explain why strong growth in export-oriented manufacturing employment need not have had a dramatic impact – one way or the other – on the *inequalities* of Chinese society, or at least of its structures of pay.

Table 2: Financial Market Transactions in Beijing 2003-2007 (10,000 CNY)

Item	2007	2006	2005
Total	**979,786,573**	**195,570,580**	**93,224,933**
Treasury Bonds		1,780,681	3,053,550
Stock Transactions	774,878,292	148,515,468	43,436,512
Repurchase of Treasury Bonds	17,206,441	18,971,365	42,619,230
Funds	15,349,564	2,982,697	913,003
Other	71,390,362	23,320,369	3,202,638

Item	2004	2003	Percentage Change, 2007 Over 2006
Total	**185,129,182**	**233,698,301**	**500.99**
Treasury Bonds	6,717,030	11,731,904	
Stock Transactions	72,477,234	50,414,044	521.75
Repurchase of Treasury Bonds	102,572,135	168,751,779	90.70
Funds	789,439	1,104,532	514.62
Other	2,573,343	1,696,042	306.13

Source: *Beijing Statistical Yearbook* 2007.

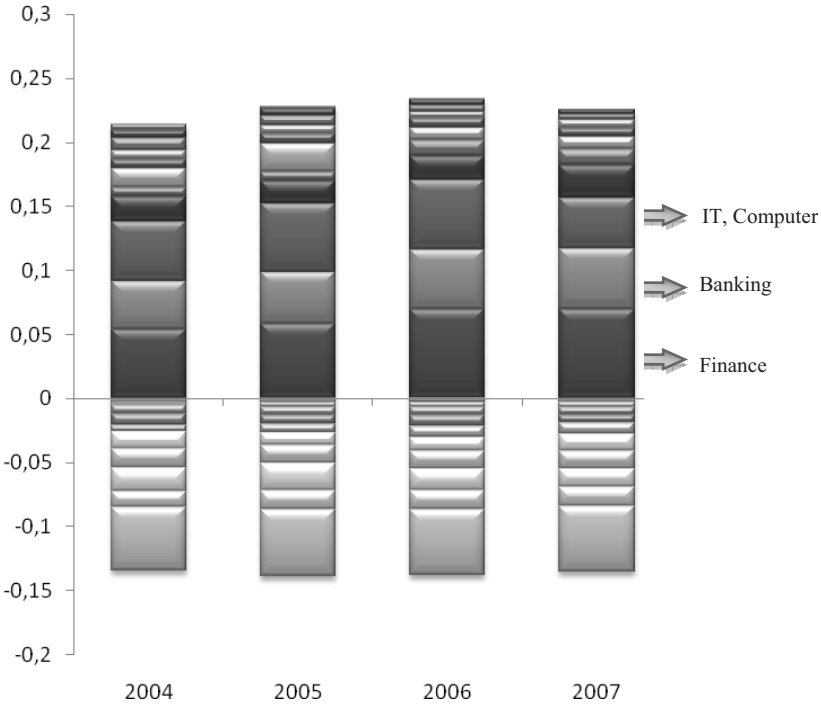
In contrast, the much higher incomes in banking, finance, and information technologies in Beijing, Shanghai, and Guangdong have a powerful effect on inequality; there is little else in the country quite like them. Table 2 shows the financial market transactions in Beijing from 2003 to 2007. There is a steady increase in the transaction of major financial products after 2003, and from 2006 to 2007 there is a huge jump in stock transactions. 2007 saw a stock market frenzy, making China's stock exchange temporarily the world's second largest in terms of turnover. On October 16, 2007, it reached a peak of 6,124.044. But after that came the crash: the Shanghai Composite Index ended 2008 down a record 65 per cent.

Figure 3 illustrates the contribution of the financial sector to inequality in the case of Beijing, alongside that of other sectors inside the municipality. As before, the legend is read from top to bottom (largest positive to largest negative contribution) while the contributions themselves are stacked in descending order above and then below the zero line for year 2007, with data for earlier years following the same order. Thus the chart shows clearly the remarkable increase in the relative importance of high finance in the capital of the People's Republic of China.

What then is the relationship – if any – of the rise of finance to the rise of trade? Table 3 presents the Chinese current account, as officially reported. It shows the astounding growth in the official trade surplus in the period since China joined the WTO. While China generally reported small trade surpluses before its accession, in recent years exports have exploded. China's imports also rose sharply during this period, but exports measured in dollars grew even more, nearly quadrupling from 2000 to 2006: a rise of nearly three-quarters of a trillion USD. Thus China reported a trade surplus of 103 billion USD in 2006 in goods and services taken together; the figure for goods alone was 178 billion USD. Given a US-dollar value of Chinese GDP at the prevailing exchange rate on the order of three trillion USD in 2006, exports amounted to nearly a third of GDP by that time and trade openness (exports plus imports) to over half.[4]

4 The IMF's world economic outlook pegs nominal GDP for China in 2006 at 2 trillion USD, in comparison to which the official trade statistics look even larger (EconStats 2009). We have not tried to unravel the discrepancy, except to say that all such comparisons are clearly open to skeptical appraisal.

Figure 3: Contribution to Inequality Between Sectors, 22 Beijing Sectors, 2004-2007



Richer Sectors *(From Zero Up)*
Finance
Banking
Information Transmission, Computer Service and Software
Scientific Studies, Technical Services, and Geological Prospecting
Negotiable Securities
Public Management and Social Organization
Insurance
Culture, Art, Sports, and Recreation
Health Care, Social Security, and Social Welfare
Electricity, Gas, Water Production, and Supply
Education

Poorer Sectors *(From Zero Down)*
Mining
Farming, Forestry, Animal Husbandry, and Fishery
Water, Environment, and Municipal Engineering Conservancy
Resident Services and Other Services
Wholesale Trade and Retail Trade
Tenancy and Commercial Services
Hotels and Catering Services
Construction
Transportation, Storage, and Post-
Manufacturing

Sources: *China Statistical Yearbook* 1988-2008 and authors' calculations.

This record may be considered in light of one of the most basic principles of international macroeconomics, namely that the growth of imports depends on the domestic growth rate, while that of exports depends on growth in external markets. Thus when a developing country experiences a prolonged period of high internal growth, it is normal for a trade *deficit* to emerge. This is especially likely if the country in question is an importer of food and fuel, and if commodity prices are rising. Innumerable cases can be cited; exceptions, per contra, are rare, and in the modern record largely confined to countries that maintain rigorously undervalued exchange rates and repressed domestic consumption, while rapidly improving the composition and quality of their exports. China's record of gain in its current account surplus in the face of rapid domestic economic growth is, we submit, astounding.

Table 3: China's Balance of Trade, 1998-2006 (Billions of USD)

	Exports of Goods	Imports of Goods	Balance of Trade
1998	184	140	44
1999	195	166	29
2000	250	225	25
2001	266	244	22
2002	323	295	28
2003	438	413	25
2004	593	561	32
2005	762	660	102
2006	969	791	178
2007	1,218	956	262

Source: China Customs 2009.

The increasing value of Chinese exports is so enormous, and the share of exports in GDP has risen to such a high value, that one is tempted to distrust the figures. How can this be? Is China repressing domestic consumption to the point of starvation? If so, the suffering was very carefully concealed, for the large southern cities that were most tied up in the boom seemed, in those years, remarkably prosperous and placid. Alternatively, one may look for radical changes in the composition of Chinese exports, or in their price, to account for the enormous rise in revenues attributed to this sector.

Information on the unit prices of imports from China are maintained by European authorities, while the U.S. reports price indices of imports in general. Little of consequence seems to have happened in either data set; indeed, US-dollar prices of Chinese manufactures imported into Europe fell (not surprisingly, given the rise of the euro against the dollar at this time).[5] This exchange rate effect would tend to generate larger per-unit dollar earnings for China for exports outside the dollar zone. But the same effect would work on imports from outside the dollar zone, so it is difficult to see how this artifact of the reference currency would strongly affect the rise in China's trade *surplus*.[6]

Nor does it seem that the composition of exports shifted dramatically toward higher-valued goods. In fact, such shifts have been occurring, notably an increase of about three percentage points per year in the export share of the machinery and transport equipment sector. This increase had been going on for a long time, though, and the gains after 2002 are not out of line with past experience. So while China is always in the process of upgrading its manufactured exports, the major push behind the post-2001 boom has been expansion in reported shipments (quantities) rather than in the value-added associated with particular units (price or quality change).

Another piece of the picture concerns the processing trade, a large share of China's manufactured exports. China could be importing increasingly high-value goods (from, say, Japan) in order to finish them and export them again. But if this were the case, then reported unit values of Chinese *imports* in manufacturing would also be increasing, and so

5 Although data we analyzed in a previous working paper (Galbraith, Hsu, and Li 2007) suggested that there was a large (and suspicious) increase in reported *unit values* of Chinese exports after 2002, further research has deflated this conclusion. Our original hypothesis was that quantity units reported by major product category in OECD summary data could be assumed to be reasonably consistent over short time periods, permitting us to use aggregated, heterogeneous quantities as a rough index of actual shipments. Inspection of the underlying data tables from Comtrade reveals that large changes in reported units did occur (in some instances shifting from actual units to thousands of the same units); thus in most (though not all) categories, the hypothesis of extraordinary changes in unit value cannot be sustained.

6 Were the reference currency switched to the euro, the rise in China's export earnings would appear lower, since the country's exports to the U.S., measured in euro, would have been sharply cut by the US-dollar devaluation. Similar effects would apply on the import side: China's eurozone imports would not have risen so much, while its dollar-zone imports would have risen considerably more.

would the share of the processing trade in total trade. Neither of these things appears to have occurred. Processing trade accounts for about 55 per cent of Chinese exports, and that figure remained stable after 2001 (MOFCOM 2009). Although there is a slight progression in import prices in manufacturing from 2001 onward, no dramatic increase is observed.

Thus there is no question that the boom was "real", in the sense that quantities surged, alongside manufacturing employment in the key exporting provinces. From the remarkable boom in manufacturing employment, coupled to the increase in unit sales, it appears plain that after 2001 China's exporters took full advantage of their position as a WTO-compliant country, and greatly multiplied their efforts and their results. The question then becomes: how might a simple increase in the quantities of the major commodities in the Chinese export basket yield not only an increase in export revenues, but also a dramatic profits boom, contributing to an increase in the share of investment in the economy as a whole?

Galbraith (2006), in a paper written before the magnitude of the export boom was clearly visible in the data, provides a discussion of the environment facing Chinese light industry, and particularly of the hyper-competitive climate facing township, village, and cooperative enterprises whose losses are routinely financed by the banking sector. This environment – market socialism – makes it extremely difficult for Chinese manufacturers to earn large profits in the home market, which is perpetually glutted with consumer goods. Galbraith then asked:

> Is there any way for the Chinese manufacturing firm to turn a profit? Yes: the obvious alternative to selling on the domestic market is to export. And export prices, even those paid at wholesale, must be many times those obtained at home.

The key and simple point is that prices earned by Chinese firms on their exports of consumer goods are much higher than on the comparable goods sold in the domestic market. This is because light-industrial firms selling into the domestic market could not or chose not to adjust production to sales; that would imply accepting disruptions of production and of the learning processes associated with quality improvement. They therefore took losses on unsold output, and (under market socialism) these are (or were) absorbed by lending from the banking sector, acting (in those years) to avoid the social repercussions of mass layoffs and factory closures.

Thus a shift in the mix of Chinese production from the home to the external market would result, automatically, in higher average prices paid for goods, with no significant increase in costs, and therefore in much higher profits for the producers. It would not then be surprising that an export boom should lead to a profits boom. The speculative concentration of profit incomes in, for example, the stock market and in real estate, notably in Beijing, would be a predictable consequence. And indeed, this would appear to have been a fundamental mechanism of rising inequality in China in the post-WTO environment.

It is worth noticing that under the conditions we have just sketched, there is a vast difference between the role of export earnings in China's financial economy and the share of physical exports in the country's physical production. The former may be very large, because the sector represents a sphere of high profitability, large in relation to the flow of funds in Chinese financial markets, but the latter is much smaller. The very large volumes of physical production sold in domestic markets are priced much lower, and therefore weigh far less in terms of GDP than they do as a share of physical production. The net result is that real wages in China are substantially higher, and the weight of trade in the real economy is substantially lower, than the national income accounts tend to suggest.[7]

Trade and Capital Inflow

The channel from export profits to speculative investments would appear sufficient to explain the contribution of China's trade boom to its asset boom, but it may not be the only channel in operation. Since China still maintains capital controls, the question arises as to whether Chinese exporters have possibly been over-reporting exports to the Chinese authorities for the purpose of bringing foreign capital into the country. Perhaps they have been over-invoicing the exports they actually made? Or perhaps they have been, even more simply, reporting exports to the authorities that were never made at all? This section considers this possi-

7 Purchasing power parity measures, which are based on prices of internationally comparable goods in the richest cities, tend to provide a distorted view of Chinese real wages on two counts: they overstate the prices actually paid for wage goods inside China, and they count many goods and services, the consumption of which ordinary Chinese households have no experience.

bility, which has been discussed at least to some extent by Chinese officials.

There are straightforward reasons why it would be in the interest of Chinese firms to behave this way, if they could get away with it. The incentive stems from China's property and stock market booms and from two regulatory facts: the continued enforcement of controls over capital inflows per se in China, and the legalization, in late 2002, of unlimited foreign currency accounts held in China by Chinese firms. The simple solution from the firm's point of view in this situation would be regulatory arbitrage: to launder the capital inflow through the current account.

At this point, we are unable to present estimates of the extent to which disguised capital inflow may be occurring.[8] We shall therefore restrict ourselves, for now, to examining the enabling conditions. Has the financial environment in China made it attractive to launder funds into the country through current accounts?

Some economists have been watching investment conditions in China and analyzing the environment in terms of "hot money" inflows. Ma and McCauley (2008) argue that interest rate differentials between 1997 and 2006 can tell us whether capital controls are effective, supporting Cheung, Chinn, and Fujii's (2003) and Cheung, Tam, and Yiu's (2006) view that short-run arbitrage that captures higher interest rates is difficult in China due to existing capital controls. The authors point out that "hot money" may be evidenced in the current account by rising inward remittances (rather than by fictitious exports).

Ma and Sun (2007) take as a given "hot money" inflows cited in other sources, and build a monetary model to show that exchange rate instability occurs when revaluations are anticipated, and discuss policies that can strengthen a pegged exchange rate regime. The authors find that the market-oriented interest rate mechanism can alleviate pressure on the exchange rate somewhat, but not fully. Additional policy measures such as relaxing or tightening capital movements and increasing autonomous domestic expenditure can help maintain the pegged exchange rate, while looking toward fully marketizing interest rates in the long run. Bouvatier (2007) also takes as a given the occurrence of "hot money" inflows into China, and uses a vector error correction model to show that the central

8 As noted, the preliminary estimates in earlier work already cited did not withstand further scrutiny.

bank was successful in dampening domestic credit as international reserves increased.

McCauley (2008) looks at capital inflows into Asia from 2002 onward, finding that capital inflows into Asian nations are responsive to volatility in global equity markets. Although China individually is not extensively discussed, McCauley describes patterns of "hot money" flows into Asia since 2002 as characterized by accelerating portfolio inflows, return of bank inflows, indirect foreign investment in local currency bonds, and carry trades.

In 2003, there were several changes in China's financial sector which made the environment more favourable to capital inflows. The interest rate began to look more attractive vis-à-vis the US-dollar, while the non-deliverable forward (NDF) premium began to decrease, indicating expectations of CNY appreciation against the US-dollar (Ma and McCauley 2007: 16). Table 4 illustrates the interest rate trends.

Table 4: CNY Less US-dollar Yields (per cent)

	Average 3-month Chinese Repurchase Orders less USD Treasury Yield	Average 3-month Chinese Interbank Offer Rate (CHIBOR) less USD London Interbank Offer Rate (LIBOR)
1998	1.96	2.23
1999	-1.17	0.95
2000	-3.40	-2.46
2001	-0.83	0.03
2002	0.54	1.60
2003	1.59	1.66
2004	1.35	1.71
2005	-1.44	-0.77
2006	-2.41	-2.57
2007	-0.85	-1.85

Sources: CEIC 2009, U.S. Department of Treasury 2009, British Bankers Association 2009.

Furthermore, in October 2002, the central government gave permission for all companies to hold foreign exchange accounts. Controls over foreign exchange purchases were relaxed for many businesses, including exporters, while the ability to open foreign exchange accounts was extended to firms outside bonded zones (Lehmanbrown.com 2002). The

goal of this measure was to liberalize the current account, facilitating trade and reducing the state presence in credit markets. Not surprisingly, table 5 shows that foreign exchange transactions within China increased tremendously beginning in 2003.

Table 5: Foreign Exchange Transactions within China (100 Million Units)

	Overall Turnover (in USD)	USD Trading Volume	HKD Trading Volume	JPY Trading Volume	EUR Trading Volume
2001	750.3	741.3	30.6	613.9	N/A
2002	971.9	951.1	108.8	730.8	1.1
2003	1,511.3	1,478.2	186.3	761.6	3.0
2004	2,090.4	2,044.1	244.9	1,349.6	1.9
2005	1,511.7	N/A	—	—	—
2006	3,445.1	N/A	—	—	—
2007	13,405.8	N/A	—	—	—
2008	29,828.9	N/A	—	—	—

Source: People's Bank of China 2009.

Thus, the regulatory and investment environment was ripe for injecting capital inflows into China. Exporting companies with a willing partner simply had to overstate or over-bill exports, and foreign exchange could be transferred into their bank accounts, from which it could be converted into CNY and used in domestic capital markets.

Did they do so? The recent crackdown on short-term foreign exchange accounts, and the punishment of both foreign and domestic banks for the violation of exchanging currency outside of controls, has revealed how loose controls over foreign exchange accounts had become. Further evidence comes from the recent exposure and punishment of a large underground bank headquartered in Shenzhen, which exchanged foreign currency and maintained foreign exchange accounts. All of these measures are attempts by the central government to curb hot money inflows and illegal foreign exchange transactions in order to maintain better control over the current account.[9]

9 In addition, the real appreciation of the CNY in terms of the USD in December 2006 signals a change in the desirability of purchasing CNY with USD.

Part of the flow, too, may stem from over-billing exports to receive additional Value-Added Tax[10] (VAT) rebates after the January 2002 legislation loosened restrictions over VAT rebates. However, in our calculation, we do not see a large unit price increase for the year 2002, which would indicate that VAT abuses due to the legislation have not been very large.

Our conclusion on the hot money issue is that the trade data do not permit us to add much to the concern over this question already expressed by Chinese authorities based on other evidence. The possibility existed. However the broad and no doubt the much larger mechanism of capital inflow into China is hidden in plain view: it consists of the vast price differentials between China's internal and its external markets, and the opportunities for profitability that opened up as China took export markets away from other countries, mainly in the Third World.

Profit and Capital Flows into Speculative Sectors

We now examine the extent to which these funds – both licit and otherwise – may have contributed to China's stock market and building booms and particularly to the "Beijing Bubble".[11] A clue to the phenomenon may possibly be found in the percentage change in gross capital formation. This figure increases sharply in the post-2002 years, while the share of capital formation in GDP rises by seven percentage points between 2001 and 2004. This is the result of an enormous increase in the construction of fixed assets such as plant and equipment, offices, and housing. The increase in gross capital formation reflects the construction boom that is visible everywhere in urban China. Table 6 gives the basic information.

10 VAT rates range from 5-17 per cent. The standard VAT rate is 17 per cent.

11 We use the word "bubble" here in the ordinary-language sense of a strong and temporary boom. We cannot state that the Beijing real estate boom led to a bubble phenomenon in the technical sense, since lease price indices show little variation from sales price indices. See *China Monthly Macro-Economics Statistics*, National Bureau of Statistics for price indices. In any event, as Gurkaynak (2008) argues, formal tests for asset price bubbles tend to be inconclusive.

Table 6: Gross Capital Formation

	GDP (Billions of Current USD)	Gross Capital Formation (Billions of Current USD)	Percentage Change in Gross Capital Formation (%)	Share of Gross Capital Formation in GDP (%)
1996	856.1	346.2		40
1997	952.7	361.5	4	38
1998	1,019.5	378.2	5	37
1999	1,083.3	398.0	5	37
2000	1,198.5	420.9	6	35
2001	1,324.8	480.5	14	36
2002	1,453.8	550.5	15	38
2003	1,641.0	676.1	23	41
2004	1,931.7	835.7	24	43
2005	2,243.9	971.0	16	43
2006	2,668.1	1,085.8	12	41
2007	3,280.1	1,237.8	14	38

Note: Current US dollars or per cent where indicated.
Sources: World Bank 2009 and authors' calculations.

Table 7: Beijing Real Estate Statistics (Million CNY)

Year	Real Estate Industry Operating Income	Real Estate Industry Total Profits	Investment in Office Buildings	Commercial Buildings Sold
2000	-1,862.0	-1,303.0	4,521.9	424.8
2001	-1,046.0	-215.3	7,199.3	1,245.8
2002	-1,026.0	-587.1	9,732.6	2,595.3
2003	895.9	1,743.3	14,275.0	5,177.9
2004	8,661.1	10,701.0	18,789.0	5,883.4
2005	6,184.4	8,131.0	19,617.0	12,085.0
2006	11,053.0	14,959.0	21,674.0	16,256.0

Source: *China Statistical Yearbook* 2007.

An inflow of export profits, an increase in the profit share in total income, and any foreign capital would need to show up as reported profits in Chinese industry – not only directly but in the sectors ultimately tar-

geted by investment and speculation. This too we observe. To take a specific instance, the Beijing real estate industry operating income and profit moves sharply from negative to positive numbers in 2003, a dramatic increase. Table 7 gives the data.

Table 8 presents data on sales prices for real estate in Beijing, Shanghai, and Shenzhen, with quarterly data, showing clearly how prices in the capital peaked at the moment of the Olympics. Table 9 shows the number of staff working in real estate and construction in Beijing in this period, and table 10 gives further details on the scale of physical construction and completion in the capital city. The coincidence in timing with the export boom is complete.

Table 8: Beijing Real Estate Sales Price Index

	All City Average	Beijing	Shanghai	Shenzhen
2001,03	101.9	101.6	100.0	98.5
2001,06	102.5	101.3	104.7	102.2
2001,09	102.7	101.1	107.8	102.1
2001,12	101.8	101.0	105.1	101.2
2002,03	104.3	99.9	105.7	100.5
2002,06	102.8	101.4	106.0	100.8
2002,09	104.0	100.8	107.9	100.4
2002,12	103.5	99.0	109.7	99.9
2003,03	104.8	100.2	111.8	101.8
2003,06	105.0	100.2	118.1	101.0
2003,09	104.1	100.2	121.5	102.4
2003,12	105.1	100.6	129.1	103.5
2004,03	107.7	101.8	128.3	103.4
2004,06	110.4	102.6	124.9	103.6
2004,09	109.9	102.9	121.5	103.8
2004,12	110.8	106.3	110.4	106.8
2005,03	109.8	106.5	119.1	106.3
2005,06	108.0	106.8	111.6	105.9
2005,09	106.1	106.3	106.5	106.5
2005,12	106.5	107.4	101.7	110.2
2006,03	105.5	107.1	98.7	110.2

	All City Average	Beijing	Shanghai	Shenzhen
2006,06	105.7	108.7	97.2	114.4
2006,09	105.5	109.7	98.9	112.8
2006,12	105.3	109.5	99.9	111.8
2007,03	105.6	109.0	100.2	112.6
2007,06	106.3	109.5	100.8	114.3
2007,09	108.2	111.9	103.9	120.2
2007,12	110.2	115.0	108.7	118.2
2008,03	111.0	113.9	109.8	111.0
2008,06	109.2	112.2	109.3	102.5
2008,09	105.3	108.7	105.3	93.2
2008,12	100.5	103.0	99.3	85.8

Source: *China Monthly Macro-Economics Statistics* (various years).

Table 9: Staff and Workers in Beijing Real Estate Sector 2001-2007 (10,000 Persons)

2001	2002	2003	2004	2005	2006	2007
11.0	13.0	15.0	19.1	19.6	20.4	22.6

Sources: *China Statistical Yearbook* 2001-2007.

Table 10: Statistics on Real Estate Development in Beijing (1990-2007)

Year	Total Investment (100 Million CNY)	Floor Space of Marketable Buildings under Construction (10,000 sq.m)	New Construction of this Year	Floor Space of Marketable Buildings Completed (10,000 sq.m)	Space of Marketable Buildings Sales (10,000 sq.m)
1990	22.5	774.0	249.1	271.6	142.2
1991-1995	**568.4**		**3,022.6**	**2,061.7**	**855.6**
1991	24.0	815.1	317.6	275.2	154.0
1992	33.7	1,021.1	508.6	331.4	159.1
1993	58.4	1,262.0	524.8	356.4	182.0
1994	99.5	1,593.2	659.4	445.7	168.6
1995	352.8	2,810.2	1,012.2	653.0	191.9

Year	Total Investment (100 Million CNY)	Floor Space of Marketable Buildings under Construction (10,000 sq.m)	New Construction of this Year	Floor Space of Marketable Buildings Completed (10,000 sq.m)	Space of Marketable Buildings Sales (10,000 sq.m)
1996-2000	**1,979.5**		**5,359.2**	**4,762.6**	**2,416.7**
1996	328.2	2,824.6	578.7	663.4	215.3
1997	330.3	2,869.6	848.4	682.3	290.9
1998	377.4	3,499.1	1,193.4	842.8	409.2
1999	421.5	3,784.0	1,061.8	1,208.5	544.4
2000	522.1	4,455.0	1,676.9	1,365.6	956.9
2001-2005	**5,974.0**		**15,449.8**	**13,523.4**	**10,084.3**
2001	783.8	5,966.7	2,789.8	1,707.4	1,205.0
2002	989.4	7,510.7	3,206.0	2,384.4	1,708.3
2003	1,202.5	9,070.7	3,433.8	2,593.7	1,895.8
2004	1,473.3	9,931.3	3,054.3	3,067.0	2,472.0
2005	1,525.0	10,748.5	2,965.9	3,770.9	2,803.2
2006	1,719.9	10,483.5	3,179.4	3,193.9	2,607.6
2007	1,995.8	10,438.6	2,557.4	2,891.7	2,176.6

Note: Space of Marketable Buildings Sales 2007 is the sum of that of future buildings and that of spot buildings.
Source: *Beijing Statistical Yearbook* 2007.

Correlation is not causation, and obviously Beijing construction for the Olympics was not financed solely or even primarily from export revenues. Moreover, it's clear that the Olympics must have been a major, if not *the* major, reason why speculative capital chose the capital, rather than (say) extending the building booms in the South. But it seems a very reasonable inference that, in the event, export profits did flow disproportionately into the capital's banks and real estate developments. After all, these profits had to go somewhere, and they do not appear to show up elsewhere – at least not dramatically – in the Chinese economy at this time.

We note several further qualifications arising from Chinese economic statistics, as noted in other literature. First of all, there are well-

known problems with Chinese GDP, particularly with the overstatement of GDP growth rates for political purposes, and also with the notorious stability of reported Chinese GDP growth rates. There are well-known problems with the trade statistics, due to the treatment of re-exports from Hong Kong.[12] There are also problems with achieving continuous measures of trade activity over recent years, due to shifts in statistical classifications, e.g., as several export categories were broken into subcategories, while some were discontinued. On the whole, however, we feel that the evidence we have assembled presents a reasonably coherent and persuasive picture, one that makes sense as an account of the relationship between trade, profitability, speculation, and inequality in modern China.

Conclusion

While the rise in Chinese inequality seems to have slowed in the middle of the first decade of the twenty-first century, a significant force for continued increases remained, associated with the property boom and other speculative activities that concentrated on the national capital, Beijing, during the period immediately before the 2008 Olympics. One powerful mechanism behind the flow of funds into these sectors was a profits boom associated with the extraordinary increase in Chinese exports that followed WTO accession in 2001. There is reason to suspect that some additional speculative flows occurred by the device of laundering capital inflow through the current account, but despite concentrated efforts we have no firm estimates to offer.

Needless to say, the phenomenon of an exports boom leading to a profits boom leading, in turn, to a speculative bubble has some disturbing implications in a country as concerned with stability and sustainability as modern China. Equally, there are implications for China's concern with excessive inequality and associated developmental imbalances and migration incentives. Clearly, the unchecked concentration of capital wealth into the leading cities – especially into Beijing – runs counter to the development of a "harmonious society". It also raises questions

12 Green (2007) writes that the U.S. exaggerates value-added in Hong Kong as around 25 per cent of China's goods value, while China tends to understate these values. He believes the US-China deficit may be the average of the two records. In any case, China's understatement of Hong Kong re-exports has not changed over time, so it does not affect the general unit value trend.

about whether Chinese government policy can any longer dictate the broad spatial and sectoral patterns of economic development in the country – unless and until the flows of profit income are brought under effective regulatory control. As the country settles into a broad slump in world trade and the inevitable post-Olympics real-estate bust, the question to be considered is whether the bold promises of the government about expansionary and redistributive policy can, in fact, be matched by effective implementation.

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