

# Finance and corporate governance in the Chinese national system of innovation: macro and micro, national and international implications

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## INTRODUCTION

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As I have argued elsewhere, the present situation in the world economy can be seen as a phase in a technological revolution. A new techno-economic paradigm – the ICT paradigm, the fifth since the Industrial Revolution – has appeared, but not yet been effectively exploited on a world scale. The limited extent to which it has been exploited has however been enough to exacerbate imbalances that were already serious and growing. The result can be seen as a world crisis, which in large measure is one of under-investment. This crisis was delayed by the ‘irrational exuberance’ of stock markets in the late 1990s (and real estate markets somewhat later), which encouraged a wave of investment in the new economy, while in some countries (notably the US and UK) fostering an unsustainable level of consumption. The crisis can be resolved when and if institutional solutions can be found to the challenges of making and financing adequate investment of four types:

1. In intellectual and human capital in high and medium technology firms in developed countries.
2. In the education and training of the lower half of the labour force in developed countries.
3. In modern technology workplaces in less developed countries, and the education and training required to go with them.
4. In appropriate technology in less developed countries.

Adequate levels of such investment will both resolve the problem of demand deficiency and release the potential of the new techno-economic paradigm. The investment required in LDCs needs to be financed largely from DCs, which should in principle be possible given the complementary demographic positions of the two groups of countries, with a bunching of DC population in the high-saving age groups between 40 and 60 years old, and a bunching of LDC population in the low-saving age groups below 30.

China has the unique position of having within itself a set of problems very similar to those described above for the world. This arises partly because (particularly if Taiwan as well as Hong Kong is counted in) it is now in substantial measure a developed country while remaining mainly a less-developed one. The relatively-developed part of the country (mostly in the coastal provinces) needs to take its established industrial base 'up-market' by investment in high and medium technology; the less-developed part has a massive surplus (some 250 million workers) of unemployed or under-employed labour – typical for LDCs - which needs to be absorbed in one way or another. We take these challenges in turn:

*1. Investment in high and medium technology.* In this area the challenges for China are mostly quite different from those facing the developed world, since there is little or no need for innovation in the strict sense, merely the mastering of technology already known elsewhere. There is certainly considerable progress being made in 'going up-market'. However each of the four ownership types within the Chinese economy (at least within the PRC) shows serious deficiencies in exploiting the potential: two due to finance constraints, two due to corporate governance:

(a) The new class of Chinese capitalists has developed too recently to have access to adequate capital outside the more labour-intensive areas; and unlike in South Korea, public sector finance is not channelled into private business. The collective (local government-owned) sector is also short of capital.

(b) In principle, in the state sector resources should be much less of a problem. The State (central government and that of some provinces such as Guangdong) has adequate resources in terms of finance and science base to invest in high technology industry, and there are some significant success stories already, such as those of the Legend Group in computing. However the corporate governance system in and for state-owned enterprises remains a major obstacle to exploiting Chinese potential in high and medium technology industries (Tylecote and Cai, 2003). Foreign multinationals show their normal reluctance to let technology pass from their control.

The expansion of the universities and the rest of the education system is relieving the constraint from the side of human resources: the main constraint is now squarely within the enterprises themselves (this may include training).

*2. The absorption of surplus labour.* The large bulk of surplus labour is in the less developed inland provinces, mostly on farms, but also substantially in state-owned enterprises. Workplaces need to be created for these people. In a somewhat stylised way, we can pose two alternatives. The first, which can be described as the conventional option, is to do it with *modern technology*. This term is far from precise, but it implies a certain relatively high capital cost per worker and corresponding relatively high levels of skill and education. The investment required is far beyond what could conceivably be generated as surplus by the sectors and geographic areas from which the workers to be absorbed will come. We suggested briefly above that this typical LDC problem might typically be addressed by an inflow of capital from DCs, matching the demographic complementarity of the two world regions. Relationships within China closely parallel relationships between DCs and LDCs. Since 1980 the one-child policy has been operating, though more effectively in the cities than in the countryside. The difference in fertility between cities and countryside was even greater before. The city-born part of the Chinese population is as a result well into the demographic transition, with a bulge in their

late twenties, thirties and forties followed by much smaller cohorts under twenty-five. The country-born part, particularly that from the poorer inland provinces, has a more typical LDC profile. The progress made in the demographic transition helps to account for China's very high savings rate. China is thus in a position to finance a large resource flow from among the coastal urban population into the education and training of poor young people, mostly in, or from, the inland provinces, and the provision of modern workplaces for them.

Some of the savings of the coastal urban population do indeed go into the provision of workplaces for the young rural poor – in low-skilled jobs in labour-intensive operations producing cheap manufactures, largely for export. This is a relatively cheap form of absorption, per head, because the activities selected are precisely those in which low and labour-intensive technology using low-skilled labour is competitive on the world market – if the labour is cheap enough. Moreover the profit generated can be ploughed back quickly into generating more such workplaces. It has however the disadvantage that China is rapidly taking over the entire (unprotected) world market for low-technology manufactures (and for low-tech operations within higher-technology manufacture): it has hundreds of millions of cheap disciplined workers in reserve, and great economies of agglomeration and experience compared with other LDCs. To a substantial extent, then, this is a zero-sum game within LDCs; indeed, to the extent that the market gets flooded and the price of low-tech manufactures is forced down, the income imbalance between DCs and LDCs will increase and the problem of under-investment in LDCs will only worsen. Even if the effect on the rest of the developing world is ignored, this is not a long run solution to China's surplus labour: it will not absorb enough.

Given the high rate and mass of saving of the coastal urban population, much more absorption of surplus labour in modern workplaces could be financed. Here however China confronts a problem which mirrors that of the DC: LDC relationship world-wide. The DCs have the surplus to spare, and the LDCs need it, but bitter experience has shown that they are institutionally incapable of investing it profitably. Essentially the same can be said of the areas and organisations in which the Chinese labour surplus is located. Instead of going where it is needed internally, and being supplemented by a net inflow of foreign capital, there is a substantial flow from the coastal urban population out of the country, helping to account for China's large current account surplus (and even larger trade surplus). Even if the finance for enough modern technology workplaces could be found and efficiently used, the implications for China's use of natural resources would be unsustainable. As matters stand, China's demand for oil and other fossil fuels is rising extremely fast, and on present trends it will soon become utterly dependent on supplies of oil from the Middle East for decades to come, contributing massively to world shortage and to greenhouse warming.

As I have argued elsewhere, there is a feasible alternative for LDCs: to invest in Appropriate Technology, which can be defined as technology which is appropriate to the existing factor endowment of the country concerned, and to the initial levels and type of expertise of the labour force. As Bhalla has shown, it can and should blend ICT and other modern technologies with older types. As Morris-Suzuki has shown, precisely this alternative was used with great success in Japan, parallel to the development of modern technology. AT is unpopular world-wide, and no doubt particularly unpopular in China given the experience of the Great Leap Forward (which used technology which was superficially similar); but the logic behind it is irresistible: it is affordable in terms of economic arithmetic, and it is manageable in terms of institutions. It is also sustainable: taking into account not only the production operations involved, but also the creation of the capital goods and components, and the cost of use, it can be engineered to put much less strain on 'sources and sinks' – on natural resources, including oil, and on natural systems for dealing with pollution.