China's rise, Russia's fall: policy choice or system difference

Peter NOLAN
No. 6/93

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Lingnan College
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社會科學院
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Introduction

This paper outlines the major policy differences between the post-Stalinist reform in the former USSR and China (Section 1). It then briefly presents the dramatic contrast in outcomes in the two cases (Section 2). The usual explanation is to suggest that the two systems had radically different starting points, with large differences in their respective capacities for 'catching up, forging ahead and falling behind', to use the terminology of Abramowitz (1986). China's 'success' is seen as mainly due to 'special' factors such as the strength of its historical traditions of 'capitalism' and the advantages enjoyed on account of the impact of Hong Kong and Taiwan. The USSR's failure is seen largely in terms of its 'special' problems such as the greater strength of nationalism or the more conservative nature of the communist party.

Section 3 is the main focus of this paper. It examines this proposition in detail. It concludes that despite some important differences the two systems in fundamental respects possessed large 'catch-up' possibilities. Indeed, it is far from obvious that China overall possessed greater 'catch up' possibilities than the USSR. The contrast in outcomes was largely caused by differences in policies selected. This applies both to economic policy and to the wider question of the relationship between political and economic reform.

I have not encountered a single Western author who was involved in the Russian reform programme who has said 'We got the advice radically wrong'. Anders Aslund, a famous foreign advisor to both Gorbachev and Yeltsin was asked in late 1992 whether he 'would do anything different now'. He answered: 'Not really. I have been in favour all along of a very liberal solution for Russia. And the failures suggest that one has to go in a more liberal direction, as quickly as possible' (Transition, November, 1992: 5).

1. Contrasting approaches to the political economy of reform

China's reform of the Stalinist system of political economy began with the arrest of the Gang of Four following Mao Tsetung's death in the Autumn of 1976. In the former Soviet Union the reforms did not really begin until 1985 when Gorbachev was elected General Secretary of the CPSU. In both cases the reform involved a complex set of issues in both the political and the economic sphere.

The contrast in approach in the two cases is striking. The Chinese leadership was determined not to allow any semblance of national disintegration. The national government fought a harsh campaign against the separatist movement in Tibet and it made the reintegration of Hong Kong and Taiwan into the
Mainland a central focus of foreign policy. While the regime moved away from the depths of totalitarian intervention in social life, it remained an authoritarian one-party state. Serious political opposition was dealt with brutally, most notably in the case of the Tiananmen massacre of 1989. The government believed that political democratisation was a diversion from the most important task, namely that of improving the performance of the economic system in order to raise living standard and make China a more powerful and respected country. Its position was made starkly clear by Deng Xiaoping in his key speeches in the late 1970s: 'In the China of today we can never dispense with leadership by the Party and extol the spontaneity of the masses...In 1966 the Chinese economy, having gone through a few years of readjustment, was in a position to develop rapidly. But Lin Biao and the Gang of Four did it grave damage. Only now ... has our economy returned to the road of sound growth. If a handful of people are allowed to kick aside the Party committees and make trouble, the four modernisations will vanish into thin air' (Deng, 1992: 48-9).

It approached the task of improving the performance of the Stalinist economic system in an extremely cautious fashion. It had no blueprint. Its most striking characteristic was experimentalism. Price reform went slowly, so that still in 1990 only about one half of retail sales and around one-third of industrial means of production were sold at a free market prices. Large changes took place in the way industrial enterprises operated. However, in the early 1990s the vast bulk of industrial output still was produced in state or local community owned enterprises, with the purely 'private' sector playing only a small role. Not a single state enterprise of any size went bankrupt during the reform period. A massive 'decollectivisation' of farmland operation took place, but farmland remained in local community ownership. The economy remained largely shielded from international competition. It was not for nothing that the Chinese leadership by the early 1990s was characterising their economic system as a 'socialist market economy'.

Under Gorbachev, economic reform followed a remarkably similar path to that in China. It also began experimentally with similar hesitations and anxieties among the different factions in the leadership. In the 'reform wave' of 1987-88 a number of Chinese style reforms were introduced. In state industry, reforms were introduced to allow profit retention and an explicit commitment was made to undertake incremental reform of the pricing and material supply system. In agriculture, a beginning was made to a 'contract' system for individual farm households. Individual business activity was legalised in many spheres. Cooperatives were given the green light and rapidly grew in number, entering one activity after another, often in competition with the state sector. In foreign trade, important devolution of control occurred, though, as in China, the economy still remained largely insulated from foreign competition.
This 'reform wave' took place only three years after Gorbachev came to power.\footnote{A comparable stage in China's post-Stalinist reforms would be the late 1970s. At this point China had made less rapid progress in its reforms than the USSR had done by the late 1980s. The key decision to move ahead with fundamental system reform in China was not made until December 1978, and even then the early reform measures following this were extremely cautious. As late as the Spring of 1979 a major campaign was fought against the policy of agricultural contracting to the group, which had been cautiously begun the previous year. In hindsight one frequently forgets the slow pace and great care with which the reforms were introduced in China.}

The crucial difference between the Chinese approach and the Soviet approach to reform under Gorbachev lay in the conception of what constituted a desirable path of economic reform and what the relationship was between this and political reform. From as early as July 1986 Gorbachev had determined that a successful economic reform needed to proceed much more rapidly than the pace at which Soviet reforms were proceeding. He decided that this required a prior radical political reform: 'In the summer of 1986, it became clear that Gorbachov had changed his strategy .... [H]e turned to 'perestroika' of the political system' and his language was radicalised .... Apparently, Gorbachev had concluded that he could not implement a viable economic reform without breaking the entrenched political resistance and for that he needed a political reform, raising the pressure from below' (Aslund, 1991: 33-34).

Almost without exception Western commentators and advisors believed this to be a correct evaluation of the logic of the reform process. The notion that gradual reform of the planned economy was infeasible due to the authoritarian nature of the communist party was a central plank of Kornai's extremely influential criticism of the 'Third Way'. Kornai (1966) is scathing in his criticism of the 'naive reformers' who believe that a communist party can preside over a process that he considers will inevitably lead to its own demise.

A chorus of trenchant criticisms was made of the Chinese communist party in the 1980s, arguing that the introduction of a market economy was impossible under communist rule: 'To survive and successfully evolve as a living social organism, the system of free markets, private property, and contractual buyer-seller transactions must operate within a legal order and in a politically democratic environment' (Prybyla, 1990: 188). It was felt widely that the CCP could not itself make the transition to secular rational rule. It had the double burden of highly centralised traditions of Leninism plus millennia of centralised rule in China. The conventional wisdom, espoused in article after article and conference after conference was that the CCP had to be removed from its monopoly of political power.

\footnote{The fact that this proposition was contradicted by the experience of almost all the industrialising countries in the nineteenth century doesn't seem to bother Prybyla nor most other economists who entered the fray of the political debate over economic reform in the former communist countries.}
if the move to a market economy was to be put into effect:

'Deng Xiaoping tried to restart China’s economy without affecting the dictatorship of its entrenched vanguards ... Although the term had not yet been invented, Deng sought *perestroika* without *glasnost*. This is not a particularly unusual project. There are innumerable examples of similarity placed monopolists of political power who wanted economic modernisation without political reform ... It does not work ... Instead of duplicating South Korea and Taiwan, China seemed to have taken as its model Ferdinand Marcos’s Philippines’ (Johnson, 1990: viii-x).

In contrast, there was a chorus of praise from the West for Gorbachev’s far-sighted vision and daring in moving the USSR rapidly towards multiparty democracy (the CPSU’s monopoly of political power was formally ended just four years after Gorbachev began the programme of political perestroika. Aslund’s view is representative of a large number of Western writers: ‘To break the power of the party and state bureaucracy might be seen as the key problem of a reform. It is difficult to perceive any other solution than a far-reaching democratisation with a strong popular pressure and openness balancing the bureaucracy’ (Aslund, 1991: 14).

Only in hindsight did some of writers begin to acknowledge the dangers of the path that had been followed, and even then in the most equivocal terms: ‘[T]o be effective, far-reaching economic reform must ultimately be accompanied by political reform. Admittedly, there is a danger that the political reforms may come too fast and lead to anarchy, but a refusal to relax politically is an equally serious threat to the overall success of any reform effort’ (Goldman, 1992: 65). The tentative, experimental economic reforms of the late 1980s were completely swamped by the effects of political perestroika. The communist party collapsed. The nation state disintegrated and a feeble, populist government was brought into being. The budgetary situation quickly became hopeless. The money supply ran wildly out of control. A disastrous spiral of withdrawal from the market was set in motion at every level from the republics down to the enterprise, and the system relapsed into a virtual barter economy. From having a relatively low level of indebtedness, the USSR rapidly moved towards becoming one of the world’s most indebted countries, as the foreign trade situation careened out of control.

Following the collapse of the USSR, the decision was taken to push ahead with comprehensive and rapid moves towards a privatised market economy. The programme began with the 'big bang' in the sphere of prices, with liberalisation at a stroke in January 1992. The rouble was allowed to float freely. Foreign trade controls were largely removed, and a commitment was made to rapid privatisation of state assets. The Soviet programme of economic reform now looked radically different from that pursued in China.

A striking paradox of the Russian reform process, is that the final part of Gorbachev’s rule, and
the first two years of the post-Gorbachev period have been dominated by efforts to develop large powers for the presidency. As this article is being written (June 1993) a constitutional congress is under way in Moscow which seems likely to provide Yeltsin with executive powers greatly in excess of those even of the French or US presidents. The 'justification' for this great increase in the powers of their president is that only in this way can the radical economic reforms finally be pushed ahead, which it is promised will lay the foundation for future prosperity for the country. Moreover, in the efforts to by-pass the Congress of Peoples' Deputies, Yeltsin is apparently prepared to grant even greater powers to the republics and regions that make up the Russian Federation, threatening the political disintegration of what remains of Russia. Stanislav Shatalin, the author of the famous 'One hundred days' programme of transition to a market economy is quoted to have said: 'We are being offered something very strange and perhaps even terrible - the political traditions of Tsarist autocracy and Bolshevism' (reported in the Observer, 16 May, 1993).

2. Contrasting results

In almost all key aspects of institutional arrangements and policy China's post-reform economy in the 1980s appears as the kind of interventionist half-way house that most economists would predict would perform very badly. Throughout the decade private property rights existed in only a minor part of the economy; the government continued to intervene heavily in price setting; the economy remained substantially isolated from the impact of world prices; the communist party continued to rule in a sometimes brutal and always authoritarian fashion, and intervened at all levels of the economic process. Indeed, some observers believed that 'market socialism' was too charitable description of this system and that 'market Stalinism' was more appropriate.

In fact, in the first decade or so of reform China's economic performance was much better than under Maoist policies. The rate of growth of national output accelerated sharply (Table 1). China's system of authoritarian political control enabled her to control population growth, despite the bulge in the reproducing age cohorts in the 1980s, and in per capita terms the annual growth rate of net national output more than doubled. A striking shift occurred in the pattern of growth, away from that which is characteristic of a Stalinist economy. The overall industrial growth rate, which was already very rapid under Maoism, changed little. However, there were important changes in the efficiency in resource use. In state-run industry, there was a sharp reversal of the long-run decline in productivity which China had experienced in the Maoist years (Chen, et al, 1988, Jeferson, et al, 1990(a) and 1990(b)), and China's
State owned enterprises began to behave in a cost-minimising fashion. Moreover, the typical Stalinist relationship between the growth rate of heavy and light industry was reversed with explosive growth of light industry. The agricultural growth rate accelerated much ahead of that achieved during the Maoist period, and with much more economy in resource use. China outperformed almost all developing countries in terms of output growth and export performance (Table 1). Moreover, it remained relatively unburdened by foreign debt and achieved fast growth with relatively low inflation.

It cannot be argued that growth in the 1980s was achieved at the expense of popular consumption. The 1980s saw a revolution in all aspects of real incomes. A remarkable improvement occurred in the Chinese population's diet, with large easily observable improvements in the quality of produce. A vast new fashion industry sprung up in the textile sector. A huge increase occurred in consumer durable consumption, mainly met from domestic production, with huge new industries springing up where formerly there had been virtually nothing. Housing space per person more than doubled over the course of a decade. Large improvements took place in the availability of professional health care. A massive transformation occurred in the number and variety of services available. The reported improvement in the already exceptional figures for life expectancy and mortality rates (Table 1) suggests that the growth in living standards affected most social strata, even if there was greater inequality in consumption than under the extreme egalitarianism of Maoism.

The disintegration of the USSR in the late 1980s led to a collapse also of proper statistical reporting. Any estimates are of only the roughest magnitude. Table 2 provides an extremely crude view of the picture as portrayed by one standard source. It shows a crisis of massive proportions, comparable in scale to the awful downturn in production in China after the Great Leap Forward. The consequences for personal incomes have not yet subject to proper statistical analysis. However, a mass of anecdotal evidence and personal observation support the conclusion that for a large fraction of the population, probably well over one-half, the period since the late Gorbachev years has seen a serious deterioration in living standards, alongside a large rise in income for a small fraction of the population. The mood of national despondency and humiliation is quite comparable also to that of the 'three dark years' in China in the early 1960s. The contrast with China could not be stronger.

While China's economic prosperity and widening process of marketisation is steadily leading to the inexorable democratisation of daily life under the umbrella of one party rule, Russia's disastrous

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5 This is the conclusion of the study of 200 state owned firms during the years 1983-87 undertaken by Hay and Liu (1992).

4 In fact, unofficial estimates of output suggest that the downturn began before 1989, and there may well have been negative growth of national product over the whole 1985-1990 period (Aslund, 1991, 200).
Table 1: Comparative Economic Performance of the Chinese Economy in the 1980s

<table>
<thead>
<tr>
<th></th>
<th>China</th>
<th>India</th>
<th>Low income countries (1)</th>
<th>Middle income countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av annual growth rate, 1980/89(%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP</td>
<td>9.7</td>
<td>5.3</td>
<td>3.4</td>
<td>2.9</td>
</tr>
<tr>
<td>Agriculture</td>
<td>6.3</td>
<td>2.9</td>
<td>2.5</td>
<td>2.6</td>
</tr>
<tr>
<td>Industry</td>
<td>12.6</td>
<td>6.9</td>
<td>3.1</td>
<td>3.0</td>
</tr>
<tr>
<td>Services</td>
<td>9.3</td>
<td>6.5</td>
<td>4.4</td>
<td>2.8</td>
</tr>
<tr>
<td>Av annual real growth rate of exports, 1980/89(%)</td>
<td>11.5</td>
<td>5.8</td>
<td>0.8</td>
<td>5.5</td>
</tr>
<tr>
<td>Av annual growth rate of population, 1980/89(%)</td>
<td>1.4</td>
<td>2.1</td>
<td>2.7</td>
<td>2.1</td>
</tr>
<tr>
<td>Av annual rate of inflation, 1980/89(%)</td>
<td>5.8</td>
<td>7.7</td>
<td>14.9</td>
<td>73.0</td>
</tr>
<tr>
<td>Debt service as % of exports of goods and services</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>: 1980</td>
<td>4.6</td>
<td>9.1</td>
<td>11.4</td>
<td>26.1</td>
</tr>
<tr>
<td>: 1989</td>
<td>9.8</td>
<td>26.4</td>
<td>27.4</td>
<td>23.1</td>
</tr>
<tr>
<td>Index of av p.c. food consumption, 1987/89 (1979/81=100)</td>
<td>128</td>
<td>113</td>
<td>103</td>
<td>101</td>
</tr>
<tr>
<td>Daily calorie intake p.c.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>: 1965</td>
<td>1931</td>
<td>2103</td>
<td>1960</td>
<td>2482</td>
</tr>
<tr>
<td>: 1988</td>
<td>2632</td>
<td>2104</td>
<td>2182</td>
<td>2834</td>
</tr>
<tr>
<td>Crude death rate(no/1000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>: 1965</td>
<td>10</td>
<td>20</td>
<td>21</td>
<td>13</td>
</tr>
<tr>
<td>: 1989</td>
<td>7</td>
<td>11</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td>Infant mortality rate(no/1000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>: 1981</td>
<td>71</td>
<td>121</td>
<td>124</td>
<td>81</td>
</tr>
<tr>
<td>: 1989</td>
<td>30</td>
<td>95</td>
<td>94</td>
<td>51</td>
</tr>
<tr>
<td>Life expectancy at birth(years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>: 1981</td>
<td>67</td>
<td>52</td>
<td>50</td>
<td>60</td>
</tr>
<tr>
<td>: 1989</td>
<td>70</td>
<td>59</td>
<td>55</td>
<td>66</td>
</tr>
</tbody>
</table>

Note (1) excluding India and China
Table 2: Selected Economic Indicators for the Former USSR (all output data and data on retail trade turnover are at constant prices)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Material product</td>
<td>100</td>
<td>96.0</td>
<td>80.7</td>
<td>64.5</td>
<td>58.1</td>
</tr>
<tr>
<td>Gross industrial output</td>
<td>100</td>
<td>98.9</td>
<td>90.9</td>
<td>77.3</td>
<td>68.0</td>
</tr>
<tr>
<td>Gross agricultural output</td>
<td>100</td>
<td>97.7</td>
<td>87.9</td>
<td>80.0</td>
<td>75.2</td>
</tr>
<tr>
<td>Retail trade turnover</td>
<td>100</td>
<td>110.4</td>
<td>99.4</td>
<td>59.6</td>
<td>53.6</td>
</tr>
<tr>
<td>Consumer prices (as % change on previous year)</td>
<td>5.0</td>
<td>8.0</td>
<td>150</td>
<td>2,500</td>
<td>1,000</td>
</tr>
</tbody>
</table>

Notes: *estimates, for Russia only
economic performance is continuing simultaneously with a slide back into authoritarianism, so that in the medium term, at least, Russia seems to have obtained a perilous deterioration of economic performance and in the quality of daily life alongside a re-appearance, though under much more anarchic conditions, of political authoritanism. These results are so different, so important for the people of the two countries, and of such large significance for wider issues of economic analysis, that it is imperative to have a correct evaluation of their causes. The following section attempts to evaluate the degree to which this result can be attributed to differences in inherent system possibilities for 'catch up'.

3. A comparison of the capacity for 'catch up' possessed by the two systems at the end of the Stalinist period.

3.1 The economic inheritance

a. Size

China and the USSR enjoyed a considerable advantage compared to the other reforming Stalinist economies on account of their vast size. This meant that they both had a greater possibility to restructure without loss of efficiency behind protectionist barriers. Domestic industries could potentially move towards profitability at world market prices within a relatively closed economy with growing internal competition and yet simultaneously benefit from economies of scale. In this respect they each possessed the potential to take the nineteenth century 'American' way to industrial prosperity behind protectionist barriers producing for a massive domestic market of continental dimensions⁵.

b. The labour force

*General educational level*

The socialist ideals of the communist countries was reflected in their deep commitment to the provision of equality of access to education, especially for primary and secondary school age children.

China's level of general education in the 1970s was very advanced for a low income country (Table 3). Indeed, the proportion of the relevant age groups in primary and secondary placed the country around the middle income level. In the late 1980s the mean years of schooling of the Chinese population aged over 25 stood at 4.8, which was the same level as that for middle income countries, and stood at more than double the figure reported for low income countries (UNDP, 1992)(2.3 years). In normal

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⁵ The USA's tariff rates (average unweighted average) for manufactured imports were as follows: 1820=40%, 1875=40-50%, 1913=25% (World Bank, 1991: 97).
times the quality of China’s basic education was impressive compared to other developing countries. The World Bank summarised the situation in the late 1970s as follows: ‘About 72% of those who enter primary schools in China complete four years of education as compared with 41% in India, 68% in Indonesia, and 38% in Brazil,...the achievements of Chinese children in such basic subjects as mathematics are on average ahead of those in most other countries’ (World Bank, 1981: 66-7).

The Soviet Union’s achievements in basic education compare favourably, with those of the advanced capitalist countries (Table 3). Indeed, estimates for the mid-1970s using international purchasing power parity dollars show the USSR to be ahead of all Western countries except the USA in ‘consumption’ of educational services per capita (Schroeder, 1983: 319).

Higher education

China took a strategic decision to place high emphasis within full time education upon the primary and secondary school level. In 1978 only one per cent of the relevant age group were studying in higher educational institutions, compared to 2% in lower income countries as a whole, and 8% in India (Table 3). Moreover, during the Cultural Revolution higher educational institutions were closed for much longer than lower levels: ‘The Cultural Revolution is estimated to have cost China 2 million middle level technicians and one million university graduates (in addition, only a poor quality education was given to those who did pass through the system during this period (World Bank, 1981(b): 106). In the late 1970s the ratio of scientific and technical personnel to total manpower in the productive sector was low. Even in chemicals and machinery manufacturing, the ratio in China stood at only 4.5%, compared to 5.2% in Brazil, 9.3% in Mexico and 21.1% in the USA. Moreover, these data 'conceal the poor quality and out-of-date character of much technical knowledge - the result of ten years of educational disruptions and isolation form the rest of the world ... In relation to China's desire and need to modernise, its supply of skilled manpower is inadequate' (World Bank, 1981(b): 107).

The USSR had a vastly more developed pool of scientific and technical personnel than did China. A consequence of the extremely poor record in utilising scientific skills to produce technical progress was that the USSR allocated sufficient resources to enable the supply of scientific and technical workers to grow extremely rapidly. In the early 1950s the USSR possessed just 15 scientists and engineers per 1,000 people compared to 26 per 1,000 people in the USA. By the mid 1970s the USSR had overtaken the USA, with the respective figures standing at 66 and 62 per 1,000 people (Bergson, 1983: 56). Moreover, the low effectiveness of Soviet scientific research meant that the number of ancillary personnel per scientist and engineer was extremely high in the USSR, standing at 5.0 in 1970, compared to just 1.3 in

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6 A major problem even for China’s primary and secondary education was the disruption caused by the Cultural Revolution, which led to schools being closed across much of the country for two to three years, and even when they reopened, ideological education took a high priority in the curriculum.
### Table 3: Educational Achievements in China and the former USSR, 1978

<table>
<thead>
<tr>
<th></th>
<th>No. enrolled in primary school as % of age group</th>
<th>No enrolled in secondary school as % of age group</th>
<th>No enrolled in higher education as % of population aged 20-24</th>
<th>Adult literacy rate(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low income countries*</td>
<td>74</td>
<td>20</td>
<td>2</td>
<td>43</td>
</tr>
<tr>
<td>Middle income countries</td>
<td>95</td>
<td>41</td>
<td>11</td>
<td>72</td>
</tr>
<tr>
<td>Industrial market economies</td>
<td>100</td>
<td>89</td>
<td>37</td>
<td>99</td>
</tr>
<tr>
<td>China</td>
<td>93</td>
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<td>1</td>
<td>66</td>
</tr>
<tr>
<td>India</td>
<td>79</td>
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<td>8</td>
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</tr>
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<td>USA</td>
<td>98</td>
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<td>56</td>
<td>99</td>
</tr>
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<td>100</td>
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<td>21</td>
<td>99</td>
</tr>
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<td>USSR</td>
<td>97</td>
<td>72</td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>

Note: *excluding India and China
the USA (USCJEC, 1979: 745). Thus, in addition to its large pool of highly qualified scientific workers, the USSR possessed an extremely large stock of moderately trained scientific workers.

A common consequence of the difficulties of central planning was that both countries possessed a large stock of capital goods per unit of final product. Moreover in both cases, the capital were highly unreliable, with a high propensity to break down. Furthermore compared to market economies there was a much less reliability in obtaining spare parts from specialist producers. Thus a striking characteristic of both systems was the high level of engineering ingenuity at all levels of the system. This was reflected, for example in the huge numbers of general purpose lathes, used to produce a wide range of spare parts that in other economies would be purchased through the market. This was extremely inefficient, but it produced a widespread basic engineering capacity.

In neither case was the stock of scientists and engineers used well. The absence of the motive force of competition and profit seeking greatly reduced the incentive of enterprises to undertake technical progress and even led to resistance to technical progress suggested from above the enterprise. The pervasive atmosphere of shortage led to a widespread 'seller' market so that in both capital goods and final consumption goods there was little incentive for enterprises to use available scientific skills to improve product quality. In the belief that technical progress was a public good, a large part of scientific capacities were located away from the enterprises. In the USSR in 1973, for example, only about nine percent of Soviet scientific workers were engaged in work in industrial enterprises, the remainder being located in higher educational institutions, in the scientific academies or in the branch ministries and other state agencies (USCJEC, 1979: 729).

Motivation

A large array of factors combined to produce a workforce in both China and the USSR that was operating much inside its capacity, even given the nature of the available capital stock.

In agriculture, fundamental difficulties arise with production units which employ a large number of workers, such as the collective farm and the state farm. The special nature of the farm work process and the associated difficulty of evaluating work performance means that it is extremely hard to obtain diligent labour.7

In the non-farm sector, the penalty of dismissal was virtually absent, which greatly reduced the pressure enterprise managers could exert upon the workforce. Under the material balance planning system, managers had a strong incentive to hoard labour as well as capital, since this made it easier to achieve the key planning targets, namely gross value or physical quantity of output. The administrative

7 This is the main reason that is so rare under non-socialist agriculture to find units of production which employ a large number of workers.
planning system found it impossible to obtain timely delivery of needed inputs so as to keep the production process running smoothly at full capacity. Consequently, the workspace was very uneven throughout each production period.

Much has been written of the normally slow workspace and low work effort which resulted from these factors. However, it is far from the case that this represented a fixed parameter of economic activity. Rather, it represented a huge potential windfall gain if workers' motivation could be harnessed through suitable policies. An important factor which was available to enable this force to be released was the widespread disappointment with the standard of living attained after long years with high rates of saving and investment. Although by the 1970s the absolute levels of the standard of living in China and the USSR were very different, in both cases there was deep dissatisfaction with the poor results that had been produced by the communist planned economy. The introduction of suitable incentive systems could have released a greatly increased intensity of labour, and hugely raise output from existing resources.

c. Entrepreneurship

China has a much longer tradition of entrepreneurship than Russia. China's medieval technical revolution did not spring out of the heads of inventors independently of economic incentives. Mostly it occurred through the response of producers to practical problems encountered in producing for the market. As early as the tenth or eleventh century AD, China possessed a sophisticated economy, with a highly developed market structure compared to the rest of the contemporary world. It was arguably the world's mostly highly urbanised country until at least the late middle ages in Europe. Although China did not make the breakthrough to an Industrial Revolution along European lines, the growth of output, market systems and urban places continued over subsequent centuries. Whether or not one chooses to call this development a process of emerging 'capitalist sprouts', it is clear that China had a highly developed entrepreneurial system for many centuries before the European Industrial Revolution. The most advanced areas by the sixteenth or seventeenth century were those along the Eastern seabord, and in the Lower Yangzi Valley.

China's capacity to respond strongly to the 'challenge' of the West in the late nineteenth and early twentieth century was inhibited deeply by the lack of a strong central government. By the mid-1930s China still was an impoverished economy, with the vast bulk of output produced in the traditional sectors, and its exports dominated by primary products. However, in those areas and during those periods in which there was some semblance of political order, notably in Manchuria under Japanese occupation and in the Treaty Ports along the eastern seabord, rapid progress in the development of modern industry did occur in the first three decades of the twentieth century. This was partially under foreign ownership, but also there emerged a thriving indigenous bourgeoisie. By the 1920s and 1930s the Shanghai capitalists often had become thoroughly international in outlook, 'capable of surveying equally attentively the Stock

China clearly possessed a powerful capitalist tradition, and the Chinese revolution occurred relatively recently, in 1949. Thus, it can be argued that the memory of capitalism was still in the 1970s very much alive.

The Russian picture initially appears very much more disadvantageous. The Russian state itself is a modern construct. As late as the mid-fifteenth century, ‘Russia’ was a landlocked country of modest size. Over much of the country there were severe natural barriers to the development of commerce and production for the market: ‘The fundamental and most stable feature of Russian history is the slow tempo of her development, with the economic backwardness, primitiveness of social forms and low level of culture resulting from it....The population of this gigantic and austere plain, open to eastern winds and Asiatic migrations, was condemned by nature itself to a long backwardness’ (Trotsky, 1977: 26). The authoritarian state also presented serious obstacles to capitalist development through its rapacious intervention in economic affairs. Moreover, by 1914, capitalist development had still ‘as yet touched little more than the hem of Russia’s economic system. The patches of factory industry in the Leningrad and Moscow districts were and in the south were no more than industrial “islands” in a vast agricultural sea, bordered to the north by deep forests and to the south by mountain or desert’ (Dobb, 1966: 35-6). On top of this, the Soviet Union experienced almost sixty years under anti-capitalist Stalinist planning.

However, the reality is much more complex. It is true that large tracts of Russian Asia had very limited economic development under Tsarism. However, a growing body of revisionist scholarship is reassessing capitalist development pre-1914. In European Russia pre-1860 capitalism was much more advanced than was once supposed (see, e.g. Gatrell, 1986: 144-150; Blackwell, 1983). By the late nineteenth century several major centres of industrial and commercial activity had developed, often building on extensive traditions going back several centuries. The Moscow Region was the most ancient of these, being the centre of an extensive metallurgical industry which began with the formation of the Muscovite state during the Mongol period: ‘Generations of such activity provided a pool, not only of artisanry but also of entrepreneurial aptitude and experience’ (Blackwell, 1983: 16).

From the 1880s to 1914, Russian industry is now thought to have grown at around 4-5% per annum (Gatrell, 1986: 143). A powerful group of big business emerged benefiting from foreign technology, often involving foreign capital, and frequently in cartelised form. Alongside them went a continued growth of more primitive, small scale ‘kustar’ industry involving as many as 15 million urban and rural craftsmen in the 1880s (Gatrell, 1986: 154). St Petersburg was the area which modernised most rapidly: ‘By the last decades of the old regime, St Petersburg may be considered to be an early version

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Note: The text contains a reference to Pipes, chapter 8, 'The missing bourgeoisie'.
of what is to-day termed a "world city"... The St Petersburg entrepreneurs were involved deeply in foreign trade, but also in highly concentrated industries, with large working forces, corporate organisation, and sophisticated technology' (Blackwell, 1983: 17).

It is true that the revolution in China occurred just 25 years before the beginnings of serious reform of the Stalinist economy began. However, in the intervening period there were only limited opportunities for individuals to practise their capitalistic skills. A prolonged 'two line struggle' affected, among other things, the very existence of the private sector as an ancillary to the socialist sector. During the collectivisation campaign of 1955-6, during the Great Leap Forward and in the Cultural Revolution in the mid-1960s, the private sector in the villages came under heavy attack as a 'snare both to poor peasants and to party cadres who still had bourgeois aspirations' (Walker, 1965: 75). 'Capitalism' was likened by the 'left' to a 'dog in the water to be beaten and drowned'. Such tight restrictions were placed on rural commerce and associated activities that the number of people working in 'rural commerce, food and drink services and material supply' fell from 2.8 million in 1957 to only around 0.7 million in the late 1960s and early 1970s (SSB, ZGLDGZTJNJ, 1987: 80). In the cities, the number of individual workers fluctuated wildly as the campaigns against the private sector, waxed and waned, falling from 8.9 million in 1953 to just 160,000 in 1956, expanding to 2.3 million in 1963, before shrinking steadily to just 150,000 in 1977 (SSB, ZGTJNJ, 1992: 97).

During the early phase of collectivisation in the USSR, the Soviet leadership crudely suppressed the private sector in agriculture. However, the policies were very quickly reversed, and later formalised in the model statute on collective farms (1935). By the late 1930s a large proportion of Soviet livestock were in private ownership, and the private sector was producing an important part of rural personal income. The USSR had no subsequent attack on the private sector comparable to that in China. The legal rural private sector was estimated to be producing around 25-30% of total agricultural output in the early 1980s (Aslund, 1991: 155).

The Stalinist planned economy produces simultaneous shortages and surpluses without the possibility legally to reconcile them through the market. As a result there is profound unbuilt tendency for illegal (black) market and quasi-legal (grey) market activity. In Berliner's view '[m]uch of the activity of the "second economy" consists of entrepreneurship of the classically Marshallian kind - redirecting resources towards an equilibrium state' (Berliner, 1983: 196).

Much activity in the second economy involved the provision of personal services or the production of consumer goods. In the USSR in the early 1980s it is estimated that around 50% of shoe repairs, 45% of house repairs, 40% of repairs to private cars and 30% of repair to household appliances were provided by essentially illegal private enterprise (Aslund, 1991: 155). In addition there was a large illegal production of output both by enterprises themselves as well as in private illegal factories using
stolen materials and often employing many workers. It is estimated that in the USSR in the 1970s between thirty and forty percent of personal income came from the private sector. Indeed, it may be argued that due to the pervasiveness of shortages, ordinary individuals had to be far more entrepreneurial in the conduct of their daily lives than the bulk of secure wage earners in the West.

Within the state sector of the Stalinist economies an army of people (talkachi, or 'pushers') was involved on behalf of enterprises in scouring the country to obtain wanted inputs in exchange for unwanted surpluses. In pre-1976 China the planning system produced such 'disconnection between supply and demand that enterprises were forced to send people to many parts of the country to get the materials they needed by personal connections, bartering and other unhealthy means. It was estimated that every day there were about three million people who were travelling in the country on an errand to purchase materials' (Liu and Wang, 1984: 97).

In sum, it is hard to argue that China's reforms were more successful than those in the USSR because the inherent capacities for entrepreneurial activity were greater than those in the USSR. China's traditions of entrepreneurship are, self-evidently, of much greater antiquity than those of Russia, but so are they of greater antiquity than almost all other major cultural areas in the world. By the mid-nineteenth century European Russia had made up a great deal of the leeway in both commerce and industry. For different reasons, neither pre-revolutionary China nor Russia modernised in response to the Western 'challenge' as rapidly as may have been possible under a different set of policies. However, both did achieve considerable progress in certain parts of the country. In post-revolutionary Russia the 'second economy' continued more or less unabated since the planned economy began to be put into effect even during the years of Stalin’s rule, and was a very important area of entrepreneurship. The Chinese planned economy produced the same inherent tendency towards a large second economy. However, it periodically had severe campaigns which greatly increased the risk attached to such activity, and consequently sharply reduced its relative importance in such periods.

d. Industry

General

The problems resulting in Stalinist economies from treating the whole of industry as a single factory are well known (see, e.g. Ellman, 1989, and Kornai, 1980). The planners obtain their information not from a team which works towards a common national purpose and therefore tell the truth about their productive capacities. Rather, information is provided to planners by self-interested agents, who have a strong incentive to provide dishonest information. Even if the information provided to the

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9 For a detailed discussion of the many different forms which the black economy could take in the USSR see, especially, Grossman, 1979.
planners were honest, there would still be large difficulties stemming from the complexity of constructing a national plan which attempts to replace the market entirely. The adverse economic consequences of this system were reflected, *inter alia*, in the high degree of self-sufficiency at all levels, in 'investment hunger', in a pervasive tendency towards hoarding, in low product quality, in poor incentives for technical progress, and in high energy intensity of production.

However, there existed many ways in which industrial performance might improve through the introduction of relatively simple reforms, as long as the economies were not immediately exposed to the full force of international competition. Such reforms might in principle begin a process of incremental improvement so that the industrial sector might move towards making profits at world market prices.

If it were possible to introduce reforms that began to replace planning instructions with profits as the goal of industrial enterprises, then some aspects of the economic system might be able to begin to improve, even in the absence of comprehensive price, ownership, labour and capital market reform. Enterprises might begin to be more demanding of input suppliers to provide better quality products. This in turn could begin to reduce system losses through breakdown of machinery. Enterprises might be more interested in providing the product mix that was liable to increase demand for their products. They might become more concerned to select those construction companies that would complete construction work more rapidly. They might begin to be more interested in purchasing new equipment to operate in old plant than in expanding plant as fast as possible. They might begin to concern themselves about reducing stocks of raw materials and final products. Instead of hoarding labour and capital they might begin to analyse the impact on profits of extra demands for inputs and be prepared to allow workers to leave the enterprise if they wished.

If it were possible to combine the introduction of a gradual shift towards the profit motive with gradual reform of the price system then profit seeking might move in a direction that increasingly economised on scarce resources. Capital allocation, whether by administrative agents or through growing marketisation, might increasingly be drawn to more profitable sectors of industry. Pressure would grow for labour to move out of less profitable sectors and into more profitable ones. If the industrial sector were able to generate a reasonable rate of growth, then the process of re-structuring need not in principle involve large-scale forcible redundancy, but could, rather occur mainly through a process of attraction of workers away from less competitive sectors towards more competitive ones.

Provided the political will existed seriously to reform in these respects, there is every reason to believe that large potential gains could be won in improving industrial performance in the Stalinist economies.

*Heavy industry bias*

The extreme inefficiency with which the Stalinist economies used investment resources meant that
they required a large amount of heavy industrial goods to produce a unit of final product (Table 4). The quality of much heavy industrial output, especially machinery, was below that required to compete on world markets. However, a large part of heavy industrial output in most economies consists of intermediate inputs in which the product is more homogenous and quality is a less important element in competitiveness\(^\text{10}\). The high level of development of the heavy industrial sector represents a potential windfall gain for reforming Stalinist economies. If the reforms, in the manner outlined above, were able to generate gradual improvements in the efficiency with which intermediate inputs were used, then these economies should be able to experience a period of growth with relatively low investment in the heavy industries. Moreover, the capacity to produce large amounts of heavy industrial output should enable them to be able to grow without quickly encountering a foreign exchange constraint on growth. In the event that the reforming Stalinist economies did encounter a foreign exchange constraint through limitations on their capacities to generate export earnings, then it might be advantageous to be able to use domestic heavy industrial products, even though their quality might be somewhat below those available on world markets.

**Size Structure**

An intentional emphasis on large plants in order to benefit from economies scale combined with a high degree of in-house production of inputs produced a relatively large share of large plants in the size structure of the Stalinist economies (Erlich, 1985). Writing in respect to Soviet industry one critic commented: 'Our factories have turned into the most "all purpose", the most unspecialised. Striving to have everything at hand and not depend on producers for trifles, the directors of enterprises "naturalise" their economic operations....It is much easier to produce the needed nuts oneself than to arrange for their delivery from specialised factories that often are non-existent' (Smelyev and Popov, 1990: 118).

As the competitive process begins to take effect in the reforming Stalinist economies, profit seeking enterprises should begin to able to make greater profits by buying increasing amounts of their inputs from specialist suppliers instead of producing them at high cost from workshops within the plant. A logical process would be for many of these in-house operations to become independent operational units. There ought in principle to be considerable efficiency gains from such a re-orientation of plant structure.

**Creating firms from ministries and plants**

The firm is the central institution of capitalism. It is at this level that the competitive struggle

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\(^{10}\) In the advanced industrial economies in the late 1970s around 70% of total industrial output was composed of 'heavy' industry products, and of this over one half consisted of intermediate inputs (chemicals, rubber, plastics, non-metalic minerals and building materials, metallurgical and metal mining, petroleum and coal extraction, and electricity (World Bank, 1981(b): 90).
<table>
<thead>
<tr>
<th>Region</th>
<th>Steel (grammes)</th>
<th>Sulphuric acid (grammes)</th>
<th>Cement (grammes)</th>
<th>Energy consumption (kilograms of coal equivalent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USSR</td>
<td>136</td>
<td>21</td>
<td>116</td>
<td>1.49</td>
</tr>
<tr>
<td>China</td>
<td>146</td>
<td>31</td>
<td>319</td>
<td>3.21</td>
</tr>
<tr>
<td>USA</td>
<td>42</td>
<td>17</td>
<td>27</td>
<td>1.16</td>
</tr>
<tr>
<td>West Germany</td>
<td>61</td>
<td>7</td>
<td>47</td>
<td>0.56</td>
</tr>
<tr>
<td>Japan</td>
<td>109</td>
<td>7</td>
<td>87</td>
<td>0.48</td>
</tr>
</tbody>
</table>

Source World Bank, 1981(a), and SSB, ZGTJNJ, 1981.
of capitalism is most firmly rooted. The archetypical firm has been small or medium-scale. Such firms numerically dominate industry in advanced capitalism and in recent years their role has increased, mainly due to technical progress.

However, small and medium sized firms usually owe their prosperity to the existence of a competitive large scale sector in which large multi-plant corporations are the main actors: 'They played a central role in creating the most technologically advanced, fastest growing industries of their day. These industries, in turn, were the pace-setters of the industrial sector of their economies...[They] provided an underlying dynamic in the development of modern industrial capitalism' (Chandler, 1990: 593). The large multi-plant corporation has been a key element in the process of cost reduction and technical progress. Such institutions have been able to benefit from economies of scale, associated with reduction in unit costs from large plant size. In addition they have been able to benefit from economies of scope associated with reduced transaction costs involved in the transfer of goods and services from one operating unit to another (Chandler, 1990). These relate to marketing, research and development, installation of equipment, credit provision to customers and after-sales service and repair (Chandler, 1990: 200). Huge corporations with tens or even hundreds of thousands of employees (e.g. Unilever, Siemens, PepsiCo, General Electric, Philips, General Motors, Hoechst, Samsung, Rockwell International) stand at the centre of the capitalist system.

In US manufacturing as a whole, large firms (those with over 500 employees) still account for over 74% of total manufacturing sales (Acs and Audretsch, 1993: 70). In the UK the share of the top 100 firms in manufacturing output has remained remarkably stable over a long period of time, at around two fifths of total net output value since the mid 1960s (Hughes, 1993: 31). In many small countries like Switzerland, Sweden and Holland the role of large corporations is even greater: in these countries the top 20 firms alone in 1985 accounted for 60%, 67%, and 95% of total industrial employment respectively (Scherer and Ross, 1990: 63).

There are large potential efficiency gains for Stalinist industry if it can move away from an arrangement in which the whole economy is treated as a single plant towards one in which the competitive firm becomes the main institutional form. Paradoxically, despite the existence of a large number of giant plants, the Stalinist economies have failed to grasp many of the economies of scale of capitalist economies, since these often derive from the existence of the large multi-plant company benefiting from economies of scope, rather than economies of scale from a single large plant. A striking feature of the advanced capitalist economies is that the average size of firms varies greatly between sectors. Chandler's study found that in the mid-1970s no less than 72% of the 401 international giant companies with more than 20,000 workers each were clustered in a narrow range of industries (chemicals, petroleum, primary metals, the three machinery groups, and food (Chandler, 1990: 19). Reorganising the plants of Stalinist
Table 5: Distribution of Employment by Size of Establishment(%)  

<table>
<thead>
<tr>
<th>Size of establishment</th>
<th>Capitalist countries</th>
<th>Socialist countries</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-100</td>
<td>40 &amp; 35</td>
<td>23 &amp; 20</td>
<td>17 &amp; 11</td>
</tr>
<tr>
<td>101-500</td>
<td>30 &amp; 33</td>
<td>30 &amp; 30</td>
<td>25 &amp; 23</td>
</tr>
<tr>
<td>501-1000</td>
<td>11 &amp; 13</td>
<td>13 &amp; 14</td>
<td>16 &amp; 16</td>
</tr>
<tr>
<td>over 1000</td>
<td>19 &amp; 19</td>
<td>34 &amp; 36</td>
<td>42 &amp; 50</td>
</tr>
</tbody>
</table>

Note 'Independent accounting enterprises' only. In the absence of direct data for the 1970s this provides a good approximation of the size distribution of Chinese industrial enterprises then, since there were then. In 1978 independent accounting enterprises accounted for 96% of NVIO (SSB, ZGGYJITJZL, 1949-1984, 1985: 41-2.
Source Erlich, 1985, and SSB, ZGGYJITJNJ, 1991
economies into companies of sizes appropriate to the economies of scale of the respective sectors, ought in principle enable improvements in economic performance.

Technical progress

Both China and the USSR experienced extremely low returns in terms of civilian technical progress from their investment in human capital in science. One reason was the isolation of scientific research workers in institutions and universities. However, the more fundamental reason was the lack of interest in industry in employing the skills of scientific workers to improve industrial performance either directly in the plant or indirectly through acquiring the fruits of their research. Indeed, enterprise managers had a strong interest in resisting technical progress, let alone attempting themselves to pursue it:

'In the USSR innovation has to be "introduced". The Russian word, vnedreniye, implies that it requires effort, a push from above. In the West, on the contrary, one had industrial espionage, and efforts had to expended to prevent one's rivals learning about one's innovations. The reason for the contrast must be competition, which exists in the West even in sectors (such as the chemical industry for instance) in which giant monopolists may seem to be dominant; whereas in the USSR it is no accident that many plays and novels feature the obstructionist director who resists innovation: he has very little incentive to do otherwise' (Nove, 1983: 76).

By introducing the profit motive to industry, large increases in economic output could in principle be achieved from existing scientific personnel. Even in relation to their level of income it is likely that the potential for the USSR to reap windfall gains from this aspect of reform was considerably greater than that for China.

A further important part of the unrealised scientific potential was accounted for by the large share of expertise allocated to the military sector. In both cases the share was extremely large. This reflected on, the one hand, the frontline position of the USSR in the Cold War and, on the other hand, it reflected the 'war on two fronts' against both the US and the Soviet Union that China fought from the late 1950s up until the early 1970s. In the early 1980s it was estimated that Soviet defence expenditures amounted to around 15% of GNP, and that the defence sector absorbed 16% of domestic machinery production (USCJEC, 1983: 306). Moreover, the defence sector claimed a disproportionately large share of the best resources (USCJEC, 1982: 340). China's defence sector was much less advanced than that of the USSR in the 1970s, with a much greater reliance on sheer numbers of military personnel. However, the share of industrial resources preempted by the military sector was even greater than that in the USSR. It was estimated that in 1980 China's defence sector accounted for no less than 21% of total industrial output (USCJEC, 1975: 477). In both cases there existed a very large 'peace dividend' from the end of the Cold
War which could release scientific and material resources for civilian use. This dividend could be especially large if the end of the Cold War coincided with well-devised policies to introduce competition to industry leading to the intensive use for making profits of scientific skills and capital stock formerly tied up in the military sector.

Despite the 'turn to the West' in the 1970s resulting in some increase in Soviet imports of foreign technology, equipment imports still accounted for only around 2% of total domestic equipment investment (Hanson, 1978: 31). A leading expert in the field concluded that Soviet technology imports had played a 'limited' role in Soviet growth (Hanson: 1978, 43). The vast bulk of China's technology imports had originated from the Soviet bloc in the 1950s. In the 1960s 'self reliance had become the watchword...and imports of equipment and technology were reduced to the selective acquisition of the most advanced technology. The stock of Soviet equipment was rapidly becoming obsolete and domestically produced equipment was primitive' (USCJEc, 1978: 311). Both China and the USSR possessed an especially large opportunity for technical catch-up, provided the foreign exchange could be generated to pay for technology-enhancing imports. China was in a less favourable position than the Soviet Union to take advantage of this opportunity, since its scientific capabilities had been so badly damaged during the Cultural Revolution.

f. Agriculture

There were large and obvious differences between Chinese and Soviet agriculture in the 1970s. China's land-person ratio was minuscule compared to that of the USSR, and its level of mechanisation of farm tasks was much lower. Output per person in the USSR was vastly above that in China.11 This gave the Soviet Union a large 'cushion' to its reform programme.

However, there were also fundamental similarities in the agricultural situation. The most obvious was the institutional setting. The socialist economies all based their agricultural policies on the erroneous assumption, following Marx and Lenin, that agriculture, like industry contained wide possibilities for economies of scale in all aspects of the farm process. This was a central rationale behind the decision

<table>
<thead>
<tr>
<th>Product</th>
<th>China</th>
<th>USSR</th>
</tr>
</thead>
<tbody>
<tr>
<td>grain</td>
<td>364</td>
<td>734</td>
</tr>
<tr>
<td>meat</td>
<td>19</td>
<td>62</td>
</tr>
<tr>
<td>milk</td>
<td>3</td>
<td>354</td>
</tr>
<tr>
<td>eggs</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>aquatic products</td>
<td>7</td>
<td>36</td>
</tr>
<tr>
<td>sugar</td>
<td>4</td>
<td>30</td>
</tr>
<tr>
<td>fruit</td>
<td>11</td>
<td>66</td>
</tr>
</tbody>
</table>

Source Department of Agriculture, 1989: 706-707
to collectivise agriculture: 'Such despoliation of human energies and labour as takes place in the small, individual peasant economy cannot last any longer. If a transition were to take place from this splinter economy to a socialised economy, productivity of labour could double and treble, human labour could be saved two fold and threefold both of agriculture and for the human economy as a whole' (Lenin, quoted in Baran, 1957: 275). In both cases, the basic unit of production was extremely large in terms of the number of workers. In the Soviet Union in the 1970s the average kolkhoz contained around 500-600 labourers (Nove, 1972: 242). In China the basic unit of organisation was either the production brigade or the production team (rather than the much larger peoples commune). In the late 1970s they contained on average 455 and 54 workers respectively (SSB, CSY, 1981: 135).

There are deep problems with the collective and state farm method of farm organisation (see, e.g. Nolan, 1988). It is very unusual under capitalism to find farms with more than three or four workers: in the USA in the 1960s there was an average of just 1.9 workers per farm (Nolan, 1988: 41). The reason is to be found mainly in the peculiar difficulty of labour supervision in agriculture. The difficulties arise from the sequential nature of tasks over the course of the agricultural cycle (making it difficult to identify the labour contribution of individuals to a given piece of farmland), the spatial dispersion of work over a wide area (leading, for example, to difficulties in evaluating the labour requirements of different pieces of land), and the large role played by weather changes, necessitating flexible responses from workers. The sum impact of these factors was to produce large managerial diseconomies of scale (measured by the number of workers, not the amount of capital) in most aspects of the direct tasks of cultivation, though there still exists large scope for economies of scale, and hence benefit from co-operation, in the ancillary aspects of the farm process, such as research, irrigation, crop spraying, processing, and marketing. Agriculture under capitalism is, typically, characterised by small units of production in the main farm tasks, but with large amounts of co-operation in ancillary activities.

A further serious set of problems affected agricultural performance. These included the regular issuance of inappropriate, centrally determined instructions on agricultural technology and labour organisation, tight government control over marketing of farm produce, and poor quality and no choice for farmers in the selection of industrial inputs for agriculture.

Far from economising on human labour and capital, the communist approach to agricultural organisation resulted in massive waste of resources. In common with most socialist countries a relatively large share of the labour force was employed in agriculture. In 1980 in the USSR 14% of the workforce was in agriculture, compared to only 6% in the industrial market economies, while in China 71% was employed in agriculture, a similar proportion to that in the least developed countries in the world (World Bank, 1982: 146-147). In both cases agriculture grew at a moderate pace only through absorbing a large share of investment. In the USSR the farm sector’s share rose form 17% of total national investment in
1959-65 to over 20% in the 1970s, compared to around 5% in the USA (USCJEC, 1979: 40). In China agricultural investment accounted for around 11% of state investment in the early 1970s (Lardy, 1983: 130). However, a great deal of investment was organised and financed by collectives themselves, so that its final share was considerably above this figure. The growth rate of the farm sector’s purchase of agricultural inputs was extremely rapid, averaging almost 12% per annum from 1957 to 1978 (Nolan, 1993: 245). The rural sector’s share of total steel products rose from 8% in 1957 to 17% in 1977, and its share of cement increased from 9% to 25% over these same period (Nolan, 1988: 60).

In both cases relatively simple institutional changes had the potential to produce large improvements in efficiency, and to release labour and a much increased share of investment for employment elsewhere in the economy. These represented potentially very large windfall gains for the reforming communist economy. Moreover, improvements in farm performance could have beneficial effects on light industrial growth through the supply of industrial inputs, and on overall economic performance through the incentive effect of improving an essential element in people’s livelihood even in a relatively advanced economy such as the USSR was in the 1970s. In addition, it might have beneficial balance of payments effects through reducing food and raw material imports.

The most important and simplest institutional change is contracting farmland out to individual households, allowing households to take the main decisions about organising the means of production, and permitting them to make the key decisions about saving and investment within the framework of a stable tax environment. This ‘land reform’ alone should be able to reverse the profound managerial diseconomies of scale associated with collective agriculture and state farms, and radically improve peasant incentives. If such a reform were associated also with simple changes in the way in which farm inputs were supplied and with a move towards the profit motive in industry, then there would also be a possibility for profit seeking farm households to begin to be more demanding in their selection of inputs in respect both to their quality and type.

The largest problem is that of lumpy farm inputs. Soviet agriculture at first sight appears to have been characterised generally by far greater ‘lumpiness’ than Chinese agriculture with large numbers of huge pieces of farm equipment. However, Chinese agriculture also had an important area of ‘lumpiness’ which did not apply in Soviet agriculture, namely the high degree of dependence of farm production on irrigation and drainage facilities. Even quite ‘small’ scale water conservation facilities could be well beyond the reach of individual households. The solution to the post-reform organisation of these inputs is not in principle very complicated. In advanced capitalist countries a large part of lumpy inputs, from processing facilities through to combine harvesters and crop spraying aeroplanes, are owned either by non-farmers and hired out by specialist suppliers to individual farmers, or are co-operatively owned alongside individual farm operation. In principle, the land contract process could be combined with a
maintenance of a large part of more lumpy inputs in the hands of profit oriented co-operatives or state machinery and irrigation companies.

3.2 Government and politics

a. Administrative capacity of the bureaucracy

Both China and the USSR had a long tradition of centralised bureaucratic rule. They both had a huge Party apparatus\(^{12}\), which was closely interwoven with the system of state administration. It would be very difficult indeed to argue that the Chinese bureaucratic apparatus or tradition of centralised rule was weaker than that of Russia. It would be hard also to argue to sustain an argument that the Chinese communist party apparatus was any less corrupt or any more professionally effective than that of the USSR in the late 1970s. Indeed, the Chinese Communist Party and administrative apparatus had been badly damaged during the Cultural Revolution decade. Even more than usual in a communist country promotions in China during this period had been based on ideological rather than professional criteria (i.e. 'red' rather than 'expert').

This bureaucratic apparatus has been regarded by most commentators as the major obstacle to sensible reform policies in communist countries. Most observers have regarded it is as self-evident that the bureaucracy would be deeply opposed to economic reform, since reform would deprive them of power and status. Aslund (1991: 14) summarises this approach as follows: 'A reform reduces the power of the bureaucracy by definition and most of the administration will inevitably oppose reform. Therefore, a successful reform must break the power of the anti-reform bureaucracy...To break the power of the party and state bureaucracy may be seen as the key problem of a reform.'

However, the possession of an effective, competent state bureaucracy is a central element in explaining the rise of almost every successful industrialising country since Britain. There were two logical possibilities to the problems of the old state apparatus. One was to regard it as hopelessly un改革able, inherently opposed to any kind of reform measure and to destroy it. A second, reformist approach was to attempt to change its goals and methods of operation. This would involve a gradual process of professionalisation, making the organisation more youthful, introducing more rationality rather than quasi-religious principles into its ethical foundation, and giving the members of the apparatus a central role in the process of reconstructing the Stalinist economy. In the reformist approach the Party members are less threatened and although their tasks alter greatly over a given period of time, they retain their dignity, status and remain relatively well rewarded.

The Chinese leadership attempted to follow the second approach and were broadly successful in

\(^{12}\) The Chinese Communist Party in the late 1970s numbered about 38 million, or around 3.5% of the total population, while the Soviet Communist Party numbered about 18 million, or around 6.7% of the total population.
it. However, there is no reason to believe that the Chinese bureaucratic apparatus had any greater capacity to be transformed successfully in this reformist way than did the Soviet one. Indeed, many observers writing in the 1970s would have argued that the reverse was the case.

b. Mass demands for political reform

Political outcomes are far from a matter of choice by governments. One important line of argument is that the dramatic contrast in political outcomes in China and the USSR was not a matter of policy choice but was, rather, an uncontrollable consequence of the fundamental difference in political environment. The most important such propositions relate to mass demands for democracy on the one hand and the strength of nationalist feeling on the other.

**Mass demands for democracy**

The Soviet Union in the late 1970s was, self evidently, a much more highly urbanised society than was China. It also had a much more strongly developed interest in Western values among the intellectual community. It is probable that in the 1970s there was a more widespread hope in the USSR that Western democratic institutions might be put into place than was the case in China.

However, the Soviet political system appeared to most observers both inside and outside the country to be extremely stable. It had survived in relatively intact form since the 1920s without any fundamental disruptions. The system even in the post-Stalin and post-Krushchev period was still extremely repressive allowing very limited areas of individual freedom. Moreover, China’s political system had only recently been through a huge upheaval in the shape of the Cultural Revolution, which had deeply damaged the communist party for several years, unleashing a period of widespread anarchy, for which there is no counterpart in Soviet history. Moreover, the principal actors in the Cultural Revolution had been millions of young people who had been urged by the country’s leader to ‘dare to rebel’.

In the Soviet Union, hopes of fundamental political change may have been more widespread than in China, but expectations of such change were much less. It was the policy decisions of Gorbachev in respect to perestroika of the political system that turned the strong hopes into ardent expectations. In the sharpest contrast, there was a near consensus among the Chinese leadership that political democratisation was not a part of the political agenda in the near future in China. A series of campaigns against ‘bourgeois’ values attempted to reduce expectations of change among the politically active population.

**Nationalism**

In the 1970s both China and the USSR were huge multinational empires. However, the relative size of the ‘national minority’ population is a major difference between the two countries. The non-Russian population accounted for around one half of the total Soviet population whereas the non-Han population in China accounted for well under ten per cent of the total population. Once the minority
nationalities began to pursue their demands for independence in a serious fashion in the USSR the situation was more difficult to control than would have been the case in China.

Successful market and income growth is the most powerful force leading to the disintegration of ethnic differences. In both cases the non-market Stalinist systems had kept the forces of nationalism intact in a 'deepfreeze' beneath a veneer of new 'socialist man'. The national leadership of both countries perpetuated a public propaganda myth that the 'nationality' question belonged to the past. In both cases the 'national minorities were disproportionately concentrated in more sparsely populated, remote, resource-rich regions. In both cases notional liberation movements had been brutally suppressed. If anything, the severity of these struggles in recent times had been greater in China than in the USSR. China fought major battles against the Uighur (Wei wuer) 'national minority' in Xinjiang province in central Asia over a long period, and conducted a protracted and violent guerilla war against the Tibetan independence movement.

In the 1970s in neither country was the expectation of national minority groups high. However, the policies pursued by the national leadership were strikingly different (see below). In the Soviet case the environment of political perestroika greatly raised the expectation of national minority groups, whereas in China national policy makers repeatedly made it clear that attempts to break away from rule by Peking would be repressed brutally.

c. Leadership perspectives

The USSR entered the 1980s with an extremely aged leadership. Writing in 1983, a leading Soviet expert commented: The most striking characteristic of [the top leadership stratum] is its advanced age...the coming succession will inevitably bring about massive replacement of the leadership stratum, and will compress the turnover into a relatively short time span' (Bialer, 1983: 400). The new generation of leaders which came to power in the mid-1980s had grown up entirely during the Soviet period and had not experienced the turbulence of the first phase of Soviet industrialisation. The bulk of their working life had been conducted in the relative stability of post-war recovery, post-Stalinist growth and, finally, post-Krushchev stagnation. They had not personally experienced an economy and society in disintegration, and, consequently, tended not to be risk averse. They could only imagine that the Soviet Union's reforms might lead to more or less rapid progress. It was beyond their ken that their policy initiatives might be responsible in only a few years for the disintegration, humiliation and impoverishment of their country.

They inherited a situation of widespread disillusion with the results of Stalinist planning. The earlier attempts at system reform in the mid 1960s and then again in the late 1970s had, if anything, worsened the performance of the Soviet economy by creating even more 'pressure' with all its attendant problems. Several characteristics stand out in trying to understand how they went about trying to solve
these problems.

They had no first hand understanding of a market economy. The USSR's adversary in the Cold War was the USA, and the USA stood at the forefront of the consciousness of Soviet policy makers as the classic example of capitalist economics and politics. Moreover, American social science and funding dominated thinking in non-communist politics and economics, from academic journals through to the international institutions, notably the IMF and the World Bank. In the 1970s the mainstream of US-dominated social science thinking moved even further towards an anti-state position. Only in the late 1980s and 1990s under the impact of the collapse of the USSR and the rise of China to add to the success of Japan and the East Asian Newly Industrialising Countries, has the mainstream of American social science begun to realise that the role of the state is more complex than it was confidently portrayed as being in the 1980s. Furthermore, the Soviet intellectual community as a whole was reluctant to consider East Asia as having any relevance to their own policy formation. A charitable view would suggest that this is mainly on account of their historical relationship with China: 'As the leader of the Socialist bloc, most Soviet officials did not like the idea of copying the Chinese ... Until about mid-1986 the Chinese reforms were bitterly attacked in the Soviet Union' (Goldman, 1992: 61). A less charitable, but probably more accurate view, would attribute this to little short of racism. Most Russians were extremely reluctant to believe that any of the East Asian countries, Japan included, were in any way superior to them, and could have much to teach them.

Thus, the possibility that a strong, reforming communist party should in a one-party authoritarian fashion lead a controlled transition to an economy which for the foreseeable future might combine the virtues of plan and market in respect both to growth and distribution, did not gain the main ground of political discourse in the USSR's reform debates. Instead, it remained a marginalised perspective harking back to the Soviet Union's own NEP in the 1920s. A powerful undercurrent of thinking at the highest level of policy making quickly emerged, and soon became the mainstream, namely, that 'real' reform meant moving fast down the American path of politics and economics. Opposition to this was rapidly stigmatised as immoral, attempting to cling through self-interest to the wreckage of an outmoded system.

In China such a perspective did not gain the high ground of political decision making. Rather, it remained a relatively marginalised force, symbolised most powerfully by the students' construction of the Goddess., of liberty at Tiananmen in 1989. China's leaders in the late 1970s were, indeed, dominated by old men. None was more important than Deng Xiaoping, but around him also were extremely powerful veteran politicians, such as Chen Yun, Li Xiannian, Ye Jianying, and Yang Shangkun. While

13 Striking public examples of this are Solzhenytsin's Nobel Prize acceptance speech, which contains references to the 'Yellow Peril', and Stalin's contemptuous attitude towards the Chinese, recorded in Krushchev's memories.
some of the elder statesmen did, indeed, die in the course of the reform years, key actors remained alive, and in one or two key cases, notably that of Deng Xiaoping, remained in possession of their critical faculties despite advanced age. Most writers outside China in the course of China’s reforms regarded the continued power of China’s ‘gerontocracy’ as an unequivocal ‘bad thing’ for the Chinese people. They were time and again contrasted with the fresh (albeit mostly middle-aged) faces of the new generation of Soviet leaders, such as Gorbachev, Shevardnadze, Yeltsin, Popov, and Sobchak. These were, in Mrs Thatcher’s, words people with whom one could ‘do business’ in marked contrast to the old dictators in Peking.

China’s old generation had all experienced personally a market economy, in some cases, such as Deng Xiaoping’s, having lived abroad under impoverished circumstances. No-one who lived in the burgeoning capitalist economy of China’s Treaty Ports before 1949 could fail either to be impressed with the dynamic power of market forces, nor dismayed at the social inequalities and insecurity it produced. Moreover, any perceptive observer could perceive the many ways in which well focused state action might improve the performance of the economy, especially that of the vast countryside. Thus China’s leaders of Deng Xiaoping’s generation were under no illusions that ‘free markets’ would magically solve China’s problems. They had first hand experience of deep market failure and did not make the mistake of equating the operation of capitalism with a first year US student textbook’s account of perfect competition.

However, the generation which came to power in China in the late 1970s did not receive the imprimatur of rule as simply the next in line in a chain of succession. On the contrary they had, mostly, fought against the dominant policies of the previous Maoist epoch, and suffered greatly for so doing. They had, mostly, been victims of the ‘Two Line Struggle’. Deng Xiaoping had been reviled during the Cultural Revolution as the ‘number two capitalist roader’, and had famously said ‘it doesn’t matter if the cat was black or white as long as it caught mice’. In other words one should be pragmatic in one’s choice of economic policies, with their suitability being judged by whether or not they were, indeed, successful in promoting the productive forces and national prosperity. Chen Yun, who came to be caricatured in the 1980s by most foreign observers as the main ‘reactionary’, ‘hardline’ force in the Chinese leadership, had himself opposed Mao in favour of the necessary role for markets and individual incentives.

The old men who returned to power in the late 1970s in China may be likened with those in the Soviet Union in the 1920s who had championed the cause of a mixed economy under communist party rule. Chen Yun had himself been liked to Bukharin, and the position of the dominant group of leaders had in common the pragmatism in respect to economic policy of the Bukharinist wing of the Soviet communist party in the 1920s. In both the early 1950s and again in the early 1960s, China had pursued
loosely NEP-type policies, and this group had been in the forefront in supporting such measures.

The ideology of this group was closer to that of a much wider current of thinking in political economy in East Asia, stretching from Meiji Japan in the late nineteenth century, through to Sun Yatsen and the Kuomintang (initially on mainland China, and subsequently in Taiwan), through to South Korea and Singapore since the 1950s. The dominant approach had been to view political institutions in a functional way, regarding the best arrangement as that which would more rapidly produce national prosperity in a world of hostile international competition. In economic policy, the free market and Stalinist planning were regarded as being of equal irrelevance. The broad approach owed much to that of Friedrich List. Thus, Chiang Kaishik, the leader of the Kuomintang, in the midst of his party's struggle with the Chinese Communist Party wrote in 1947 'China cannot compete with the advanced industrial nations. She must therefore adopt a protectionist policy with regard to foreign trade, and a policy of economic planning with respect to her industrial development. Private capital alone will not be sufficient to operate on a large scale, or to compete with the trusts and government operated enterprises of foreign nations. This is the great weakness of laissez-faire economic theory and makes it unsuitable for China' (Chiang, 1947: 279). Economic policy was interpreted as inseparable from wider considerations of national endeavour, with individual group interests firmly subordinated to national goals: 'Western economics is merely the study of private enterprise or of market transactions, whereas Chinese economic theory is not confined to private enterprise or market transactions but is a combination of the peoples livelihoods and national defense .... [E]conomics is the study of how to make the nation rich and strong - to build a nation into a wealthy, powerful, healthy, and contented state. In essence it is the study of national economic development' (Chiang, 1947: 243, and 248).

A striking illustration of the contrast between the Chinese and Soviet leadership perspective is the nature of the reports written by the international institutions once they started to again influence in these two countries. Those produced by the IMF and World Bank for the USSR look very like standard recommendations for stabilisation and structural change produced by the same institutions for one Third World country after another. Those produced for China are remarkable for their pragmatism and caution. Indeed, they mostly take the form of descriptions of government policy already being enacted rather than firm recommendations for major lines of change. The major institutions encountered in the Chinese policy makers a group that was confident of the broad correctness of its pragmatic political economy approach towards reform and most of what the Chinese government actually did in the reform period flew in the face of the mainstream of economic policy in these institutions. However, so strong was their sense of national purpose and their determination not to be brought to a position of indebtedness in which their policies were dictated from outside under conditionality arrangements, that it was pointless for the IMF or the World Bank to attempt to make radical suggestions for reform of the kind that would be their
stock in trade elsewhere and were, indeed, so in their relationship with the USSR and Russia. As far as the World Bank was concerned, a sort of schizophrenia developed, under which almost all those who worked in the China department became convinced of the desirability of a more pragmatic approach towards reform than that which was confidently recommended by other branches of the organisation.

The old men who returned to power in the late 1970s in China had lived through an attempt to create a 'great leap forward' in political economy, such as was being recommended to Eastern Europe and the USSR. In 1958 Mao had promised to Chinese people that a communist utopia could be created overnight in China, and that within a few years massive economic progress could be achieved on the basis of the changed socioeconomic relationships. The Great Leap ended in disaster, with a massive collapse in output and tens of millions losing their lives through starvation. This made them deeply sceptical of policy advice such as that given to the Soviet leadership by Western and internal advisors, suggesting that radical policy changes could quickly produce excellent results. Moreover, China was still in the 1970s an extremely poor country and the leadership was deeply aware that policy errors could still create disastrous results. In sharp contrast to the Soviet leadership, which could not conceive that things might quickly get worse, the Chinese leadership's personal experience combined with the country's poverty made them to be highly risk averse in choosing policies. Their goal was not to quickly create the wealth of the USA or Western Europe, but rather to produce some improvement through cautious, experimental change. As long as China gradually became more prosperous, then the reforms would be deemed to have worked; 'bu pa man, jiu pa zhan' ('Don't worry about going forward slowly as long as you're going forward').

The Soviet leadership had experienced a lifetime of political stability. They could not imagine that their country could be plunged into political turmoil by over-rapid political reform. However, the aged Chinese leadership had personally experienced the anarchy of political life for much of the 'Republican' period. The hopes of more Western-oriented Chinese intellectuals for the establishment of 1911 a stable democratic system in China after the 1911 Revolution were dashed as China entered.‘ the prolonged turmoil of the Warlord period. In addition, the same leaders had more recently been through the searing experience of the Cultural Revolution. They had seen the damage to economic life, the threat to ordinary citizens' safety and sense of security, brought about by the destruction of the Party during the high years of the Cultural Revolution. Self-interest in clinging to power was, of course, extremely important in determining their approach towards political reform. However, an important, though indeterminable, part of their approach was also based in an extremely hard-headed appraisal of the options facing China.

The contrast between China and the USSR in overall perspective towards the reform process, and especially of the relationship between political and economic reform could not have been stronger.
Writing at the beginning of the Soviet reform process, Gorbachev expressed his hopes as follows:

The main idea of the January [1986] Plenary Meeting—as regards ways of accomplishing the tasks of *perestroika* and protecting society from a repetition of errors of the past—was the development of democracy. It is the principal guarantee of the irreversibility of *perestroika*. The more socialist democracy there is, the more socialism we will have. This is our firm conviction, and we will not abandon it. We will promote democracy in the economy, in politics and within the Party itself. The creativity of the masses is the decisive force in *perestroika*, there is no other more powerful force.

Writing early in China’s reform process Deng in 1979 presented the Chinese leadership’s view of the relationship between different aspects of the reform process as follows:

At present, when we are confronted with manifold difficulties in our economic life which can be overcome only by series of readjustments and by consolidation and reorganisation, it is particularity necessary to stress publicly the importance of subordinating personal interests to collective ones, interests of the part to those of the whole, and immediate to long-term interests...... [T]alk about democracy in the abstract will inevitably lead to the unchecked spread of ultra-democracy and anarchism, to the complete disruption of political stability and unity, and to the total failure of our modernisation programme. If this happens then the decade of struggle against Lin Biao and the Gang of Four will have been in vain, China will once again be plunge into chaos, division, retrogression and darkness, and the Chinese people will be deprived of all hope (Deng, 1979: 55).

Conclusion

Despite some important differences, both the former USSR and China possessed huge catch-up possibilities, as did most of the former Stalinist countries. The main reason for the contrast in outcome in China and the USSR is the difference in policies selected in respect both to narrowly economic issues, and to the relationship between economic and political change. The contrast in policies pursued was the result of complex historical factors leading to fundamentally different approaches towards the task of transforming the Stalinist system\textsuperscript{14}.

\textsuperscript{14} For more detailed discussion of these issues see Nolan, 1993, and Nolan, forthcoming.
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