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Enterprise-Level Reforms in Chinese State-Owned Industry

By WILLIAM BYRD*

By the late 1970's, China had built up a comprehensive modern industrial system, predominantly state owned, which was able to produce a wide range of producer and consumer goods domestically. China's long-run industrial growth rate has been one of the highest in the world. This high growth rate was maintained even in the decade 1967-76, now vilified as a period in which "leftist" ideological considerations dominated economic policy. But Chinese industry has suffered from fundamental weaknesses, which have made it very inefficient. The most important and chronically debilitating problems have been: inefficiency in converting material inputs and energy into outputs; poor product quality; mismatches between supply and demand; excessive inventories; inefficient investment; widespread underutilization of fixed assets; and an overly dispersed, inefficient regional pattern of industrialization. There is evidence not only of failure to improve efficiency, but of actual deterioration in performance over time, at both macro and micro levels. By the late 1970's, problems of inefficiency had become so serious that they were an important factor in precipitating economic reforms.

This paper reports on enterprise-level reforms in Chinese state-owned industry, which were implemented starting in late 1978. The basic components of the reform program and the main trends that have emerged during reform implementation will first be discussed. Then the success of reforms in im-

proving efficiency will be evaluated. A number of conclusions arrived at will differ from the judgements of other observers. Reforms have rapidly expanded in scope, to the point where the bulk of the state-owned industrial sector has become involved. Reforms have had a considerable impact on the orientation and activities of Chinese managers. Reforms have been associated with a perceptible improvement in production efficiency during the past several years.

I. Basic Components and Main Trends in Implementation

Implementation of enterprise-level reforms has often appeared chaotic and haphazard, more the result of *ad hoc* responses to immediate exigencies than of a comprehensive plan. Various pilot programs have been instituted for different kinds of enterprises and in different parts of the country; they differ significantly from each other in terms of some of their basic provisions. Nevertheless, reforms are related by their common goal of improving efficiency. Moreover, all reform programs have in common a number of basic components: 1) devolution of greater discretionary authority to enterprises in production and investment activities; 2) use of material incentives (in the form of profit retention schemes for enterprises and bonuses for individual workers) to supplement administrative directives in guiding enterprise decision making; and 3) an expanded role for the market mechanism in resource allocation. All three involve drastic departures from policies prevalent during the period of "late-vintage Maoism" (1967-76). Throughout that decade, material incentives at enterprise and individual levels in the state sector were strictly forbidden, the market played virtually no role in the allocation of producer goods and an extremely limited one in the allocation of consumer goods, and enterprise management had considerably less decision-making power.

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The most striking feature of reform implementation has been rapid, often uncontrolled growth of participation in the various reform programs. Reforms started in late 1978 with six pilot firms in Sichuan Province. The number of enterprises involved increased rapidly, reaching 6,600 by mid-1980. Though comprising only about 11 percent of the total number of state industrial enterprises, they accounted for 44 percent of the gross output value and 57 percent of the profits of this group. The campaign to promote "economic responsibility systems" begun in April 1981 brought on a new wave of expansion. By the end of the year, 80 percent of all state-owned industrial enterprises were said to be involved. This hurried implementation undoubtedly has resulted in simplifications and distortions. Nevertheless, the Chinese accomplishment in engineering such a rapid transformation of the state industrial sector is remarkable.

A second outstanding feature has been significant local and provincial control over the reform implementation process. Sichuan Province was a pioneer in this regard, but other territorial units also exercised considerable initiative in the early stages. Later, in the campaign to promote economic responsibility systems, decisions on key provisions affecting enterprises were formally devolved to their immediate superiors, the industrial bureaus and corporations. These could decide both enterprises' quotas for profit remittances to higher levels and their retention rates for above-quota profits.

Another salient trend has been the increasing focus on industrial bureaus and corporations as opposed to enterprises. To some extent this may simply reflect retrogression—elements of the bureaucracy which played a dominant role in the prereform situation have attempted to regain control. But there are sound economic reasons why in certain spheres decentralization should not proceed all the way down to the enterprise level. This is particularly true of investment decisions and control over investment funds, in the absence of effective financial intermediation by the banking system. Centralization at the bureau or corporation level can avoid duplicative, inefficient investments and resulting excess capacity, at least within the

area of the bureau or corporation's jurisdiction. In production as well, a certain amount of centralization can eliminate the most obvious forms of local duplication and waste. On the other hand, centralization of financial resources and rewards undoubtedly harms incentives at the enterprise level. Bureau-level reform programs generally try to maximize the benefits in this tradeoff by maintaining control over investment funds, while allowing funds for workers' bonuses and other benefits to be allocated directly by the enterprises.

Turning to the new financial incentive schemes, five main trends are apparent: 1) progressive simplification; 2) an increasing focus on profits as the only important performance indicator and reward determinant; 3) a shift in the basis of evaluation from comprehensive plan fulfillment to growth (of profits) to arbitrary quotas for profit remittances to supervisory authorities, determined at relatively low levels in the economic management system; 4) over time, progressive increases in enterprises' marginal profit retention rates; and 5) growing but largely ineffective concern with stabilizing government revenue from enterprise profit remittances.

Without trend 1), the new financial incentive systems could not have been so universally applied so quickly. The trend toward near-exclusive focus on profits and neglect of other targets may allow enterprises to manipulate product mix, to the detriment of central goals. On the other hand, growth of profits (not the absolute level) may well be the best single target indicator to use. Trend 3) is a reflection of China's relatively weak planning system and the increasing importance of lower levels. Though use of arbitrary quotas may result in more flexibility, the scope for bargaining is widened immensely. The trend of increasing profit retention rates has caused enterprise financial resources to grow rapidly, while government revenue from enterprise profit remittances has fallen.

II. Impact on Efficiency

Despite the problems noted in the previous section, reform implementation has been

rapid and, under the circumstances, surprisingly thorough. In the area of material incentives, reforms appear to have been successful in changing the orientation of enterprise managers and other decision makers from increasing physical output to increasing profits. The expanded role of markets and market-like activities in resource allocation also is well documented. Progress has been slowest in the area of devolution of discretionary authority to enterprises. But two important changes have occurred: the increased use of economic as opposed to other criteria in decision making at all levels; and the shift in locus of authority over day-to-day operations from the Party Committees of units to their directors.

Reforms can thus be judged successful in narrow terms: they have had a significant impact and have contributed to a major change in orientation. Have they also been successful in improving efficiency? This question cannot be answered definitively because of our inability to separate the effect of reforms from that of other factors and policy changes. Nevertheless, it will be shown that reforms have been associated with significant improvements in the production efficiency of Chinese state industry. In 1981 virtually the entire sector came to be affected by reforms. A large majority of enterprises participated directly; even those that did not are eligible to draw some discretionary financial resources based on their performance, and most firms can freely market their above-plan output. Therefore changes in the efficiency of the state-owned industrial sector as a whole do provide relevant evidence for an evaluation of the success of reforms.

It remains to be determined which indicator of efficiency is most appropriate in the Chinese context. A direct measure of the efficiency with which inputs are converted into outputs is the ratio of current input consumption to gross value of output. *Ceteris paribus*, changes in this ratio are indicative of changes in production efficiency. The problem with this indicator is that it is subject to bias from a number of sources, the most important of which are: price changes for goods purchased from or sold to units outside of the sector; changes in the relative proportions of goods with different ratios of

input consumption to output value produced; and changes in the extent of vertical integration. Prices of industrial goods produced by the state sector on average have not changed greatly, rising by 0.7 percent between 1970 and 1980. Adjustments have to be made, however, to take into account the sharp 38.5 percent rise in agricultural procurement prices in 1978–81, which must have had a considerable effect on industrial costs. Changes in industrial structure would cause reductions in the ratio of input consumption to gross output value to overestimate actual improvements in efficiency if production became more vertically integrated or if methods of reporting changed, with some inter-enterprise transactions netted out. It is extremely doubtful whether either of these eventualities has actually occurred. Changes in the composition of industrial output appear not to have caused any serious bias, since in 1978–81 production of goods with a high ratio of input consumption to gross output value on average grew slightly faster than that of goods with a low ratio.

There was a perceptible decrease in the estimated ratio of current input consumption to gross output value of Chinese state industry between 1975 and 1978, and in each of the three years 1979, 1980, and 1981. The ratio fell from 0.650 in 1978 to 0.632 in 1981, a reduction of almost 3 percent. If the increase in agricultural procurement prices is taken into account, the improvement in efficiency becomes more striking. It is reasonable to assume that the average increase in prices paid by the state-owned industrial sector for inputs from agriculture was in the range of 10–20 percent. Some agricultural price increases were absorbed by the commercial system and not passed on to industrial producers, while others were offset by corresponding output price increases, and still others may have been compensated for with subsidies. Depending on the estimate of the total value of agricultural products consumed as material inputs by state industry, the reduction in the ratio of “real” input consumption to gross output value was between 4 and 7 percent. The assumptions used in arriving at these estimates are highly conservative, so they probably understate the actual improvement in production efficiency.

Changes in other indicators of efficiency have been less clearcut. Labor productivity has stagnated, but since Chinese enterprise managers still have very little control over the size of their work forces, this does not reflect the impact of reforms. Inventories have not fallen dramatically. There has, however, been an important shift in the composition of inventories: stocks of inputs have fallen or grown only slightly, while inventories of final goods have risen sharply. This reflects a dramatic change in market conditions from the predominantly seller's market prevailing in the past to a buyer's market for many manufactured goods.

Capital productivity in the state-owned industrial sector has declined. The ratio of gross industrial output value to the total value of fixed assets dropped from 1.03 in 1978 to 1.01 in 1980 and 0.96 in 1981. This phenomenon is at least in part the result of difficulties reforms have encountered in attempting to improve the efficiency of investment. There are two main sources of problems: capital is still relatively cheap—interest rates and capital charges are low, and their impact is even smaller in cases where profit retention rates are low; and overinvestment has been encouraged by the growth of enterprise discretionary funds and increased availability of bank loans.

Capital construction investment of all types financed by enterprises and local governments has grown rapidly, from 17 percent of the total in 1978 to 30 percent in 1980 and 33 percent in 1981. Investment financed by domestic and foreign bank loans also has risen substantially since 1978 and in 1981 accounted for nearly 19 percent of the total. The share financed by central government budget appropriations dropped from over 80 percent in 1978 to less than 50 percent in 1981. These figures understate changes in the source of financing of fixed investment in state industry. They do not include investment in renovation and modernization of fixed assets, financed mainly from local government and enterprise resources and bank loans, which has grown rapidly in recent years.

This decentralization of investment financing has had serious adverse consequences for

the structure of China's investment program. Much investment financed by enterprises and localities has been duplicative and wasteful. In 1981 total investment in capital construction was cut back sharply in the interest of macroeconomic stability. To do this, the central government was forced to reduce disproportionately those parts of the investment program over which it had the greatest control—large projects undertaken by central organizations. As a result, cutbacks were especially severe in key infrastructure sectors like energy and transportation, which suffered reductions of nearly 21 percent and over 35 percent, respectively. These most likely have had a detrimental effect on the future growth potential of the Chinese economy. Though some projects suspended in 1981 have since been reinstated, the cost in time lost and resources idled has probably been high. The adverse impact has been exacerbated by a shift in the composition of capital construction investment from projects that increase future production potential to so-called "nonproductive" investment (mainly housing), which rose from 17 percent of the total in 1978 to over 41 percent in 1981.

In China since 1978 industrial production by the state sector has become more efficient in the sense that fewer inputs are required to produce the same amount of output. Productivity of factors, however, has stagnated, and at the macro level the overall pattern of China's investment program remains highly inefficient. Neither of these contradictory trends can be attributed entirely or even primarily to the impact of reforms, but reforms have played a significant role in both, and deserve some of the credit and blame. Introduction of material incentives at individual and enterprise levels has helped improve production efficiency. The resulting increase in enterprise discretionary financial resources, however, has stimulated investment demand and led to severe problems in controlling both the level and composition of investment. To achieve further progress, a way must be found to reap the benefits of the new incentive systems while at the same time avoiding the adverse impact on investment.