

opment like in Korea is difficult and in fact is not even necessary. In other words, policy choices differ with the political and social conditions of the country, and the conditions of enterprise groups varies as a compound result.

The problem with the present work is that, following the tradition of the political economy approach, Fields assumes a strong state not only in Korea but in Taiwan as well, and as a result fails to mention the role of small and medium-size enterprises. As I have said, the political economy approach, which generally tends to concentrate on state and to overrate state capacities, loses sight of the process of economic development taking place in society unconnected to the state and excludes the possibility that at least part of the reason for a given phenomenon lies not with the state but with the autonomous activities of other social actors such as enterprises or industrialists, workers, etc. The present work does not sufficiently extricate itself from the fetters of the political economy approach that it criticizes.

Nevertheless, in its approach of focusing on the differences between Korea and Taiwan, the present work is without doubt an opportunity to go beyond conventional studies. I hope that my comments will help in this. (Yukihito Satō)

*Industrialization and the State: The Korean Heavy and Chemical Industry Drive* by Joseph J. Stern, Ji-hong Kim, Dwight H. Perkins, and Jung-ho Yoo, Cambridge, Mass., Harvard Institute for International Development, 1995, xi + 206pp.

Evaluation of Republic of Korea's industrialization policy for promoting heavy and chemical industries during the 1970s has produced a great deal of debate within the field of developmental economics. Among neoclassical economists who see Korea's economic development as a result of the promotion of economic liberalization, the policy is viewed as nothing more than a deviation along the country's path to successful industrialization. For them this is exemplified by the low efficiency of the heavy and chemical sectors in the 1970s, and they look upon the recession at the start of the 1980s as a result of this mistaken policy. On the other hand, those who see the government as having an important role in economic development and who emphasize the efficacy of industrial policy have been positive in their evaluation of Korea's heavy and chemical industrialization policy. They have stressed the importance of long-term over short-term efficiency and look upon the concentration of investment in the heavy and chemical sectors during the 1970s as preparation for the high growth of the late 1980s. This new book delves in a very straightforward way into this ongoing debate.

In the Introduction the authors comprehend the problem of evaluating Korea's heavy and chemical industrialization policy as a matter of gauging the success or failure of selective industrial policy by government. They employ the technique of project appraisal, and provide a definition and evaluation of industrial targeting. In effect they estimate shadow price and calculate a project's *ex ante* economic rate of return. Projects where this exceeds the

opportunity cost of capital are seen as market conforming; conversely those where it is lower than opportunity cost are seen as nonmarket conforming. The authors then judge the success or failure of a project by comparing the *ex post* economic rate of return with the opportunity cost of capital. In this way the authors see industrial targeting as government intention to bring nonmarket-conforming industries up to a level where they can be internationally competitive. The actual evaluation of projects is undertaken in Chapter 5.

Chapter 2 deals with the historical background leading up to the policy of heavy and chemical industrialization in the 1970s, especially with the way government policymakers understood Korea's situation and the criteria upon which they based their judgment at the time of determining the policy. In the authors' view economic factors were not the most important reason for promoting heavy and chemical industrialization policy. Rather the policy came about primarily in response to international political changes, particularly to cope with the reduction in the U.S. military presence following the Nixon doctrine of July 1969 when Korea's leadership recognized that the country needed an independent defense and the ability to supply its own weapons. The policy program was led by President Park Chung Hee and the engineer-trained Oh Won Chol, one of two economic secretaries of the government's heavy and chemical industry committee. Both men realized that economic growth should not be sacrificed, thus not only military factors, but economies of scale, the possibility for acquiring technology, and the availability of finances also needed to be included as criteria in determining heavy and chemical industry strategy. However, a cost-benefit analysis like the one attempted by the authors in Chapter 5 was not among the criteria upon which the President's Office based its judgment. Finally the authors see the change in 1979 from the heavy and chemical industrialization policy to the adjustment policy as brought on by the intensification of student and worker movements in reaction to the resurgence of inflation and by the rise of a faction within the Economic Planning Board calling for stable economic growth.

In Chapter 3 the authors examine the policy measures that were implemented, looking at them from the point of whether the Korean economic system during the promotion of the heavy and chemical industrialization policy was fundamentally a market economy or a socialistic planned economy. Also by means of an international comparison they try to clarify the degree of government intervention in the economy. According to their results, the Korean economy during the 1970s ranked average among developing countries in the degree of capital market distortion and price distortion and in the share of GDP for public enterprises. The authors point out further that bureaucratic intervention became conspicuous from the 1960s onward, and they conclude that such government controls, especially government regulations on finances, made it impossible to try to promote heavy and chemical industrialization through private initiative alone.

The problem is whether or not the outcome of the policy contributed to economic growth. In Chapter 4 the authors discuss the results of the heavy and chemical industrialization policy at the macro level. During the period of the policy in the 1970s, investment into the heavy and chemical industrial sectors increased dramatically. But during this period the efficiency of capital was higher in light industries than in heavy and chemical industries, and this gap between the two sectors remained throughout the 1970s. Consequently the authors consider that there was clearly a misallocation of capital due to the policy. Also the

1979–80 stagnation in exports was attributable mainly to the fall in exports of light industry products. This the authors emphasize was due in large part to the slowdown in capital accumulation in the light industry sector throughout the 1970s and to the fixed exchange rate system that was maintained to lighten the repayment burden of foreign debts which financed the investments in the heavy and chemical industries.

In Chapter 5 the authors undertake a micro level evaluation based on the methodology presented in the Introduction. They do this by carrying out a cost-benefit analysis on six enterprises selected on the basis of the availability of data. Their results are extremely interesting. At the completion of the six projects, three turned out successful and three did not. However, at the time the projects were started, all six were market conforming. Consequently the authors come to the conclusion that in the sense of the definition presented in the Introduction, the policy of fostering these projects cannot be called industrial policy and that they were undertakings that would have been possible for private enterprise to carry out based on the free market setting.

Because of the small number of samples on which project appraisals could be carried out, these were augmented in Chapter 6 by descriptive analyses carried out on four other industries: aluminum, shipbuilding, automobiles, and steel. Among these, aluminum was a clear example of a failure, and shipbuilding, after growing rapidly, was unable to cope with the change in demand for ships in the latter half of the 1970s and experienced a recession. Meanwhile the automobile and steel industries achieved high growth as export industries while being highly protected by the government. The authors consider that the policy toward these two industries was in the strict sense industrial policy, and that maybe they could be called successful examples. However, in the case of the automobile industry, the authors withhold judgment as they are unsure whether its success was due mainly to industrial policy or to changes in the external environment after the mid-1980s.

As can be seen from the above, this new book tries to approach issues extremely comprehensively looking at Korea's heavy and chemical industrialization policy during the 1970s in historical context, conducting both micro and macro efficiency analyses, and undertaking case studies of industries. In this sense this book should be evaluated highly as the first really thorough study dealing with these issues. Within the neoclassical versus pro-industrial policy debate mentioned at the start, the authors are clearly closer to the former. In addition to the analytical results in each chapter that challenge the pro-industrial policy argument stressing long-term efficiency resulting in Korea's high growth during the latter half of the 1980s, the authors point out that Korea's external environment during the latter half of the 1980s changed dramatically due to such events as the expansion of the U.S. budget deficit, Japan's self-imposed restrictions on exports of automobiles to the United States, and the rising value of the yen. These were changes unforeseen by Korea's policy planners that worked favorably for the country's economy. And perhaps even more important in this counterargument is the fact that Taiwan, which during the 1970s did not follow a Korean-style heavy and chemical industrial policy, also achieved high economic growth during the latter half of the 1980s. In such ways the authors are very persuasive in the development of their argument.

Certainly the biggest contribution coming from this new study is its methodology of analyzing Korea's heavy and chemical industrial policy using project appraisals. One can

gather the authors' great interest in this approach from the fact that they devote the greater part of the book's Introduction to introducing this methodology. The results of their analysis of each project are particularly refreshing and new because they show that Korea's industrial policy was not one meant to make up for market failures. However, there are some questions one can raise regarding the authors' method of analyses. Firstly, although the authors show how they calculated the shadow price which they used for calculating the project appraisals, they do not show how they calculated the actual value. Perhaps they omitted this for reasons of space, but because this point is not clear, the reader has no choice other than to accept the authors' results. Secondly, while the authors noted the problem of the smallness of their sampling, one must also question whether their choice of projects actually represent Korea's heavy and chemical industrialization policy of the 1970s. The authors have sensed this problem too, but the descriptive analyses they undertook in Chapter 6 to overcome the problem suggest the possibility that the strict meaning of industrial policy set forth by the authors holds true for the steel and automobile industries. It is also clear from this that it would be hazardous to come to any quick conclusion from the results of project appraisals alone that the different heavy and chemical industry projects of the 1970s could have been undertaken by private enterprise within the free market setting.

There is one more interesting view that the project appraisals in this book provide on Korea's industrial policy in the 1970s, although the authors would not consider it important. In this book, industrial policy is defined as one which promotes the growth of industries that are difficult to undertake in a free market setting; in other words, the *ex ante* economic rate of return for projects is lower than the opportunity cost of capital at the project. But even if the economic rate of return estimated by the shadow price is higher than capital cost, entrepreneurs would not undertake a project when the financial rate of return estimated by the market price is lower than capital cost. Actually, most of the samples which the authors calculated had low or even negative financial rates of return, while the economic rate of return was relatively high. Given such a situation it is possible to recognize that heavy and chemical industrialization policy offset the distortion in the price structure and gave enterprises assistance to prod them into undertaking projects that they would not undertake because of the low financial rate of return. It is interesting that this understanding of industrial policy is paralleled with the neoclassical interpretation of trade policy in Korea at that time. The authors have been the first to attempt an historical evaluation of individual industries based on cost-benefit analysis. As this approach progresses further, we can look forward to a further evolution in the debate on Korea's industrial policy.

One more significant contribution of this book is its use of primary sources and of interviews with pertinent policymakers and entrepreneurs. Based on these the authors have detailed the historical background of and the policy decision process involved in Korea's heavy and chemical industrialization as well as the processes for promoting various industries. Macro efficiency analysis has been the primary method for analyzing the Korean economy of the 1970s, and research from an historical analysis approach has lagged behind. Fortunately, in recent years numerous memoirs and reminiscences by Korean policymakers have been published. As a growing volume of such materials becomes available to researchers, historical analysis should prove to be a fruitful approach to studying the Korean economy.

(Makoto Abe)