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ECONOMIC DEVELOPMENT IN TAIWAN AND SOUTH KOREA: 1965–81†

To help the developing countries develop and the poor to escape poverty was perhaps the noblest and most ambitious aspiration of the postwar world—first voiced by President Truman in his Point Four Program of 1949. His fine words mobilized a lot of resources and effort; unfortunately, however, the outcome of all the development aid, development advice, and development policies was mixed and often disappointing. All too often the industrialization of traditional agricultural societies merely transformed their failure fully to utilize man's latent energies—his so-called disguised unemployment—into open, urban unemployment, which is more painful and objectionable in social and human terms. Many of the poorest countries grew more slowly than the advanced countries and so fell further and further behind; and even the fast-developing countries grew in a lopsided way, increasing instead of diminishing the inequality between rich and poor. Indeed, increased inequality of income distribution, both between and within countries, seemed to be an almost inevitable accompaniment of economic development—certainly in its early stages.

But development experiences were vastly different, ranging from retrogression in one Asian and nine African countries, whose populations grew faster than their national income, to almost 7 percent annual growth in per capita gross domestic product (GDP) over two decades (1960–80) in five Asian coun-

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tries and city-states.¹ Two of those five, South Korea and Taiwan, not only grew very fast but did so without experiencing the customary great and increasing inequalities and the emergence of mass unemployment.² Indeed, by the double criterion of growth and equity, they have been the most successful of all the developing countries.

Per capita GNP in real terms grew marginally faster in Taiwan than in Korea, at an average annual rate of 6.9 percent compared to Korea's 6.7 percent between 1965 and 1981 (Table 1). Taiwan also had slightly less unemployment, an even more egalitarian income distribution, and a much higher standard of living. Taiwan's GDP per capita was US\$2,570 by 1981, whereas Korea's was US\$1,697. In effect, Taiwan was six years ahead of Korea: Korea's per capita income in 1981 was about the same as Taiwan's in 1975.

Table 1.—Average Annual Growth Rates
in Real Terms: 1965–81
(Percent)

	Korea	Taiwan
Population	1.9	2.3
Employment	3.4	3.7
Gross national product	8.7	9.4
Gross domestic product	8.6	9.4
Manufacturing output	20.6	15.5
Exports (quantum index)	26.0	18.9
GNP per capita = GDP per capita	6.7	6.9
Labor productivity ^a	5.2	5.4
Real wages in manufacturing	7.9	7.3
Consumers' expenditures per capita	5.5	5.2

^aGNP per employed person.

But such international comparisons, based on monetary estimates made in national currencies and then converted into a common currency at current exchange rates, are subject to notoriously wide margins of error. Indeed, two similar estimates, based on different data in slightly different ways, have yielded an eight- and a ten-year gap (Kim and Roemer, 1979, p. 147; Little, 1979, p. 455). Moreover, one must also bear in mind that Korea produces its lower GDP with a greater expenditure of effort. In 1980, the average length of the working week in Korea's manufacturing industries was in excess of 59 hours, 16

¹ The five are Japan, South Korea, Taiwan, Singapore, and Hong Kong. The comparison is based on data from World Bank, 1982, Appendix Table 1, p. 110, supplemented with the World Bank's unpublished computer printout for Taiwan.

² For convenience, South Korea is referred to as "Korea" throughout. The article does not consider economic change in North Korea.

percent longer than Taiwan's 51-hour week. Correcting for that factor makes Taiwan's per capita GDP appear almost twice as high as Korea's. On the other hand, Koreans spend a much higher proportion of their lower GDP on private consumption: two-thirds as compared to Taiwan's one-half. Accordingly, the difference between the two countries' levels of living is not as great as the discrepancy between their per capita GDPs would suggest.

Social indicators are sometimes more useful for assessing differences in levels of living than estimates in money terms. Those available for both countries are listed in Table 2; they suggest that Taiwan enjoys a considerably higher level of living than Korea. The only social indicator visible to the naked eye is the number of motorized vehicles (passenger cars and motorcycles) per household. It suggests that in Taiwan just about every household owns such a vehicle, while in Korea only one in 20 households does; the difference shows up strikingly in the contrast between Taiwan's busy country roads and small-town streets and Korea's much quieter countryside.

Table 2.—Social Indicators

	Korea	Taiwan
Life expectancy at birth (<i>years</i>)	65	72
Infant mortality per 1,000 live births	37	25
Daily calorie intake per capita	2,785	2,805
Daily protein intake per capita (<i>grams</i>)	69.6	78
Residential floorspace per capita (<i>m²</i>)	9.5	15.7
Households with running water (<i>percent</i>)	54.6	66.8
Households with television sets (<i>percent</i>)	78.6	100.4
Households with passenger cars and motorcycles (<i>percent</i>)	5.8	108.4
Electric power consumption per capita (<i>KWH</i>)	914.8	2,131.2

None of the other social indicators is apparent; indeed, the tourist is likely not only not to notice Taiwan's greater prosperity but actually to get the impression that the difference between the two countries goes the other way around. Seoul, certainly, looks more affluent than Taipei, judging by the appearance of its main thoroughfares, the impressiveness of its commercial and office buildings, and the elegance of its stores and shopping areas. The explanation of the conflict between what the tourist sees and what the statistics show derives from the unequal distribution of income and of the things that income buys.

All the social indicators of Table 2 are averages and indicate average tendencies whereas the tourist is shown only the best and his eye instinctively looks for the best. In an egalitarian society, the best is not much better than the average, but they differ greatly in a society with great inequalities.

Income distribution in both Taiwan and Korea is much less unequal than in any other developing or newly industrializing country for which the relevant

statistics are available, but it is more egalitarian in Taiwan than in Korea. Inequalities in Korea are much the same as in the advanced industrial countries: somewhat less than in France and Italy, greater than in the United Kingdom and the Scandinavian countries, and just about the same as in the United States and Canada. Taiwan on the other hand is the most egalitarian of all capitalist countries if the statistics are to be trusted, a finding that tallies with the very small average size and limited dispersion of the size of Taiwan's business firms, and also explains the absence of an elite wealthy and large enough to support the elegant shops and finance the imposing office buildings that give Seoul its appearance of affluence. See Table 3.

Table 3.—Gini Index of Inequality
of Income Distribution

	1965	1970	1976
Korea	0.344	0.332	0.381
Taiwan	0.322 ^a	0.293	0.289
Japan	0.380	0.420 ^b	
United States		0.362 ^c	
Brazil	0.520 ^d	0.630	

Source: The comparisons are based on Gini indexes of inequality: obtained for Taiwan from Kuo, Ranis, and Fei, 1981; for Korea from Park, 1980, p. 289; and calculated for other countries from data in World Bank, pp. 158-59.

^a1966

^b1971

^c1972

^d1960

One more important difference between the two economies has been the much smaller rate of inflation in Taiwan than in Korea. Between 1965 and 1981, the consumer price index rose 3.5-fold in Taiwan, 10-fold in Korea, corresponding to average annual price inflation rates of 8 and 15 percent, respectively. Compared to other countries, Taiwan did about as well, or as badly, as Japan or the United States; Korea had more inflation than any of the industrial countries, but less than the major Latin American economies.

SIMILARITIES IN TRADITION AND BACKGROUND

Detailed analysis and comparison of the two countries' economic conditions and performance suggest that the similarities are largely due to similarities in their history and traditions. Korea's lag behind Taiwan is more than explained by the later date at which its growth policies began; the other differences are well accounted for by the two countries' divergent economic policies. Unexplained and puzzling is the close similarity in growth rates despite the very different ways in which the two countries went about promoting growth.

To begin with the similarities, both countries—indeed, all five of the high performers—share a common Chinese tradition and Confucian philosophy. That explains, first of all, the great reverence and importance attached to learning in both countries and the very high educational and skill levels of their populations. They started from a very low level at the end of the war, especially in Korea, where the literacy rate was 13.4 percent in 1945 (as against Taiwan's 21.3 percent already by 1940), and where there was no large influx of a highly educated middleclass population, such as benefited Taiwan in the late 1940s. Since then, illiteracy has been almost completely eradicated in both countries; and today Taiwan provides nine years and Korea six years of free and compulsory schooling. School enrollment rates at the primary and secondary levels are almost equally high in the two countries and only insignificantly lower than the average in the advanced industrial countries (Table 4). That is especially impressive in Korea, whose modernization started later, where compulsory education ends sooner, public expenditure on education is lower (averaging 3.5 percent of the GDP as against Taiwan's 4.5 percent), but where consumers make up for those disadvantages by paying for the greater part of their children's education out of their own pockets, bringing the total private and public expenditure on education to an astonishingly high 9 percent of the GNP.

Table 4.—School Enrollment Rates*

	Primary school	Secondary school	College and universities
Korea	111	76	12.4
Taiwan	99.7	80.3	10.3
Advanced industrial countries	102	88	37
Italy	102	73	27
Switzerland	86	55	17

*Students enrolled as a percentage of the population in the appropriate age group.

A second condition of those countries' great economic success that can be traced back to their common tradition is the ability and willingness to work hard. Chinese tradition has many tangled strands; but it seems to include a work ethic not unlike the Protestant and Jewish work ethics. The drive and ambition of Korean and Chinese businessmen, as well as their ability to work hard and long hours are commented on by just about every outside observer of the two economies, and so are the "untiring concentration and pertinacity" of their workers (Little, 1979, p. 461). One is tempted to add the two countries' very long working week as a further manifestation of the work ethic, but in view of the very limited bargaining strength of their unions, it is hard to tell to what extent those long working hours are voluntary and to what extent they are imposed.

A third factor that probably also contributed to the two countries' economic success is the Chinese tradition in labor relations, which comprises both

greater wage flexibility and greater employment stability than in Europe and America, and which was fully maintained and perhaps even strengthened under Japanese rule. Both countries adhere to the Chinese custom of paying bonuses to workers at major festivals and the end of the year; and even if these constitute a much smaller proportion of the annual wage than they do in Japan, they nevertheless are likely to contribute to the two countries' high personal saving rate and to impart a measure of downward flexibility to wages. Again, relations between employer and employee are more permanent in the two countries than they are in the West, with employers under both moral and governmental pressure to take care of their workers even when business is slow.

Korea and Taiwan are also similar in that both were under Japanese rule, Korea for 35 years and Taiwan for 50 years; and that fact has also facilitated their subsequent growth in at least two ways. First, the Japanese introduced the new, high-yielding strains of rice, established agricultural research institutes, and generally did much to develop the two countries' farm productivity and food production; moreover, they built roads, railways, harbors, and whatever beginnings of industry the two countries had, thus providing an excellent start and base for subsequent development. A second and very important consequence of Japanese rule had to do with the confiscation of Japanese property when their rule came to an end. The Japanese acquired a sizable part of the land (21 percent of all arable land in Taiwan) and built most of the modern manufacturing plants in both countries; and since they owned all the large enterprises and most of the largest landed estates, the confiscation of their property by the liberating armies and its handing over to the new governments drastically reduced the inequality of private wealth holdings in both countries. In Korea, moreover, the Korean war destroyed much physical property and since most of the loss was borne by the wealthy, that too helped to reduce inequalities of wealth.

Even more important in equalizing the distribution of wealth were the thorough land reforms in both countries, which not only distributed among small tenant farmers the large estates formerly held by the Japanese, but also forced the large indigenous landowners to sell all their land above 3 hectares (except in Korea's upland areas) at prices very much below market values. Taiwan's land reform looks like the putting into practice of Sun Yat-sen's ideal of the equalization of land ownership; but Korea's land reform was identical in almost every detail.³

Reduced inequality of wealth is the main reason for the exceptionally equal distribution of income in the two countries. The stability of employment is a lesser contributing cause. Yet another important reason was the rise of farm families' earnings to a par with urban wage-earner families' incomes. In Taiwan,

³ The striking similarity of both land reforms to the Japanese land reform carried out under the directive of the Allied Occupation Authorities attests the strong influence of the American expert, the late Wolf Ladejinsky, who served as land-reform adviser to all three countries.

that came about largely through the operation of automatic market forces, aided by favorable circumstances. Impelled by high and rising labor costs in cities, an increasing proportion of new factories and offices were established in rural areas and offered additional employment opportunities to farmers and their families. The poorest farmers especially availed themselves of the opportunity: by 1975, 66 percent of their total earnings came from jobs off the farm. Nor was the corresponding percentage for all farm families much lower: it was 53.7 percent in 1975, rising to 72.7 percent in 1979. That is why, in contrast to most developing countries where mass migration into the cities depletes rural areas, Taiwan's rural population remained fairly stable, with members of farm families commuting or taking part-time jobs in nearby cities during off-peak seasons. The favorable circumstances that aided the process were a small, decentralized country, good roads, a mild climate, and a motorcycle in every family.

Korea went out of its way to encourage a similar development, but, perhaps for want of similarly favorable circumstances, had very limited success. It managed nevertheless to equalize rural and urban incomes through the costly expedient of a farm-price support program combined with subsidized low food prices for consumers.

Thanks to all those equalizing factors and influences, the degree of income inequality had, by the mid-1960s, fallen to just about the same level in the two countries. Since then, inequalities have declined yet further in Taiwan but increased in Korea, which explains why Taiwan is today the more egalitarian country of the two. An explanation for these diverging trends is offered below in the discussion of economic policies.

Two further similarities between the two countries are the exceptionally generous economic aid both have received and the exceptionally heavy burdens of military expenditures they are saddled with: the first an addition to economic resources, the second a drain on them. Both countries have also received substantial military aid from the United States in the form of military equipment, but since much military equipment seems to call for a larger defense establishment, military aid probably encourages domestic defense spending more than reduces it. Defense spending in Taiwan hovers around 10 percent of GNP; in Korea, thanks to an American military presence, it is 5 to 6 percent. But even that is much higher than the 3.8 percent average of industrial countries and the 3 percent average of newly industrializing countries (World Bank, 1972, and Little, 1979, p. 458). The annual aid Taiwan received until 1966 averaged 5.1 percent of GNP, just enough to finance the above normal part of its defense spending.⁴

Such a simple-minded calculation, of course, leaves out of account that Taiwan would probably have spent as much on defense even if it had received no economic aid, and that aid may well have been crucial in the early 1950s for controlling inflation and securing the survival of the government of the Republic of China on Taiwan. But beyond assuring those initial conditions, aid cannot

⁴ The average is calculated from Scott, 1979, p. 370.

really be said to have speeded up growth.

Korea's situation is somewhat different. The aid it received exceeded defense expenditures, averaging 8.3 percent of GNP before 1965 and continuing, at a somewhat lower level, until 1972.⁵ The economy, however, was much more devastated by war than Taiwan's; and the aid to rebuild the war-torn country was more comparable to that received by Japan and Western Europe. Unlike Taiwan, where in the early years (1951-53) part of the aid was focused on rebuilding agriculture, in Korea "the Rhee Government was committed to increasing private and government consumption through the maximization of aid and imports, rather than to the future growth of output."⁶ Later on, of course, aid financed a good part (an average of 10.2 percent from 1965 to 1981) of total investment and so contributed to growth. The section on sources of investible funds also deals with the contribution of foreign loans, which was sizable in Korea, but zero in Taiwan, during the 1965 to 1981 period.

One more similarity between the two countries worth mentioning here was their very limited imports of entrepreneurial skill and technical know-how in the form of direct foreign investments. In Taiwan, they constituted a mere 6.5 percent of fixed investment in manufacturing industries between 1967 and 1975; in Korea, they were equally insignificant until 1972, when they rose to about 20 percent, coming mainly from Japan and going mainly into textiles, electronics, and the hotel business (Krueger, 1979, pp. 145-47; Little, 1981, pp. 37-39). The reasons for their limited need of direct foreign investment are obvious. Perhaps as part of their excellent educational systems and traditions of hard work and untiring application, both countries are well provided with native entrepreneurial skills, drive, and ambition. Moreover, they had no need for imported technical knowledge as long as they focused their development on labor-intensive industries in which they had previous experience. That, probably, is why in Korea the increase in foreign direct investment coincided with the decision to shift to more capital-intensive industries. Even at that stage, however, direct foreign investment in Korea was low compared to other developing countries, perhaps owing to the Koreans' preference for going it alone. They learned shipbuilding by employing in their shipyards Norwegians from closed-down Norwegian shipyards, and their expertise in construction by contracting to do construction work abroad.

These similarities in the two countries' backgrounds help to explain not only their similar economic performances but also the exceptional nature of their success when compared to the record of other developing countries. To explain differences between the two countries themselves, one must look at their differing policies. The effectiveness of those policies and the divergencies

⁵ That average, quite a bit lower than estimates occasionally quoted elsewhere, is calculated from data given in Krueger, 1979, Tables 18 and 30, pp. 67 and 109, respectively.

⁶ From the review of Krueger's above-cited book by Jayati Datta Mitra, 1981, p. 199.

between them are discussed in detail below. To introduce the discussion, however, it is useful to look at the general spirit and underlying philosophies that pervaded economic policymaking in the two countries.

THE PHILOSOPHY BEHIND TAIWAN'S ECONOMIC POLICIES

Taiwanese officials will occasionally say that their economic policy is to let market forces take their course. That, however, is a highly oversimplified and exaggerated statement. Taiwan has long had and still has plenty of economic controls, which are well used to implement the government's growth policies as set out in a succession of Four-Year Plans; and one could hardly call the country's economy a hands-off, *laissez-faire* economy. Yet the Taiwanese also know how to press market forces into the service of their economic policies.

In the early 1960s, the 19-Point Economic Financial Reform of the Third Four-Year Plan greatly encouraged investment by private enterprise. In Taiwan today, government does not have the strong ascendancy over private business it still has in Korea, and economic controls tend to be moderate and often make use of the market in a selective and quite sophisticated way. The Taiwanese, like the Koreans, have encouraged exports by creating an essentially free-trade, free-market regime for exports and export production; moreover, unlike the Koreans, they have shown great respect for the strength of market forces, manifest in the careful moderation of their policies when they aim at modifying or deflecting those forces and in the gradual, stepwise fashion in which they change economic controls and policies. Finally, while Korea's development weakened the pull of market forces, Taiwan's strengthened it.

For a market economy to function properly, it must be competitive. Competition depends on the presence of many small firms and the absence of overwhelmingly large ones. In Taiwan, those conditions of competition and the proper functioning of markets are better fulfilled than in most other private enterprise economies, thanks partly to deliberate policies, partly to more or less fortuitous circumstances.

To begin with, heavy industries like steel, shipbuilding, and petrochemicals, whose great economies of scale render them natural monopolies in a small country, happen to be publicly owned in Taiwan, probably more for lack of sufficient private resources and interest than for reasons of policy. Privately owned manufacturing firms were usually small in size and few in number in primitive economies, whose forced economic development in mid-20th century typically took the form of growth in the size rather than in the number of firms, owing partly to economies of scale and partly to its being so much harder for government to facilitate the establishment of new firms than the growth of already established ones.

Astonishingly enough, Taiwan managed to take the opposite route to development. Between 1966 and 1976, the number of manufacturing firms in Taiwan increased 2.5-fold, while the average size of the individual enterprise, as measured by the number of employees, increased by only 29 percent. In

Korea, where development took the more common route, the relation between those two changes goes the other way around. The number of manufacturing firms increased by a mere 10 percent, while it is the number of employees per enterprise that increased even more than 2.5-fold, by 176 percent.

The outcome of the two countries' very different routes to development was the much smaller size of private manufacturing enterprises in Taiwan and the more competitive spirit that goes with it. Not counting the very small firms with less than five employees, which in Korea seem too unimportant for the census to bother with, the average Taiwanese firm in 1976 was only half as big as the Korean, with 34.6 employees as against 68.8 in Korea. Moreover, the very small firms, ignored by the Korean census, constituted 43 percent of all manufacturing firms in Taiwan, bringing the average size of all Taiwanese firms down to 27 employees. The disparity in firm size between the two countries seems even greater when one looks at their largest firms. In 1981, the \$10 billion gross receipts of Hyundai, Korea's largest conglomerate, were three times as big as the \$3.5 billion gross receipts of Taiwan's ten largest private firms *combined*.

What explains the great difference between the ways in which manufacturing capacity grew in the two countries and the resulting great difference in firm size between them? While there is one explanation for the faster growth of Korean firms, at least four account for the faster increase in the number of Taiwanese firms. One must be the immigration of overseas Chinese, who brought with them 30 percent of the total inflow of foreign capital and used it mostly for establishing independent enterprises of their own. A second is Taiwan's much higher personal saving rate, which generally makes it easier to secure the capital for establishing independent businesses and whose causes will be discussed below. A third factor is probably the much smaller size of the average firm, which makes it easier and cheaper for newcomers to enter the market.

A fourth and possibly the most important factor is Taiwan's policy of helping people with entrepreneurial inclinations and know-how but insufficient capital to establish themselves as independent businessmen. For the market to function well, labor, capital, and entrepreneurship must be somehow brought together. One usually thinks of the entrepreneur as the initiating and moving spirit; but real-life capital markets do not lend money to penniless entrepreneurs and the capitalist owner of a small firm, as most firms are in Taiwan, can seldom afford to hire entrepreneurial talent. To remedy that situation, Taiwan has established 49 industrial parks and districts, some of them specialized (like the Youth Industrial Parks and the Science-Based Industrial Park), which not only provide infrastructure facilities, but also enable new investors to rent rather than buy land and buildings, where generous loans are available, and where the technical skills of scientifically trained people are accepted as an important part (up to 50 percent) of their personal investment.

Those were the factors facilitating the establishment of new enterprise. Equally important for keeping alive the competitive spirit was the very slow growth of the average enterprise. Yet, there is no evidence of official policy deliberately aimed at limiting either the size or the rate of growth of private

firms. Indeed, Taiwan has many large private industrial groups, which, though much smaller in size than those in Korea, are sufficiently large and important to have contributed 30 percent of the country's total GDP in the 1980s. The explanation therefore of the relatively slow growth of the size of firms lies not in the presence of policies limiting, but in the absence of policies encouraging their growth.

That brings us to the subject of monetary policy. The crucial difference between the two countries lay in their very different monetary policies. Taiwan's novel monetary policy was all-important for bringing about conditions favorable to the market economy's functioning as it should, although its effect on the size and growth of firms was decidedly an unexpected and unintended side effect and not among the principal aims of the policy.

The rate of interest, or more correctly the structure of interest rates, is the one price or set of prices whose determination nowhere is nor can be left entirely to the free play of market forces. Different countries pursue different monetary and interest-rate policies; yet there is a theoretically definable, though practically very hard-to-ascertain equilibrium or natural rate of interest, which would equate the demand for investible funds at full employment to the supply of full-employment savings; and Taiwanese monetary policy may be said to have consistently tried to ascertain what the equilibrium interest rate is and to keep actual interest rates close to that equilibrium level. The beginnings of that monetary policy go back to the early 1950s, more than a decade before the period here under review, but since the same policy is still being adhered to today, and since it has profoundly affected and continues to affect many aspects of Taiwan's economy, a short account of it seems to be in order.

At a time when the universally approved and practiced policy in developing countries was to keep interest rates low, thereby to encourage capital accumulation and growth, Taiwan, not without some initial hesitation and vacillation, broke new ground and raised the interest rates paid to savers and charged to borrowers to levels then almost unheard of. Originally, the policy was devised, outlined, and advocated, as a means of curbing China's hyperinflation during the war and civil war, by a Chinese economist, Professor S.C. Tsiang, in two Chinese-language articles published in 1947 in the *Shanghai Economic Review* and adoption of his policy had much to do with bringing that inflation to a halt.

A high interest rate policy is, of course, a standard remedy for inflation; but totally unexpected was another effect that also followed Taiwan's adoption of the policy: the speeding up of capital accumulation and growth. Savings deposits accumulated very fast following the substantial raising of the interest paid on deposits, presumably because savers found the high interest rate so attractive that they stopped putting their savings into unproductive but price-increasing hoards of goods and real estate and may also have increased their saving as a proportion of income. At the same time, however, that high deposit rates raised both the saving rate and the proportion of savings channelled into bank deposits, lending rates apparently were not high enough to reduce busi-

nessmen's demand for investible funds to below the rate at which funds became available. In other words, the high deposit and loan rates instituted in Taiwan came close to but did not exceed the equilibrium rate of interest as defined earlier, which explains why raising interest rates raised the level of investment or capital accumulation.

In addition, the raising of interest rates is also likely to have rendered investment a more efficient and more effective engine of growth. For interest rates held below their natural level create excess demand for investible funds and so force the banks to ration credit. Credit rationing, however, usually favors large firms, the banks' established customers, or those whom government wants to favor, and these are not always the ones who earn the highest rate of return on their investments. Accordingly, credit rationing by bank or government policy is likely to crowd out some high return investments, which would not be crowded out if the interest rate were the main factor limiting the demand for credit. In other words, rationing credit by interest rates instead of by bank managers and government officials is almost certain to raise the average return on the total volume of investment, thereby further accelerating growth.⁷

Those advantages of a carefully managed interest rate policy in both containing inflation and promoting investment and growth have become well known in the literature of development economics, and the policy has been advocated for and imitated by other countries as well. Indeed, the originator of the policy and Taiwan's pioneering role in developing its application have been all but forgotten, which is the more regrettable, because Taiwan's prolonged and consistent adherence to it has also had some further, much less known but no less important, advantages. One of them is that high interest rates render profitable and encourage the use of labor-intensive methods of production. In developing countries, where labor is plentiful but all else is scarce, that is an important advantage: it increases the employment of labor by creating more job opportunities for any given level of investment and it raises labor's share in the national product. Taiwan is unique among developing countries in that its statistically captured unemployment rate has been consistently and often much below 2 percent throughout the entire period here under review, and that excellent record must be credited, in large part, to its high interest rate policy. Note that the unemployment so eliminated or minimized is so-called Marxian (or structural) unemployment, whose presence in other developing countries is due to their manufacturing plant and equipment being of such nature and quantity that they cannot provide employment for all those who seek it, however high the effective demand for output. (That is the reason why stimulating demand has never been an effective employment policy in the developing world.)

The high demand for labor consequent upon Taiwan's encouragement and use of labor-intensive methods of production also raised wages and so labor's share in the national product. Indeed, labor's share in Taiwan's national product has steadily risen, and property's share fallen over the past one and a-half

⁷ See, however, Arndt, 1982, for an interesting contrary view.

decades, and since wage income is both lower on average and more evenly distributed than property income, that gradual shift in incomes away from capital and in favor of labor has been the main factor in explaining the diminution over time of income inequalities in Taiwan.⁸

Having dealt with the two reasons why the choice of labor-intensive methods of production was an advantage, we can now proceed to discuss another advantage of Taiwan's high interest rate policy, which again has to do with income distribution. Every market transaction gives rise to a gain; and the way that gain is divided between the transacting parties depends on the price at which they effect the transaction. The rate of interest is the price the borrower pays the lender for the loan; and it determines the division between them of the total gain from the loan. The higher the rate of interest, the greater the lender's and the smaller the borrower's share, so that high interest rates favor the lender and limit the borrower's gain.

The man in the street tends instinctively to consider such a state of affairs reprehensible, because the word "lender" conjures up in his mind's eye a rich capitalist and the word "borrower," a poor wretch who borrows to stave off starvation. That imagery has its origin in medieval Europe and may still make sense in primitive agricultural communities; but the situation is very different when it comes to bank lending and borrowing in today's newly industrializing economies. There, the typical lender is a small saver, the typical borrower is the corporation, often the large corporation, so that high interest rates favor the low income saver and limit the profits of business enterprise. Another way of putting that is to say that high interest rates transfer a large part of business profits to small savers in the form of interest on their savings, which supplements their wage and salary income. Accordingly, this is yet another factor that contributes to Taiwan's egalitarian income distribution.

One advantage of having high interest rates on savings deposits has already been dealt with: it encourages small savers to increase both their saving rate and the proportion of their savings which they put into bank deposits and so make available for productive use. Another advantage is that it limits profits which restrains the rate at which the size of the individual enterprise grows. As already shown, the individual firm's size in Taiwan has grown very slowly and stayed small; and this has helped to maintain competition. Yet another advantage of small firms is that they render the always painful adaptation of the

⁸ Note that the rise in wages does not discourage the use of labor-intensive methods of production, because it raises the costs of both labor and of goods made with labor (which includes capital goods) in approximately equal proportions. Nor, for that matter, do rising interest rates raise the price of capital goods in relation to other prices. What they do instead is to raise the cost of payments due before production starts in relation to payments made concurrently with production, whatever the nature of the resources so paid for. It is the relative cost of those two kinds of payments that determines the labor- or capital-intensity of the methods of production chosen; and it, in turn, is determined by the interest rate alone.

economy to changing circumstances a little more feasible and bearable. Right now, the world economy is going through a major convulsion that calls for the scaling down of some established industries and the creation and expansion of new ones. Examples abound in the United States, Britain, Western Germany, and elsewhere of the great and successful resistance large firms can put up to the necessary cutting down of their operations, thereby prolonging the agony but not obviating the necessity of change. High bankruptcy rates in Taiwan suggest that there, too, changes in the pattern and scale of manufacture are called for and painful; but that the small size of the average firm speeds up and facilitates the adjustment process. The subject will be discussed further at the end of this paper.

A final potential advantage of limited profits, mentioned here only for completeness' sake, is their tendency to keep entrepreneurs on their toes and so maintain their efficiency and initiative. Too high and secure profits, whether assured by monopoly advantage or government protection, can destroy entrepreneurial drive. In America, Europe, and Latin America, failure to innovate, inefficiency, and generally poor economic performance have often been traced to that factor; but Korean businessmen, thanks perhaps to their Chinese cultural background, seem to be immune. At least, there is no evidence that the large profits and fast accumulation of great fortunes that Korea's economic policies made possible had any unfavorable effects on the drive, stamina, and efficiency of Korea's businessmen.

THE PHILOSOPHY BEHIND KOREA'S ECONOMIC POLICIES

The main difference between Korea's and Taiwan's economic policies lies neither in their aims nor in their achievements, but in the much more forceful and aggressive spirit with which Korea's policymakers pursued their aims. In a private enterprise economy, of course, profit and self-interest are the main motivations of economic behavior, and government's main policy tool is the set of incentives and disincentives with whose aid it tries selectively to change the thrust of the profit motive in both Korea and Taiwan, but the difference in the number and nature of inducements used and in the forcefulness with which they are applied is very great.

Just about every industrializing country publishes periodically an economic plan, which sets forth the government's intentions for its own expenditure on infrastructure and other government projects, together with projections of the private sector's future development. Those projections can be anything, from rough guesses to carefully worked out sectoral patterns of compatible and feasible growth, which government hopes for, or expects to occur, or encourages, either by merely announcing it or by the use of more or less effective incentives and disincentives. Accordingly, one cannot tell just by the publication of an economic plan and its wording the extent of government's influence and control over economic affairs. Nor can one tell by the discrepancy between plan and achievement; which was equally great in Taiwan and Korea and alike also in

that achievement almost invariably exceeded the plan by a wide margin.

There is, however, plenty of other evidence to show that during the period here considered, which largely coincides with the Park regime,⁹ government influence over economic affairs was very much greater and more detailed in Korea than in Taiwan. The machinery of economic planning was larger, more elaborate, more centrally and prominently placed in the Korean government's administrative hierarchy, and well provided with channels of communication for consultation with business. The Prime Minister chaired the Central Economic Committee and the chairman of the Economic Planning Board held the rank of Deputy Prime Minister. A Product Evaluation Board engaged in market research and provided rate-of-return and profitability estimates for the Economic Planning Board, which also acquired an impressively large and competent research arm with the founding of the Korea Development Institute. Close contact between government officials, researchers, and private business was maintained in monthly Export Promotion Meetings and specialized Working Groups. None of this seems to have had a counterpart in Taiwan.

Korean policymakers have, also until recently, made extensive and forceful use of a wide range of incentives, not only of a general but also of a particularistic nature, designed to assure private industry's close compliance with their plans. The main incentive is differential access to credit and concessionary cost of credit. Both countries have for many years granted credit at lower cost to approved industries, but the criteria that qualify a borrower for low-cost credit tend to be more generally defined in Taiwan than in Korea, and the cost concession is typically twice or even three times greater in Korea than it is in Taiwan. Moreover, in view of Korea's generally lower average interest rates and inflationary climate, the real interest cost of such concessionary loans in Korea has often been zero or even negative. Most of Korea's concessionary loans are given by specialized banks and non-bank financial institutions, many of which are under the direct control of the Minister of Finance (rather than the Bank of Korea). Furthermore, in Korea, borrowing abroad by private firms also hinges on express authorization by government.

On the disincentive side, firms that fail to do what government wants them to do often find that their loan applications are ignored or their outstanding loans fail to be renewed. Those are extremely effective instruments in a country in which business relies on bank credit as heavily as it does in Korea. Over the past 10 years, from 1972 through 1981, the sum of the current and fixed liabilities of Korean manufacturing enterprises expressed as a percentage of their net worth was 364 percent—more than twice as high as in Taiwan and four times as high as in the United States. Moreover, almost two-thirds of that debt was short-term (current liabilities), which makes the profitability, even the very survival of manufacturing firms depend greatly on interest rates, the banks' willingness to prolong expiring short-term loans, and consequently on the goodwill of government, which owns and controls the banks.

⁹ President Park assumed power in 1961 and was assassinated in 1979.

Differences between the two countries' use of tax incentives are very similar. A five-year tax holiday for approved investments, remission of duties on imported inputs into export production, and exemption of exports from indirect taxes are standard in both countries, but Korea also provides an assortment of inducements for export and for investment in specified industries in the form of lower rates of profits tax and very generous depreciation allowances and wastage allowances. On the disincentive side, the tax returns of Korean firms that do not toe the line drawn by government are said to be subject to especially careful scrutiny.

In short, the Korean authorities have a very strong control over decision-making by private business, because "it does not take a Korean firm long to learn that it will 'get along' best by 'going along.'"¹⁰ Control is greatly facilitated by frequent personal contact between government officials and businessmen, which is made easy because production is concentrated in relatively few firms. Such concentration, in turn, is one of the results of Korea's substantial credit and tax concessions, because they have enabled the firms that went along with the government's economic plans and made the investments called for in those plans to make very large profits, whose accumulation and reinvestment over the years explains their very fast growth.

Mention has already been made of the much larger size of the average firm in Korea than in Taiwan; and Korea, a relatively small country of 38 million people, has conglomerates that are huge by any standard. The 20 largest Korean conglomerates are responsible for producing half the value added in manufacturing; and the four largest (Hyundai, Sam Sung, Daewoo, and Lucky) each had an annual gross turnover between US\$5 and 10 billion in 1981. Even the smallest of them had a larger turnover than the gross sales of Taiwan's 10 largest companies combined! As remarkable as the size of those companies is the speed with which they have grown from very small beginnings. The oldest and largest, Hyundai, which today employs 150,000 workers, lists 43 overseas offices on five continents and has gross sales of US\$10 billion, started out in 1950 as a small construction and auto-repair shop.

The fast growth of those companies to great size, thanks to government's generous credit and tax incentives, must have played an important part in increasing the inequality of incomes during the 1970s; and it has had or could have had other untoward consequences as well. The diminished resilience of an economy when individual firms grow to excessive size has already been alluded to. Another potential danger of the excessively large size of business firms is that they may wield excessive influence over government policy. Observers generally agree, however, that the Korean government definitely has the upper hand, at least as far as determining the direction in which the economy is going. Problems created by large size and insufficient competition in the private sector that may well arise in the future are discussed in the last section of this paper.

¹⁰ The quotation and much of the argument of this part comes from Mason, 1980, chapter 8.

AGRICULTURE

Taiwan and Korea are the world's second and third most densely populated countries (after Bangladesh), and both of them have poor soil, of which only a quarter is arable in Taiwan and slightly less (22 percent) in Korea. Intense cultivation, however, goes a long way in both countries to compensate for the scarcity and poverty of arable land. Furthermore, in Taiwan, the subtropical climate renders double cropping, in the south even triple cropping, possible, thereby considerably increasing the utilization of land, labor, farm machinery, and infrastructural facilities. Indeed, the increased practice of multiple cropping has been an important element of agricultural development; and Taiwan's multiple-cropping index had risen to almost 190 percent already by 1964.¹¹ In Korea's less favorable climate, double cropping is possible only by alternating rice with barley (an unpopular food); and the multiple-cropping index has not risen above 140 percent.

Agricultural experiment research stations, a network of extension offices, the provision of inputs (seed and fertilizer) in kind, lending of equipment, organization of cooperative societies both for marketing and for the distribution of credit and fertilizer, and the building of an infrastructure of roads, railroads, and harbors were instituted already by the Japanese during the colonial period; and the Japanese seem to have concentrated especially on Taiwan, where the climate was more favorable, colonial rule lasted longer (50 years), and rulers and ruled got along somewhat better than in Korea.

World War II in Taiwan and, more severely, the Korean War in Korea destroyed much of the infrastructure, lowering farm output by 36 percent in Taiwan, 60 percent in Korea. Taiwan's agriculture had just about recovered by the time the Korean War ended, while Korea's was still in shambles. From that time onwards, the average annual growth rate of the two countries' farm output was almost the same: 5 percent until 1965 and 3 percent after it in Korea, 5.1 percent up to 1965 and 2.8 percent since then in Taiwan. Accordingly, the two countries were equally successful in rebuilding and expanding their farm output, but Korea had to offset a much greater war devastation and a later start.

That is why Korea had almost but not quite managed to eliminate her large agricultural import surplus even by the end of our period (1981). Taiwan on the other hand achieved a sizable export surplus on farm products already before 1965, which then declined and changed into a deficit by 1973, due to a shift in production from rice to livestock, vegetables, and fruit. The shift was prompted by the rising dietary standards of an increasingly affluent population and also by the hidden but substantial tax on rice, although that was replaced by a subsidy by the mid-1970s. As a result of that shift, and as a result also of the expanding export market for delicacies like mushrooms and asparagus,

¹¹ The ratio of acreage harvested to total farmland. The ratio has fallen quite a bit since 1964, probably because of increased livestock feeding and production of perennial crops, especially fruit.

rice and other staples make up less than 40 percent of Taiwan's farm output today, while livestock alone constitutes 36 percent. Hence the greatly increased demand for imported animal feed, which explains Taiwan's trade deficit on farm products. (Taiwan still has an export surplus in human food; it imports of fodder and lumber that turn the scales and account for its import surplus in agriculture.) In Korea, on the other hand, livestock is a mere 6 percent of farm output and food grains still constitute 80 percent of the national diet.

In short, Taiwan's growing trade deficit in farm products signifies not decline but progress—though more progress in an increasingly affluent public's demand for more sophistication, variety, and high quality in its diet than in agriculture's ability to meet that demand, given the limited quantity of land and the competing demands on the agricultural labor force.

For, despite the higher value of its farm output, Taiwan employs a much smaller proportion of its labor force on the farm than Korea. Farm families constitute much the same proportion of the population in Taiwan (29.8 percent) as in Korea (28.4 percent); but the percentage of the labor force employed on farms is only 19.5 percent in Taiwan compared to 34 percent in Korea. The explanation is that many members of Taiwan's farm families commute on a full-time, part-time, or seasonal basis to nonfarm jobs in manufacturing, teaching, and administration, so that almost three-quarters (72.7 percent) of the average farm family's income comes from nonfarm employment; whereas in Korea, the nonfarm income of farm families is only about 20 percent of their total income.

That situation has come about spontaneously. High urban wages have increasingly persuaded new manufacturing business to locate in rural areas; and short distances, good roads (72 percent are paved), good public transportation, and the possession of motorcycles have induced members of farm families to commute to those new jobs rather than to move. An important consequence has been the raising of farm households' incomes to a par with urban incomes. This is an important part of the explanation of Taiwan's good income distribution; and it is something that many countries have striven for but few achieved.

Korea tried to bring about a similar situation by offering tax advantages to firms locating in rural areas, but found it easier to persuade industry to move to the countryside than members of farm households to take employment in those industries. Some workers—including urban workers!—have moved to the vicinity of rural factories but disappointingly few commute to those factories. The reasons for the policy's failure are not fully known: they probably have to do with transportation problems in a country more highly centralized than Taiwan, with much poorer roads (only 32 percent paved), inadequate bus transportation, a climate that prevents commuting by motorcycle or bicycle during much of the year, and frequent curfews after dark. (The last is an important impediment to rural commuting in a country with a workweek almost 60 hours long and a cultural tradition of socializing with fellow workers after work.)¹²

¹² I wish to thank Professor Irma Adelman and Mr. Yoon Je Cho for information on that subject.

Nevertheless, Korea too brought farm-family incomes onto a par with urban wages but in a much more costly way: by paying farmers a high price for rice and barley, which is then resold to consumers at a much lower price. The cost of that subsidy, paid for out of general government revenues, is estimated at about 1.4 percent of the GNP.¹³

While Taiwan enjoys the advantages of a more favorable climate and an earlier start from a higher base, thanks to which she produces proportionately more farm output with the aid of a smaller percentage of her labor force, Korean agriculture accomplished more during the period we are concerned with. Her farm output increased a little (7 percent) faster than Taiwan's; but her labor productivity in farming increased about twice as fast. Part of that shows up in the employment statistics, according to which farm employment increased somewhat in Taiwan and declined slightly in Korea; but the more detailed studies of the two countries' agriculture show that, at least during the 1965-75 period, the number of man-days worked in farming fell at an average annual rate of 3 percent in Korea, at not quite two-thirds of 1 percent in Taiwan. The average annual rise in labor productivity during that period is estimated at 2.78 percent in Taiwan, at 5.65 percent in Korea. What accounts for the difference?

In Korea, the great rise in the productivity of farm labor is usually attributed to the great increase in the application of chemical fertilizers, by over 125 percent between 1965 and 1975. In Taiwan, fertilizer use increased 60 percent over the same period. Similarly, Korea's stock of fixed capital in farming increased by 183 percent during that period, compared to an estimated 77 percent in Taiwan. Finally, the rise in the value of Taiwan's farm output was partly due to Taiwan's shifting production from standard crops to much higher priced (and higher value added!) livestock, vegetables, fruits, and mushrooms—all of which are more labor-intensive than rice and other standard crops.¹⁴

EXPORT PROMOTION

Fast economic growth in both countries began with the 1960s and was what is called "export-led growth" because its driving force seemed to be the exceptionally fast expansion of the export of manufactures, explained in turn by the adoption of export-promotion policies. However, since those policies consisted of little more than the removal or offsetting of man-made obstacles to international trade, one cannot understand why they were so successful without knowing something about the policies and the situation they replaced.

The classic and almost universally adopted development policy of the immediate postwar years was import substitution: encouragement through import restrictions and tax concessions of the domestic manufacture of goods previously imported. The main aim of that policy was increased self-sufficiency

¹³ I owe that information to Dr. Avishay Braverman.

¹⁴ The data in this section are from Thorbecke, 1979, and Ban, Moon, and Perkins, 1980.

and diminished dependence on the vagaries of world trade; but it was hoped that productivity and total output would also grow in the process. Increased self-sufficiency seemed eminently desirable in the light of the experience of the depressed 1930s when the prices of the poor countries' primary-product exports fell drastically in relation to the prices of their manufactured imports, and perhaps even more desirable during the second World War, when the manufactured exports of the advanced countries were simply unavailable.

Self-sufficiency, however, is a very costly and hard-to-achieve luxury for the simple reason that whatever products a country imports are almost always those in whose manufacture that country has a comparative disadvantage. To overcome that disadvantage has proved so costly and difficult that apart from the limited success of the simplest forms of (so-called primary) import substitution the policy was a disappointment everywhere. Self-sufficiency made little headway, only little growth accompanied each country's efforts to produce what they had a disadvantage in producing and to overcome their disadvantage; and, for a final blow, what little gain in self-sufficiency they achieved seemed hardly worth having during those years of uninterrupted prosperity, continued trade liberalization, and ever-expanding world trade.

The force of that argument was brought home strikingly by the experience of such city states as Singapore and Hong Kong. They were far too small even to try for self-sufficiency and had no choice but to focus on producing what they were good at producing and to exchange that for what they wanted to consume. They then found that the road they had followed for want of any other could not have been bettered. The contrast between their phenomenally fast growth and the import-substituting countries' much slower growth is a measure of the economic gains to be had by exploiting one's comparative advantage and of the costs incurred by trying to overcome one's comparative disadvantage—at least in a period when world trade conditions are favorable to the expansion of exports by new countries and new firms.

Among the large countries that had a choice between alternative policies, Taiwan and Korea were the first to recognize the gains to be had from encouraging the production for export of those products in whose manufacture they had an advantage. Beginning in the early 1960s, both of them engaged in deliberate policies of export promotion, which consisted partly in the dismantling or offsetting of previously instituted protectionist policies that discriminated against exports and partly in measures actively discriminating in favor of exports. The first set of measures comprised the remission of duties on imported inputs into export production and (in Korea) also on imported inputs into domestically produced intermediate goods used in export production; the establishment of export-processing zones and bonded factories, whose main purpose was to cut the red tape involved in the remission of such duties; and the abolition of systems of multiple exchange rates in favor of a single exchange rate which ended that overvaluation of the domestic currency which had been the hallmark of import-substitution regimes.

The second set of measures included cheap bank loans for exporters (in

Taiwan about 40 percent below the interest rate on ordinary bank loans), the remission of indirect taxes on inputs into exports and on the exports themselves, exemption from corporate income tax on a part of export earnings (in Taiwan, total exemption for "encouraged" products whose export exceeded 50 percent of total output), and, in Korea, export insurance and discounts on railway freight and electricity rates. The value of those practices to the exporter, expressed as a percentage of gross export receipts, is estimated at 10.7 percent in Taiwan for 1962-76, at 8.2 percent in Korea for 1968 (Balassa and Associates, 1982, pp. 240, 314). Roughly speaking, therefore, the effective subsidy to exports was just about the same in the two countries.

In addition, both countries used a variety of further export incentives whose value is more difficult to quantify. They include five-year tax holidays granted to foreign firms establishing manufacturing capacity in export-processing zones, accelerated depreciation on the assets of exporters, Korea's occasional cash subsidies to exporters, citations and cash awards Taiwan gave for exceptional expansion of exports and the development of new exports, the generous wastage allowance in Korea which enabled manufacturers to import duty-free inputs into exportables far in excess of the quantities actually reexported, and the practice of allowing exporters to use all their export earnings for the purchase of imports. Other export incentives included quality control mostly of export goods by Taiwan's Controls Bureau of Standards, and the overseas representation and information-gathering for exporters by such public bodies as consular offices, the foreign branches of the Central Trust of China, the China External Trade Development Council, and the Korean Trade Promotion Corporation.

Over the period 1965-81, Korea's exports, valued in United States dollars, rose at an average annual rate of 35 percent, Taiwan's at 27 percent; and by 1981, the proportion of the GNP exported had risen to 33.6 percent in Korea, 53.5 percent in Taiwan. Since both countries' exports have a high import content (40 percent in Korea, 58 percent in Taiwan) and also because the great expansion of exports carried with it the whole economy and rising GNP and living standards naturally lead to rising imports, the U.S. dollar value of imports, propelled even further by the rise in oil prices, rose 28.7 percent annually in Korea and 25.6 percent annually in Taiwan to reach, by 1981, 41.3 percent of the GNP in Korea and 52.3 percent in Taiwan. In short, imports rose more slowly than exports in both countries, enabling Korea greatly to reduce her balance-of-payments deficits and Taiwan to achieve full balance-of-payments equilibrium.

VULNERABILITY TO WORLD DEPRESSION

Noting those figures, one cannot help asking whether Taiwan had not overdone—or overachieved—the expansion of its foreign trade. It is natural, of course, for a small country to be more dependent on foreign trade than for a large one; but even after allowing for its small size, Taiwan is more dependent

on foreign trade than Korea and much more so than the average country.¹⁵ Needless to say, there are advantages as well as disadvantages to a country's great involvement in international trade; and I know of no objective standard by which to weigh the benefits of the gain from trade against vulnerability to depression abroad. There are, however, means of reducing that vulnerability without forfeiting the gains from international specialization. One of these is the simple expedient of spreading the risks by diversifying the nature and direction of exports. Taiwan has done very well in that respect, having reduced the commodity concentration of its exports from 56 percent in 1955 to 23 percent in 1975 and their geographical concentration from 60 percent to 41 percent (Balassa and Associates, 1982, p. 314, Table 10.13). Korea has done almost as well, with the commodity concentration of exports at 26 percent in 1975 and their geographical concentration at 40.8 percent.¹⁶

The other way of reducing a country's exposure to depression abroad without losing the gains from trade is to combine an open door policy to international trade with a not-so-open door to international capital movements. That was attempted by Korea in the 1970s, apparently with success. Most Western European countries also rebelled against having their investment activity, and with it their growth and employment and income levels, restricted by America's restrictive high interest rate policy of the 1970s and 1980s; but they were impotent because the openness of their capital markets prevented their pursuing an independent and less restrictive monetary policy. Exchange control, however, enabled Korea to sustain its economy with the aid of relatively low interest rates without risking an outflow of capital. Indeed, Korea managed to engineer an inflow of capital while maintaining domestic interest rates below their United States level by subsidizing foreign borrowing through the payment of the differential between low domestic and high foreign interest rates. Taiwan (which also has exchange control) had no such problems, because it no longer relies on capital inflows, and because its persistently high interest rates still go hand-in-hand with even higher profit rates.

¹⁵ There is a formula according to which it is "natural" for a smaller country's export and import ratios to exceed a larger country's trade ratios by the fourth root of the ratio in which that country's population exceeds its own (Linnemann, 1966, p. 206; Scott, 1979, p. 350). By that reckoning, Taiwan's exports and imports would have to be around 45 percent of GNP for its trade dependence to match Korea's rather than around 50 percent as they are today.

¹⁶ The concentration ratio is the square root of the sum of the squared proportions that each commodity or each country destination forms of a country's total exports; and it ranges from 0 to 100 percent. For example, the 40.8 percent geographical concentration of Korea's exports shows that 56 percent of its exports is destined for the United States and Japan and the remainder is well dispersed among other countries. (The concept was introduced by Albert Hirschman. For the formula and its explanation, see the note to the table referred to in the text.)

THE GAIN FROM TRADE AND ITS DISTRIBUTION

The practical and most striking evidence of the gain from trade is the universal success of the policy of export promotion. In a more narrow, strictly static but also more rigorous sense, the gain from trading a given commodity can be expressed in dollar terms; and the measure of that gain is proportional to the difference between its prices in the importing and the exporting country before trade takes place. The gain is divided between producers, consumers, and the intermediaries between them, in proportions that depend on what the price elasticities of demand and supply are and on how trade affects the price of the commodity in the exporting and importing country.

When the exporter is a small country and the importing country or countries large or numerous, trade has little impact on prices in the importing country, which means that the consumers' share in the gain becomes negligible and most of it is divided between producers and traders. The exporting country's share in the gain therefore depends on the nationality and domicile of the traders.

The professional literature has largely ignored or neglected the middleman, so we know very little about him and about his share in the gains from trade. Yet his role is crucial. After all, it is he who discovers the difference in price between potential export and import markets and ascertains the scope for profitable trade. He makes potential exporters and importers aware of the gain to be had from trade, establishes contact between them, and makes all the necessary arrangements, rendered difficult by lack of personal contact, distance, difficult communications, and often a language barrier as well. When the manufacturing firm is small, those arrangements also include the provision of financing, the procurement of inputs, arranging for transportation, insurance, and dealing with customs (or the remission of customs' duties). Middlemen also keep abreast of changing prices and market conditions abroad and, by switching trade in response to them, protect domestic exporters or importers. Those services require imagination, initiative, knowledge, experience, contacts, familiarity with local conditions in many countries; and all that, being valuable, has to be remunerated accordingly. No wonder if the firms that render those services are often important beneficiaries of international trade and specialization.

In the eighteenth and nineteenth centuries, when Britain was the world's main supplier of manufactures, it was Britain's wholesale merchants, not its manufacturers, who attained great wealth and power and even gave their name to the period: merchant capitalism. More recently, Japan's great economic growth and export expansion is, to a large extent, credited to its general trading companies (*sogo shoshas*); and it is they, much more than Japan's manufacturers, that attained great size, wealth, and power in the process. Between 1960 and 1973, Japan's ten largest general trading companies handled half (49.9 percent) of its exports and almost two-thirds (62.8 percent) of its imports. By

that time, however, their role in Japan's foreign trade was very much on the decline, because the large manufacturing firms, such as those in the automobile and electronic industries, increasingly do their own export marketing and also engage in import trade, often even beyond the importing of their own imported inputs.¹⁷ As a result of their gradual displacement by large manufacturers in the foreign trade of their own country, the Japanese *sogo shoshas* are increasingly trying and managing to get involved in international trade between third countries.

Taiwan and Korea are prominent among those third countries; but Japanese general trading companies are not the only foreigners to handle some of their foreign trade. In Taiwan, Japanese companies are believed to have handled about 60 percent of textile exports; but, from the late 1960s onwards, they were joined—and to some extent supplanted—by United States and European importers, who set up offices in Taipei and dealt directly with local manufacturers, including many small ones. In addition, "If the manufacturer in Taiwan was a subsidiary of a foreign company, the parent company would generally provide the marketing service. This was true, for example, of many of the electronic companies that would both have their main components supplied by the parent and return the processed and assembled goods to that parent" (Scott, 1979, p. 367).

Unfortunately, no estimates seem to be available of the total involvement of foreign traders in Taiwan's foreign trade, nor of the money value of their services; but it is worth noting that the total contribution of domestic wholesale and retail traders to Taiwan's GNP has gradually but steadily declined, from 17 to 18 percent in the mid-1950s to 12 to 13 percent by around 1980. Since that proportion tends to be fairly stable in most countries, its secular decline in Taiwan may well be due to the secular increase of foreign trade, which crowds out domestic trade to some extent and itself makes no contribution to Taiwan's GNP when foreign companies handle it.

Korea's experience seems to have been different. Japanese general trading companies are said to have been very important in initiating, financing, and arranging Korea's foreign trade in the 1960s: according to an official of one of them (Mitsui), they probably handled about half of Korea's exports. Perhaps for that very reason, the Korean government seemed to be anxious for Koreans to take over also that business and made great efforts to promote the establishment and growth of Korean general trading companies. To engage in the business of importing and exporting required a license, the granting of which depended on the applicant's exports exceeding a progressively higher minimum value. That requirement practically forced Korean trading companies to grow fast; and it led to mergers when other means of growing failed. As a result, Korea now has 10 very large general trading companies, each with many dozens of offices in foreign centers the world over, and most of them with controlling in-

¹⁷ Honda, for example, imports oranges to Japan, needing their bulky freight for ballast on the return trip of the boats in which it ships its cars for export.

terests, not only in the shipping, insurance, and banking companies that handle the ancillary services of the business of foreign trade, but often also in the firms that manufacture the exports themselves, including steel mills, shipyards, construction companies, the largest automobile factory—in short, most of Korea's large manufacturing plants.

Moreover, Korea's general trading companies, in contrast to Japanese *sho-shas*, are heavily involved in exercising quality control and the general supervision of the manufacturing process in the case of the smaller and less reliable Korean manufacturing firms; and they are very much in the habit of ferreting out profitable export opportunities, finding the Korean firms with the appropriate manufacturing capabilities, and taking the initiative in persuading and helping those firms to seize hold of such export opportunities. Also, since many of the Korean trading companies control or are closely linked with large construction firms, they are often as ready to build and equip an entire manufacturing plant on a turnkey contract as they are to deliver the products of such a plant. In short, the general trading companies of Korea, again unlike their more specialized Japanese counterparts, are engaged and willing to engage in the export of such a tremendous range of goods and services that they are a powerful force for diversifying the nature and so stabilizing the volume of the country's exports.

Statistics of the value added by Korean general trading companies do not seem to be available; but the national accounts show that the total contribution of wholesale and retail trade to the GDP has risen, from the second half of the 1950s to the end of the 1970s by more than 5 percentage points: from an average of 11.2 percent to an average of 16.5 percent of the GDP. What part of that substantial increase reflects the transfer of export and import business from foreign to Korean trading companies and what part is due to other factors there is no way of knowing. The subject merits further study; but what scattered information is available suggests strongly that Korea managed to capture for itself a good share of the gain from its foreign trade. Taiwan has also tried to encourage the establishment and growth of indigenous general trading companies, but with very poor success. In 1981, her five largest trading companies transacted a mere 1 percent of the country's exports and barely 0.25 percent of its total imports.

OVERALL GROWTH

So far, export promotion and its successful outcome, export expansion, have been dealt with: how and why expanding exports brought about a not much lesser expansion of the two countries' entire economies as well remain to be seen. It is true that the value of exports had risen to equal half of Taiwan's and a third of Korea's GNP; but those figures refer to gross exports, a large part of which constitutes the reexport of imported inputs. When one subtracts imported inputs from gross exports, one obtains the value of net exports, which turns out to be approximately a fifth of the GNP in each country. The remaining

four-fifths of GNP was destined for domestic use, and the question is how and why also that much larger part of total output grew at such an unprecedented rate.

Growth means increased production, due partly to a growing labor force or its increased utilization, partly to the increased productivity of labor. The latter is a more important source of growth, because it is the main basis of the rise in the level of living. Employment was growing in both countries, about twice as fast as population, at an annual rate of 5 percent in Taiwan, 3.4 percent in Korea. Labor productivity was growing at an annual rate of 4.2 percent in Taiwan and 5.1 percent in Korea. Their combined effect on the real GDP was an average annual growth of 9.4 percent in Taiwan and 8.6 percent in Korea, or, on a per capita basis, 6.9 percent in Taiwan and 6.7 percent in Korea (see Table 1).

Exports increase productivity, because the gain from trade means that labor engaged in producing exports enables the country to obtain in exchange more and better imports than if the same labor were engaged, instead, in producing at home the goods now imported. Accordingly, a parallel expansion of exports and imports increased labor productivity in the general sense of increasing the quantity and quality of goods and services obtained per unit of labor. Labor productivity, however, has also been increasing in the narrower, engineering and technical sense; and there were at least two ways in which export expansion stimulated the rise in labor productivity in that sense too.

First of all, export expansion called for large investments in additional productive capacity in the export industries, which made it possible to reap economies of scale by putting into practice all the new techniques, economical methods of production, and better quality control that the export manufacturers learned from their foreign competitors. That benefited not only exports but the domestic consumers of exports as well.

Second, the new techniques, approaches, and habits of thought adopted by the export industries were easy to transfer to other industries and economic sectors as soon as their needs for additional productive capacity and investment provided an opportunity to do so. That opportunity was also provided by the expansion of exports because it greatly increased effective demand for domestic output. The booming export industries increased their own demand for intermediate inputs produced by other industries; and the great increase in the income they generated and paid out to their employees, owners, and stockholders increased consumers' demand as well. The increase in consumers' demand was especially great owing to the labor-intensive nature of the export industries.

The same high labor intensity of Taiwan's and Korea's rapidly expanding exports also accounts for the two countries' very low and secularly declining unemployment rates—a unique accomplishment among developing countries. Korea, with unemployment rates around 3 to 4 percent did less well in that respect than Taiwan, where unemployment fell to 2 percent and lower, perhaps because of Korea's switch to more capital-intensive industries in the 1970s.

The expansion of the two countries' labor-intensive export industries until the 1970s and Taiwan's also since then had yet another beneficial effect: it increased the earnings of labor and so improved the distribution of income. In Taiwan the statistics show a shift of income from capital to labor among nonfarm households and a consequent reduction of inequalities in the overall distribution of income between 1964 and 1978, the period for which the requisite statistics have been collected. In Korea, too, inequalities of income declined from 1965 to 1970 but increased slightly thereafter—probably as the result partly of the switch to capital-intensive industries already mentioned, and partly of the greatly increased inequalities in the distribution of property income, which was closely connected with that changeover.

Equitable income distribution favored the expansion of effective demand and tended to concentrate it on domestically produced goods. The increase in domestic demand for domestic goods in turn called for investment which not only created additional productive capacity and employment opportunities but, by providing an opportunity for innovation and modernization, led to increasing labor productivity as well.

INVESTMENT

The average proportion of the GNP devoted to gross domestic capital formation in Taiwan was at 28.4 percent only a little higher than Korea's 26.5 percent; but it may have been considerably more conducive to increasing productivity and productive capacity. Industrialization in Korea was accompanied by a mass migration from rural to urban areas, causing the urban population as a share of the total population to rise from 24 percent in 1955 to 48 percent in 1975. To accommodate such mass migration required a lot of investment in new housing, new schools, new shopping facilities, and other infrastructure, which did not add to productivity and productive capacity. Taiwan was much more fortunate in that respect: although its manufacturing sector grew faster than Korea's during the same period, the migration into the cities added only 75 percent to their share in the total population,¹⁸ because new firms and industries, attracted by lower rural wages, increasingly settled in rural areas. The proportion of workers employed in manufacturing who lived in rural areas as part of farm households and commuted daily on a seasonal or full-time basis grew steadily and constituted over half of the work force by the mid-1960s. That must have meant substantial savings in housing and infrastructure investment. Over the 16-year period here considered, government investment, which is largely infrastructure, absorbed only 11.7 percent and residential construction only 10.4 percent of gross investment in Taiwan as against 14.2 percent and 13.4 percent in Korea,¹⁹ leaving a substantially larger part of Taiwan's

¹⁸ The definition of urban areas is different in the two countries, which makes it impossible to compare their degrees of urbanization precisely.

¹⁹ Korea's large investment in residential housing may have had another reason as well, which will be presented shortly.

investible resources for public and private enterprises to invest in productive capacity.

As already mentioned, Korea also tried, through the offer of tax incentives, to induce manufacturing enterprises to settle in rural areas, but was more successful with employers than with their employees. Members of farm households, rather than stay at home and commute to nonfarm jobs, migrated to the cities in much larger numbers than in Taiwan (see above).

SOURCES OF INVESTIBLE FUNDS

Much remains to be said about the different directions into which investible funds were channelled in the two countries, but it will be better said as part of a discussion of the way in which funds became available. Taiwan financed its entire gross domestic capital formation from 1965 to 1981 out of domestic savings; as a matter of fact, its domestic saving rate, which averaged 28.7 percent of the GNP, marginally exceeded the investment rate of 28.4 percent and even allowed for a small export of capital. Korea on the other hand, financed less than two-thirds of its 26.5 percent average investment out of a domestic saving rate that averaged only 18.6 percent: the remainder was financed by capital imports, of which a third was aid, not quite two-thirds loans, and a negligible proportion foreign direct investment.²⁰

Why was domestic saving in Korea so much lower than in Taiwan? Depreciation allowances in Korea, at 7.3 percent of the GNP were marginally higher than Taiwan's 7.2 percent; and so was governmental saving: 5.8 percent in Korea as against 5.6 percent in Taiwan. On the other hand, net corporate saving of 2.3 percent in Korea was much lower than Taiwan's 4 percent; and the discrepancy was even greater between the personal saving rate of households: 5.4 percent in Korea and 12.1 percent in Taiwan.

The lower saving rate of Korean corporations seems to be largely explained by the informal pressure government put on firms to pay high dividends in an attempt to develop the stock market, and by the similarly motivated Korean system of taxes that rendered shareholders liable for income tax not only on dividends but also on half of the retained earnings of the corporations in which they held stock.²¹ Corporate retained earnings, which averaged 75 percent of after-tax profits in the first four years of the 1960s, went down to an average of 56 percent of profits in the 1970s, presumably as a result of those pressures and policies, and that change explains most of the discrepancy between Korea's and Taiwan's corporate savings rate.²²

²⁰ Yet another way in which a good export performance helps also the rest of the economy to grow is worth mentioning: it enhances the country's creditworthiness and renders foreign loans easily accessible. Both countries enjoyed that advantage; the interesting question is why Taiwan had no need for it.

²¹ That tax is additional to the corporate income tax, which both countries levy on the corporation's total net profits.

²² The percentages are calculated from Park, 1981, p. 90.

In sum, low corporate saving in Korea seems to be the direct result of government's attempt to encourage personal savings by providing and rendering attractive yet another asset, corporate stocks, into which the individual saver can put his earnings.

The attempt, however, was unsuccessful. To judge by the value of stocks issued and its relation to GNP, Korea's stock market is even more insignificant as a source of funds than Taiwan's; moreover, household saving, as already noted, is also much lower in Korea.

HOUSEHOLD SAVING

It is customary to express the rate of household saving as a percentage, not of the gross national product, but of consumers' disposable income. The personal saving rate so expressed averaged 7.6 percent in Korea, 17.6 percent in Taiwan. The difference between those figures is tremendous; but surprisingly enough, no one seems ever to have tried to explain it. The voluminous literature on Korea's economic performance is full of discussions and explanations of why Korea's saving rate has been so very high in recent years; there is no word anywhere to explain why it has been so very low—yet low it seems when contrasted to the saving rate of Taiwan. Similarly, one will look in vain for an explanation of Taiwan's very high saving rate. The closest one comes are the various explanations offered to account for Japan's comparably high personal saving rate; but they turn out not to be very helpful in explaining the great discrepancy between Taiwan's and Korea's personal saving rates.

According to the standard American theoretical explanation, the so-called life-cycle hypothesis, saving is generated by the growth of population and the rise in the standard of living; and net positive saving is proportional to their combined growth rates. The latter is half a percentage point higher in Taiwan than in Korea, which would explain approximately 1.5 percentage points of the 10 percentage points discrepancy between the two countries' personal saving rate.²³ That is very little; and, besides, recent empirical research increasingly discredits the theory.

There are more down-to-earth explanations in Japan of the Japanese situation. The two simplest and most often advanced are insufficiency of social security benefits, which forces people to save more for their old age, and the limited availability of consumer credit and mortgage loans, which renders it difficult for people without accumulated savings to dissave. The two arguments apply to Taiwan and to Korea every bit as much as they apply to Japan; but since they apply equally to both countries, they cannot very well explain why

²³ The customary simple numerical model of the life-cycle hypothesis shows that each percentage point of annual growth in income gives rise to 3 percentage points of positive net saving expressed as a percentage of income. See Modigliani and Brumberg, 1954.

their savings rates are so very different.²⁴

Equally unhelpful is the next explanation of Japan's high saving rate: the high proportion of older income earners in the population, who, according to the statistics, save a larger percentage of their earnings than others with the same income. It so happens that the age distribution of the employed population is almost identical in Korea and Taiwan, so this factor cannot account for the discrepancy between their saving rates either.

Yet another often cited explanation of Japan's high saving rate is the high proportion of individual proprietorships (unincorporated enterprises) among households. The national account statistics do not separate the savings of unincorporated enterprises from those of wage- and salary-earners; and since the former's saving rate is believed to be quite a bit higher than the latter's, a high proportion of small businessmen among households would explain a high overall household saving rate.

In that respect, there is a difference between Korea and Taiwan. The average Korean manufacturer with more than 4 employees²⁵ employs 69 people on average as compared to 35 in Taiwan, which implies that the number of independent manufacturing establishments in Taiwan is twice as large as it would be if their average size equalled that of Korean establishments. Accordingly, if Taiwan resembled Korea in that respect, it would have only 35,000 independent manufacturing firms instead of the 70,000 it actually has. Thirty-five thousand extra individual proprietorships seem like a large number, but they represent hardly more than 1 percent of Taiwan's 3 million households. Such a small difference between the two countries in the proportion of households headed by parsimonious businessmen instead of spendthrift employees undoubtedly explains a part, but probably only a small part of the very great difference between their overall saving rate.²⁶ It should also be noted that the difference between Taiwan and Korea in the proportion of businessmen households in other sectors of the economy is much smaller (e.g., in retailing) or even goes the other way around (in farming)!

Many consider the most important explanation of Japan's high personal saving rate to be the high proportion of temporary income in total income, because people tend to save a higher percentage of temporary than of permanent income. In Japan, half-yearly bonus payments are an important part of total wage and salary payments; they have been steadily increasing in relative importance over the years, and by now often amount to one-third of the annual wage or salary.

²⁴ For an English language summary of the several explanations of Japan's high saving rate, see Shinohara, 1982, chap. 10.

²⁵ Korea collects no statistics on manufacturing establishments with four or less employees. The data used are from Taiwan, 1976, Vol. III, Book 1, p. 118, and Korea, 1979, p. 155.

²⁶ All of the data used in this paragraph refer to 1976, the year of Taiwan's last industrial census; and they come from the sources cited in the previous footnote.

Taiwan and Korea share Japan's bonus-wage system for non-agricultural industries, although their bonus payments are much smaller. The two semi-annual payments together average only two months' wages (or 14.2 percent) of the total annual wage. Those averages are very similar in the two countries; and, at least in Taiwan, where annual data are available since 1972, show only a very small upward trend. Nonfarm employment, however, has increased relative to farm employment in both countries—and more so in Taiwan, where it now comprises 72 percent of the labor force, as against only 66 percent in Korea. That may well account for a part of the difference between the two countries' saving rates; but probably only for a very small part. For the rest, other, less conventional explanations must be sought.

One of these may be the very high expenditure of Korean parents on their children's education, explained partly by the inadequacy of public expenditure on education, which is provided free only up to junior high school. As a proportion of household income, private expenditures on education averaged 7 percent in Korea, almost as much as the personal saving rate and more than four times the United States percentage. Unfortunately, comparable data seem to be unavailable in Taiwan, but there private expenditure on education is probably much lower.²⁷

Another rather simple explanation of the difference in saving rates is that Koreans, being poorer, cannot afford to save as much as the more affluent Taiwanese. That sounds all the more plausible when one considers that the averages of the two countries' saving rates already quoted hide a fairly steady secular increase from about 12 percent to about 21 percent in Taiwan, which closely parallels the country's increasing affluence, and in Korea, a somewhat faster but very irregular increase, with great ups and downs between a low 0.2 percent and a high 15 percent annual saving rate.

Plausible as it sounds, the explanation is distrusted by most economists because they believe that saving is mainly motivated by the need to take care of one's old age, a need just as strong among the poor as it is among the rich; and they can point to the complete lack of evidence of any correlation between saving rates and affluence in the industrial countries, where saving statistics are most reliable.

That argument, however, together with the statistical evidence behind it, pertain to modern capitalist societies, in which mature persons are held responsible for their own welfare, both in the present and in their future old age. That was not always so, because in most primitive societies the children (eldest sons according to the Confucian ethic) took care of their parents in their old age. Accordingly, when economic development goes hand in hand with social change and the move from extended to nuclear families, then it is bound to necessitate personal savings and so to raise the personal saving rate.

Such change, however, does not happen from one year to another, but is

²⁷ I want to thank Mr. Yoon Je Cho for suggesting that explanation for Korea's relatively low household saving rate.

bound to be a very slow, very gradual process, and that for two reasons. To begin with, all change in established social institutions and deeply ingrained habits is always a very slow progression, initiated by the most innovating and enterprising classes of society and spreading slowly through different social layers toward the more tradition-bound. Further, to be able to afford to save up for one's and one's wife's old age, one must be either well-to-do or free from financial obligations toward parents and older or disabled relatives who traditionally look to one for support.

In other words, causality runs both ways: personal savings free people from having to rely on their children's or relatives' support in their old age; but they themselves must also be free from old parents and relatives or the obligation to support them in order to be able to afford saving up for their own old age. That circular relationship is a vicious (or virtuous?) circle, and makes it very hard to break out of the age-old tradition that views the extended family as the economic and social unit and imposes on its working members a moral obligation to support all those other members who are too young, too old, or too decrepit to earn their living. Accordingly, it requires especially favorable circumstances to initiate and sustain the move from the extended to the nuclear family and the displacement of sons and relatives by accumulated savings as the source of old people's livelihood. Affluence is one such circumstance; institutions that render saving easy, safe, and attractive are another.

That brings one to the second unconventional explanation of high personal saving: high real rates of interest on savings deposits. This again is one of those explanations that seem to be simple common sense to the layman, but are distrusted by the economist. And here, again, his distrust is based, partly on the lack of empirical evidence of correlation between interest rates and saving rates, and partly on the theoretical idea that if survival in retirement were the main purpose of people's saving, then higher interest rates would lead not to more but to less saving, because the higher the interest, the less needs to be saved in order to secure a given sum or annuity for the future.

The fault with that reasoning is once again that it is anchored in the narrow institutional framework of modern capitalist society, which looks upon saving more and saving less as the only alternative ways available in which to provide for one's retirement. In countries like Taiwan and Korea, however, which are in the course of social and economic transformation, the individual's choice is the much broader one between relying on his family and relying on his own accumulated savings as the proper means of taking care of his old age; and a higher real rate of return on savings is bound to influence that choice in favor of saving.

As early as 1950, Taiwan introduced a monetary policy whose key feature was enticingly high real rates of interest on savings deposits; and Taiwan stuck to that policy consistently for over 30 years, with only a single short lapse in 1974. The steady, seven-fold rise of the personal saving rate in Taiwan, from 3 percent of the disposable income in 1952 to 21 percent in 1980, may well have been due largely to the continued attractiveness of savings deposits as a means

of assuring an independent and comfortable old age.

Korea adopted the same monetary policy 15 years later in 1965; and because it was hard to reconcile with governmental control over private investment through concessionary loans, which the Korean government was anxious to retain, the monetary policy of 1965 was gradually eroded over the next six years and came to an end by 1971. From then onwards, the real rate of interest on savings deposits fluctuated wildly, alternating between positive levels (in 1973 and 1977/78) and negative levels (in 1974/75 and 1980/81), hovering near zero in between (in 1972, 1976, and 1979).²⁸ That was hardly an inducement for the average Korean to abandon his traditional reliance on family and children in favor of the modern way of taking care of his old age through personal savings.

What could well be the main explanation of the great difference between the two countries' personal saving rates has been left to the end, partly because its statistical verification and quantification is ruled out by its very nature: the need for personal savings for making oneself independent by starting one's own business. This is related to but somewhat different from the high propensity to save of already established businessmen; here the concern is with the savings of those who wish to become businessmen.

People start their own business, not only to get a high return on their savings, but also and perhaps mainly because they prefer being their own boss, standing on their own feet, and proving their ability by putting to good use their wits, skills, intuition, and knowledge of the world and people. In short, running one's own business is also a game of skill and chance, played for high stakes, and self-satisfying quite apart from the expectation of monetary gain. If that assessment of the independent businessman's motivations is right, then he will regard his business not only as a good repository of his savings, but also as a good reason to save—and to saving more than he would if he had no business to put his savings into!

That motive for saving differentiates very strongly between Taiwan and Korea. As already mentioned, Taiwan's manufacturing sector grew largely as a result of the fast growth in the number of its manufacturing companies. Between 1966 and 1976, 41,808 new manufacturing enterprises were created, adding more than 150 percent to the number of such enterprises (27,709) already in existence in 1966. That is an average annual increase of 9.6 percent, which is more than one-half as great as the 17.8 percent annual increase in total manufacturing production. That is very different from what happened in Korea,

²⁸ Needless to say, the fluctuations in the real rate of interest resulted not from adjustments in the interest paid on savings deposits, but from failure to adjust it in response to fluctuations in the rate of inflation, which resulted from sudden and drastic changes in economic policies. The personal saving rate also fluctuated, but in no systematic relation to fluctuations in the real rate of interest. Indeed, the fluctuating saving rate is best explained as the result of the public's attempt to maintain its real consumption on a steady course, in the face of great fluctuations in incomes and prices.

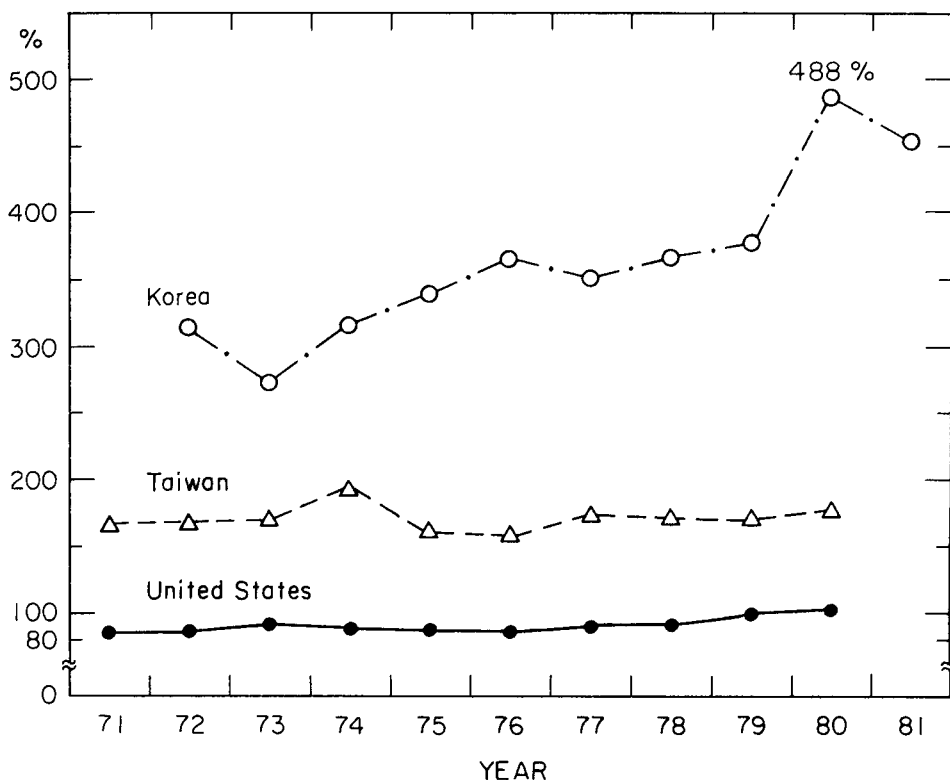
where manufacturing production over the same period increased at an average annual rate of 22.7 percent, but the number of manufacturing companies rose at the very small annual rate of 0.9 percent.²⁹

The explanation of that striking difference between the two countries' ways of growing is simple. In Taiwan, the small size of the average firm and the large number of very small firms must have made it feasible - and seem feasible! - for newcomers to establish themselves on a modest scale with small initial investments. In Korea, the prevalence of much larger firms must have discouraged newcomers and made it harder for them to enter the market on a very small scale; moreover, the policy of encouraging capital formation through the granting of loans on concessionary terms *to already established firms* actively discriminated in favor of growth through the increasing size (rather than the increasing number) of firms. Accordingly, growth Taiwanese-style kept business firms small and encouraged personal saving by the newly entering or about-to-enter small businessmen; growth Korean-style discouraged new entrants and their saving, and made it easy for established firms to grow without generating their own savings.

The difference between the two countries' very different ways of expanding their manufacturing capacity and output also appears in their statistics. Capital formation financed by bank loans and by bonds issued and sold in financial markets shows up as an increase in indebtedness; the statistics reveal no increase in indebtedness when capital formation is financed by the issuing of stock, out of a firm's own undistributed savings, out of the personal savings of someone starting his own firm, or out of what he borrows in the unorganized capital market. The most widely used index of indebtedness is the debt ratio: the sum of fixed and current liabilities expressed as a percentage of the firm's net worth, reproduced in Chart 1 for Korea, Taiwan, and the United States. The very low indebtedness of American manufacturing firms is easily explained by the importance of the New York stock market as a source of funds for investment. The stock market is unimportant in Korea and Taiwan, but Taiwanese firms are half as heavily indebted as Koreans, presumably because more than half of their new industrial capacity consists of small firms newly established by individual proprietors and financed out of their and their family's personal savings, supplemented when necessary by loans from friends and from the unorganized curb market.

²⁹ Although Korean statistics refer only to enterprises employing at least 5 employees, it is not unreasonable to assume that their rate of increase was more or less same as the rate of increase of *all* enterprises. Note also that the very small increase in the number of companies is a net increase: the difference between the number of new companies established and the number of old companies that have disappeared through merger or something else; and a look at the annual data suggests that the number of mergers must have been quite large. It would be more appropriate to use gross figures, but they are not available. One must bear in mind that the Taiwanese figures are also net and not gross.

Chart 1.—Debt Ratios in Manufacturing:
Sum of Fixed and Current Liabilities
As Percent of Net Worth



Source: Bank of Korea, 1982, pp. 74, 97, 492, and 530.

To sum up the arguments of this long section, the much greater importance of household saving in Taiwan has a number of probable explanations. The slightly faster growth of Taiwan's GNP; the slightly faster increase in the proportion of its labor force receiving part of its income in the form of bonuses; people's lesser spending and need to spend on education; the greater proportion of people saving up to establish independent businesses; the greater number of businessmen saving up to enlarge their already established independent businesses; and people's greater willingness to save up for their old age, due partly to their greater affluence, and partly to the more secure and higher returns on their accumulated savings.

The above arguments were phrased as explanations of Taiwan's high personal saving rate, but several of them could easily be reworded as explanations

of Korea's low personal saving rate. Taiwan's saving rate is the exceptional one, being the second highest (after Japan's) in the Western World; on the other hand, Korea would need a much higher personal saving rate in order to continue its high growth rate in the 1980s, with their much less accommodating international financial markets.

FORCED INVESTMENT AND GROWTH IN KOREA

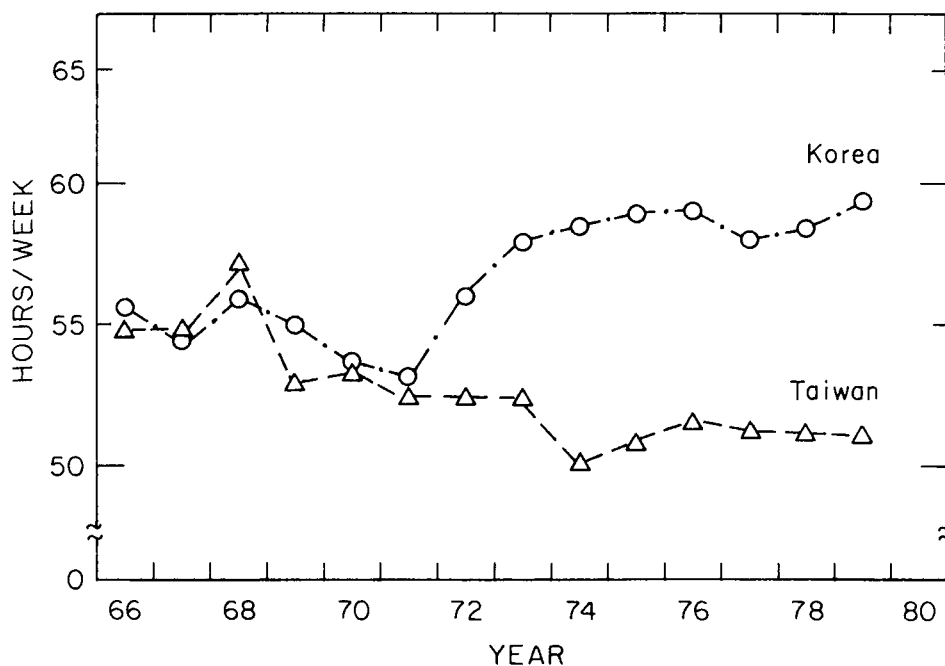
It seemed standard practice of Korean development planners always to project, aim for, and actively encourage more investment than seemed feasible on the basis of expected domestic saving and expected foreign capital inflows. The hope behind that policy was that the economy would somehow accommodate itself to those overambitious plans, and that hope was usually fulfilled—very often overfulfilled. In short, the policy worked. It is essential, however, to understand exactly how and why it worked if one wants to understand the causes of Korea's chronic inflation, its disappointing domestic saving rate, and its continued dependence on foreign capital.

Once a Four-Year Plan, or a revision of a Four-Year Plan, had been agreed upon and established, the Korean government encouraged investment in the desired sectors and industries by every available means, including the offer of tax concessions, credit on specially favored terms and at specially low interest rates, and a lot of informal pressure. If the inducements set in motion a sufficient volume of investment to conform with (or even exceed) the overambitious investment plans, an excess of effective demand over the available supply was the consequence. In such disequilibrium situations, something has to give in order to restore equality between supply and demand. In the event, three things helped to restore equilibrium, mostly by raising supply, not by restricting demand. They were an increase in domestic supply, an additional inflow of foreign capital, and a worsening balance of payments.

Domestic supply can respond to the increase in demand through the increased utilization of existing plant capacity. That seems to have been an important source of additional supply in Korea. Statistics of capacity utilization are unavailable; but a study based on electricity use shows that the utilization rate almost doubled between 1962 and 1971, increasing at an average annual rate of 7.2 percent (Balassa and Associates, 1982, p. 264). Unfortunately, those estimates do not go beyond 1971, but to judge by the statistics on hours worked in industry, capacity utilization seems to have continued to increase. Korea not only has the world's longest working week (ILO, 1983), but is unique also in that the length of its working week increased, and increased substantially over time, while the working week has become shorter just about everywhere else. The utilization of plant capacity is very likely to have risen parallel to the lengthening of the working week (Chart 2).

The inflow of foreign capital can also rise more than was originally anticipated and finance an additional inflow of imports to meet the excess demand. Part of that excess demand is generated by the increase in capacity utilization, which increases the need for inputs, including imported inputs. Indeed,

Chart 2.—Average Weekly Hours Worked



balance-of-payments difficulties are the main reason for the underutilization of existing capacity in most developing countries. In Korea, however, the successful export drive not only relieved the foreign exchange shortage, but increased the country's credit standing as well and so removed that obstacle to better capacity utilization. In addition, the special inducements, like tax concessions, offered to investors probably increased also foreign investment.

Finally, to the extent that those two sources of additional supply were insufficient, as they usually were to fill the excess demand, the pressure of the remaining excess demand raised domestic prices and, by worsening the balance of payments and so raising the price of foreign exchange, raised import prices as well. Those price increases diverted resources from consumption to investment³⁰ and whoever allowed them to reduce the real value of his purchases to below what he had originally hoped and planned for found himself "involuntarily financing" some of the investment that was additional to the investment financed out of voluntary saving and foreign lending.

³⁰ Resources could have been diverted also from other sources and types of investment, in which case total investment would not have increased. In Korea, however, to judge by the statistics, that does not seem to have happened to any significant extent.

KOREAN INFLATION

Inflation in such a case makes a positive contribution to growth, because it forces the public to reduce its real purchases and so release resources needed for investment. That forced reduction of people's real purchases is best called involuntary financing or forced financing, thereby avoiding the once fashionable but misleading "forced saving." For the term "saving" conveys the idea of the saver setting aside something valuable for his own future use, but those whom inflation forces to reduce their real purchases have nothing to show for their sacrifice, no savings they could add to their store of assets and spend at a later date, although they involuntarily financed an investment that benefits society by improving or adding to future productive capacity and adds to some people's net worth. Indeed, the social injustice of the inflationary financing of investment, which causes the latter's benefits to accrue to others than those whose sacrifice financed it, is one of the objections to that policy.

That, in a nutshell, summarizes how an aggressive economic policy causes the economy to perform beyond its apparent capacity and accommodate the excessive demand made upon it by an overambitious investment plan. Considering that in Korea the policy worked and the overambitious projections of investment and growth were not only fulfilled but consistently overfulfilled, one is tempted to applaud and approve of that policy of forced growth. That may well be one's final verdict; but the short summary just given throws more light on the sunny than on the shady side of the picture. For an objective appraisal, one must also weigh all the undesirable side effects and long-run repercussions of the excessive encouragement of investment and of the consequent inflation.

In addition to the social injustice of inflationary financing just mentioned, another injustice created by inflation is the reduction of the real value of debt for both debtor and creditor, which in effect redistributes real wealth from creditor to debtor—an injustice not without advantages. Another and more important bad effect already mentioned was the very low, often negative real rate of interest on savings deposits brought about by inflation. That greatly reduced the attractiveness of bank deposits to depositors, and if it is true that Korea is now in mid-transition from a traditional to a modern society, then the absence of an attractive and reliable repository for personal savings may well be the main reason for the slowness with which the saving habit is taking root and spreading in Korea.

The low domestic saving rate was an important reason both for Korea's extensive foreign borrowing and for its inflationary policies; and the resulting inflation, in its turn, must have been an important reason why the saving rate failed to rise faster and farther than it did. In short, the policy of supplementing an inadequate supply of investible funds with inflation-induced involuntary financing created a vicious circle, because it perpetuated the situation (the low domestic saving rate) that called for inflationary policies in the first place.

The well-tried and well-proven remedy of preventing the fall in real rates by raising money rates of interest in step with the inflation rate was close at hand

and occasionally adopted; but since that amounted, in effect, to abandoning the whole policy of fast growth through forced capital accumulation, it was never kept very long. That alternation of inflationary with restrictive policies explains the great fluctuations in both the inflation rate and the real rate of interest, which, as mentioned earlier, may have been the root cause of the inadequacy of domestic saving.

Another undesirable effect of low and negative real rates of interest can be their supposed tendency to divert the savings of those with already well-established saving habits from more to less constructive uses. In Korea, however, that was probably not too important. The export of domestic savings (illegal in Korea) would be the most obvious form of such diversion; and it is believed to have been negligible. Another channel into which savings can be diverted is real estate, whose fast rising values throughout the period here considered must have rendered land and housing a very attractive inflation hedge. One must remember, however, that one person's spending on real estate is another person's receipt, so saving is misused only if real-estate speculation leads to excessive investment in residential construction. Investment in housing was much greater in Korea than in Taiwan, but so was the need for housing; it is very difficult therefore to assess the extent (if any) to which housing construction was excessive and prompted by people's desire for an inflation-proof repository for their savings.

Better known than the above, owing to the great political scandals connected with it, was the rechannelling of funds from banks into the unorganized credit market. Yet such rechannelling of funds seldom if ever constitutes a diversion of savings from more to less productive investment, although it can be a symptom of inefficient credit allocation in the organized credit market. That was the situation in Korea, where unduly low interest rates on bank deposits and bank loans swelled both the supply and demand for funds in the unorganized market. The reason for the first is obvious. The second happens because cheap bank loans create an excess demand for them, which must be rationed, and such rationing inevitably leads to the accommodation of some projects with low rates of return that crowd out some others with high profitability and forces them into the unorganized market. That is why a large unorganized market can be a sign of inefficiency in the organized market's allocation of investible funds.

It is desirable, of course, that every deserving project crowded out of organized markets by their inefficiency should be accommodated by the unorganized market; but to serve as a safety valve and so relieve the inefficiency perpetrated by the organized markets is not the only useful function of the curb market. Its other, equally useful function is to supplement the work of the organized credit market by providing small loans to small businessmen who are creditworthy but whose creditworthiness would be prohibitively expensive for large banks to investigate. Judgments of creditworthiness based on long-term personal contacts among relatives, friends, neighbors, and between small businessmen and equally small lenders or credit brokers who live nearby can be better than those based

on an expensive investigation by a bank's loan officer into the credit standing of an unknown applicant. As a retailer of small loans, the unorganized market operates more efficiently and more cheaply than the small-loans window of the most efficient large bank.³¹

Once one becomes aware of the distinction between those two functions of the curb market, one also realizes that the size of the curb market cannot, by itself, indicate the inefficiency of credit allocation in the organized credit market. Only the size of the safety-valve function of the curb market could serve as such an indicator and next to nothing is known about the relative importance of the safety-valve function and the small-loans function of Korea's curb market.

Informed guesses put the share of Korea's curb market at 40 percent at the most of the total volume of loans processed by the entire financial system. In Taiwan, where the Central Bank publishes annual estimates of the corresponding percentages, they have fallen from 41 percent in 1965 to 21 percent in 1972 and had risen again to 33 percent by 1979/80. The curb market is no more or not much more important in Korea than it is in Taiwan. The function of the curb market, however, is likely to be quite different in the two countries, with the safety-valve function predominating in Korea, the small-loans function predominating in Taiwan. There are three reasons for that assumption. First of all, in Korea there is direct and striking evidence of the inefficient rationing of bank loans, which implies a corresponding need for curb-market loans as a safety-valve. Export producers in Korea had automatic access, at a concessionary 6 percent per annum interest cost, to loans much above their needs, a part of which they were able to relend in the curb market at an interest of 24 to 30 percent per annum, giving export producers a subsidy amounting to 4.5 percent of the value of their exports.³²

Secondly, since Taiwan has very many more small firms than Korea, the small-loans function of its curb market is bound to be commensurately more important than the small-loans function of Korea's curb market. Finally, the difference seems to be reflected also by the very different attitude officials in the two countries have to their respective curb markets. While in Korea, the authorities are making efforts to starve the unorganized market of funds by attracting them into the banking system, in Taiwan their much more matter-of-fact attitude seems to imply recognition of the valuable function performed by that sector of the credit market.

³¹ The saving in processing cost, however, benefits the middlemen more than borrower and lender; and that, of course, is the objection to curb markets.

³² The estimate refers to 1968 and is quoted in Mason et al., 1980, p. 335.

THE OIL CRISIS

Social injustice, discouragement of domestic saving, reduced efficiency in the allocation of credit, and greater need of foreign loans were the main side effects of inflationary finance. For completeness' sake, however, one must add to the list the unfortunate tendency of inflation to engender inflationary expectations and so render inflation harder to contain and the economy more inflation-prone. The oil crises, for example, and the worldwide inflation they created, must have had much the same inflationary impact on Taiwan and Korea; their governments, when they fought inflation, fought it in the same way and with the same weapons, but Taiwan, thanks presumably to its greater past stability, accomplished more, faster and at lower cost.

The first oil-price increase led within a year (1974) to a 40 percent rise in the wholesale price index in both countries. Korea, interested in growth not stability, did nothing about it, allowing prices to rise another 40 percent the next year, but managing to step up the growth rate of its real GNP from an annual average of 9 percent in the early 1970s to an average 10.8 percent from 1975 to 1979.³³ Taiwan, putting stability first, raised interest rates and restricted credit; and while that slowed the growth of real GNP to 1.1 percent in 1974, it not only eliminated inflation but, by 1975, rolled prices back by 5 percent. From then on, Taiwan managed to keep inflation within reasonable limits while maintaining a 9.6 percent annual rate of real GNP growth between 1975 and 1981.

The second oil-price increase, coming on top of an already inflationary situation created by devaluation and the investment policy of the late 1970s (see below), again raised Korea's inflation rate to almost 40 percent by 1979; but by that time (after President Park's assassination), Korea's new government was as stability-minded as Taiwan's and mounted much the same restrictive policies with which Taiwan responded to the first oil-price increase. Indeed, Korea raised interest rates by 5 percent at the beginning of 1980, a more drastic tightening of the monetary screws than Taiwan's 3.5 interest-rate increase six years earlier. Moreover, investment in Korea was drastically cut down also by other means (for reasons to be explained), while Taiwan kept total investment up through an accelerated program of infrastructure investment. That is why real growth in Korea not only slowed, as in Taiwan, but became negative: GNP fell by 6.2 percent in 1980 and the unemployment rate went up from 3.8 percent to 5.2 percent. Nevertheless, the inflation rate came down only very gradually by Taiwanese (though not by Western) standards, to 20 to 25 percent in 1981 to

³³ Luck had something to do with that. Alone among the oil-importing countries, Korea saw its balance of payments improve at the time and as a result of the oil-price increase, because its construction industry won US\$2.5 billion worth of contracts in 1976, mainly from the oil countries. Construction has been Korea's main source of foreign-exchange earnings since then, the gross value of foreign contracts averaging US\$16 billion annually.

around 5 percent by 1982. Accordingly, if one measures the inflationary impact of the two oil-price increases on the two countries by the rise in wholesale prices over the two-year period following each oil shock, Korea's 80 and 65 percent increases in price levels clearly testify to a larger impact than Taiwan's 35 and 39 percent price increases.

CHANGES IN THE STRUCTURE OF MANUFACTURING OUTPUT

In the course of development, the structure of manufacturing shifted away from light industries toward heavy industries in both countries, and for much the same reasons (Table 5). Real wages were rising, causing light industrial products to become less competitive in world markets and to lose out against developing countries whose unskilled labor was cheaper. Moreover, the developed countries became increasingly protectionist, erecting import barriers, in the beginning primarily against textiles and shoes.

In Taiwan, most of the change in the composition of output came about as the result more of businessmen's reactions to changing prices and market conditions than of governmental policies. (Indeed, it is said that government, foreseeing increasing export difficulties at an early stage, advised the textile industry to reduce or abandon investment plans, but the industry ignored the advice and went ahead expanding capacity anyway.) Exceptions to that rule were the building up of the steel, shipbuilding, and petrochemical industries, all of which are state-owned. Hand in hand with the changing structure of Taiwan's manufactured output has gone a change also in the direction of its exports. Taiwan is increasingly exporting to developing countries and, as might be expected, the exports are mainly capital-intensive and skill-intensive manufactured products. It should also be mentioned that at the end of the 1970s, when the world depression started, investment in manufacturing capacity declined, but total investment and with it employment and the general level of activity continued to rise, thanks to greatly increased public investment in road, railroad, harbor construction, and other infrastructure projects.

In Korea, there was a similar shift toward the chemical and heavy industries, but its timing was different. As is apparent from Table 5, the development of heavy industries lagged behind Taiwan's but caught up with a sudden spurt at the end of the period; and the whole development must be attributed to deliberate government policies. For the differential terms of credit and rates of taxes, which the Korean government used for stimulating investment, gave it great power to influence also the direction of investment—and it used that power fully. Before investigating how and to what purpose it was used, it is well to remember that government is usually distrusted as the maker of investment decisions and to look at the reasons for such distrust.

Investment decisions must be based on predictions of future needs and availabilities; and politicians and civil servants need be no worse than businessmen at weighing all the information available for making the best predictions. People in government, however, are seldom affected quite so personally and profoundly by the outcome of their investment decisions as are businessmen, who

Table 5. -- Percentage Composition
of Manufactured Output

Year	Korea	Taiwan	Korea	Taiwan
	Food, beverages, and tobacco		Nonmetallic mineral products except petroleum and coal	
1960	19.3	44.5	9.2	7.2
1965	26.5	34.8	6.7	6.5
1971	24.6	20.9	6.0	4.5
1975	21.2	18.8	5.6	4.7
1979	16.5	13.0	5.8	3.9
	Textiles, clothing, and footwear		Basic metal products	
1960	28.6	14.9	2.4	3.1
1965	19.8	15.0	5.0	2.2
1971	17.5	18.0	4.7	2.9
1975	22.0	15.8	4.7	3.5
1979	19.6	15.5	7.9	6.7
	All light industry (including the above)		Machinery, equipment, and fabricated metal products	
1960	70.0	71.2	10.7	8.5
1965	61.8	51.2	11.5	13.3
1971	54.7	50.7	12.2	21.2
1975	51.6	46.7	16.3	23.7
1979	44.7	44.4	24.2	26.0
	Chemicals, petroleum, and coal		All heavy industry (sum of the above)	
1960	7.7	10.1	30.0	28.8
1965	15.0	17.4	38.2	39.8
1971	23.5	20.8	45.3	49.3
1975	21.8	21.3	48.4	53.3
1979	17.4	19.0	55.3	55.6

risk the profitability and often even the survival of their businesses, and who therefore are under greater and more immediate pressure to weigh their investments carefully. Moreover, central planners can too easily overrule and ignore businessmen's dissent, which puts official investment plans in danger of being too monolithic, too narrowly and confidently focused on what seemed best in the planners' judgment, with no or little allowance for mistakes and unforeseen changes in circumstances. By contrast, the sum of the independent investment decisions of many businessmen reflects both differences in judgments and differences in the degree of confidence individuals attach to their judgments, and

the outcome of such differences is greater dispersion of investments. It is as if the decisions based on the majority opinion had been cautiously hedged and insured against unexpected mishaps.

In Korean practice, however, potential dangers inherent in too much central control over investment were avoided most of the time, thanks to exceptionally able and intelligent planning. Only at the end of the 1970s did the Korean government make seriously mistaken investment decisions which would probably have been avoided under less tight governmental controls.

The initial Korean emphasis on investment in such light industries as food processing, textiles, clothing, and plywood, which were so very successful in expanding exports and providing employment for the unskilled throughout the 1960s, was gradually shifted toward investment in more capital-intensive as well as more skill-intensive products and industries by the end of the decade. Steel, chemicals, shipbuilding, construction, along with electronics, footwear, and the shift, within textiles, to sports clothing and other specialty and high quality items are the main examples. The reasoning behind the new investment policy seems to have been the desire to exploit Korea's comparative advantage in skilled labor, to defeat United States import restrictions by increasing the domestic value-added content in textile exports, to diversify exports, partly by stepping into the void created by Japan's diminishing competitiveness in some sectors and by the advanced countries' own reduced output of certain products for fear of industrial pollution, and to cater to Korea's own increased domestic demand, including the demand of its export industries for intermediate goods. Finally, defense considerations, prompted by the threatened withdrawal of American forces from Korea, also played a part.

Whatever its motivation, the new investment policy was successful. The fast annual growth (10.2 percent) of real GNP during the initial years (1965-71) of export promotion continued unabated at 10.1 percent during the next six years (1971-77); and exports, which paid for 53 percent of imports in 1965 and 60 percent of them in 1971, had risen fully to equal the value of imports in 1977. That achievement was all the more remarkable in view of the greatly increased price of oil, all of which Korea has to import.

Unfortunately, the gradual and successful shift toward greater capital and skill intensity was suddenly and greatly speeded up in 1977. At the very time when the incipient world depression led cautious businessmen in Taiwan to slow investment in manufacturing capacity, Korea's economic planners also abandoned their original investment plans as laid down in the Fourth Five-Year Plan; but they revised them upward by crowding into three years (1977-79) 80 percent of the total investment the plan had projected for five years, and concentrating most of it, also against the plan's original intentions, into the heavy industries. As a result, the share of investment in GNP rose from 29.4 percent in 1975 to 36.9 percent in 1977-79; and the combined share of metals, chemicals, intermediate products, machinery, transport equipment, and electronics in total investment rose from 48.2 percent to 78.9 percent.

To bring about so drastic and sudden a change in a private enterprise econ-

omy must have required tremendous governmental pressures and inducements, especially when one considers that most of that investment went into mammoth projects with productive capacities greatly in excess of domestic requirements at a time when export demand was not much in evidence. Today, with the benefit of hindsight, it is hard to understand what possible reasons could have been behind that investment program, which only led to trouble. For one thing, the great increase in investment activity raised wages and costs, thereby diminishing the competitiveness of Korean exports; for another, the cutting back of projected investments in the light industries created shortages, and the two together largely explain the reemergence, after 1977, of a trade deficit. Finally, all that investment in heavy industry created large new capacities in steel, shipbuilding, chemicals, automobiles, etc., much of which has remained greatly underutilized ever since. The most extreme example of those overambitious investments was the building of a large complex for the manufacture of atomic, thermo, and hydroelectric power-generating equipment, equipped with the most up-to-date computer-controlled machinery, having a capacity that is five times estimated domestic requirements, but with a present utilization rate of only 40 percent of that capacity.

Yet much of Korea's new heavy industry is highly competitive, thanks to the combination of modern technology with low labor costs. For example, Korea manages (as does Taiwan) to export steel to Japan, although Japan's own steel capacity is greatly underutilized, and both countries' shipyards are busier and have more orders than most other countries' shipyards. Indeed, the underutilization of manufacturing capacity is a worldwide phenomenon in the present global depression: Korea's problem is that many of its newly built plants seem condemned from the outset to indefinite underutilization.

KOREA'S NEW ECONOMIC POLICY: 1980-81

The mistakes of Korea's investment policy of the late 1970s were fully recognized as such by 1979, and the huge investment program was stopped in its tracks. In addition, a restrictive policy of high interest rates was instituted in January 1980. As a result, real investment, which had been rising uninterruptedly for 15 years, fell in 1980, leading to a reduction in real GNP—the first since the Korean War—and investment remained low in the following year. Inflation, however, continued, given a further impetus by the second oil crisis and also by the successive devaluations of 1980 with whose aid the authorities tried to restore the competitiveness of exports. The annual rate of inflation reached almost 40 percent in 1980; and it took two years of restrictive policies to bring it down to around 5 percent.

The sustained application of those restrictive policies and the policies instituted since the inflation has been brought under control all suggest that the new Korean regime of President Chun is determined to approach economic problems in a new spirit. The new policies include the offer of high real rates of interest on personal bank deposits, the elimination of the interest-rate differential

between ordinary loans and what used to be concessionary loans, the change in character of the latest (and fifth) Five-Year Plan from an obligatory to an indicative plan, and various measures (additional to the high interest rate on bank deposits) designed to starve the curb market of funds. They all seem to aim at making greater use of market incentives and the allocating function of market prices, and at relying on the organized financial market to stimulate domestic savings and channel funds to where rates of return are the highest. The government has also announced its intention to denationalize the banks as a means of increasing efficiency and cutting down favoritism in the allocation of loans.

Most of those changes bring Korea's approach to economic problems closer to Taiwan's; and they can only be welcomed, although the one last mentioned may create as many problems as it solves. In view of the economy's very great dependence on bank credit, the sale of the banks to private parties, presumably to the large conglomerates, would substantially and dangerously increase the latter's economic power and may merely substitute their favoritism for governmental favoritism—unless the bank debt of manufacturing businesses is substantially reduced and funded first and Korea's stock and bond markets are developed and expanded much beyond their present state.

PRESENT STATE AND FUTURE PROSPECTS

Up till now, the development of most developing countries hinged on their ability to exploit their comparative advantages and capture the gains from international specialization. World depression, however, breeds a spirit of protectionism, which can stifle international specialization; and that raises the question how the developing and newly industrializing countries will fare in today's world. Both Korea and Taiwan are poor in natural resources, but rich in the human resources of labor, labor skills, education, and ingenuity. They have no choice therefore but to depend heavily on foreign trade also in their further development. Furthermore, Korea has the additional problem of insufficient domestic saving and the need to borrow abroad if it is to continue to grow at a rate anywhere near its past growth rate. The world depression, however, which has brought so many countries to the brink of bankruptcy, is also rendering foreign borrowing more problematical.

The debt problem is easier to discuss and so may well be dealt with first. Korea has accumulated an external debt that, as a proportion of the GNP, is not only much higher than Taiwan's, but higher than that of most industrializing countries, and higher even than Mexico's (Table 6). Thanks, however, to Korea's very high export earnings, its debt-service ratio (interest payments and repayments of principal as a percentage of export earnings), is about average at 12.2 percent and considered to be reasonable. It certainly is very much lower than that of Mexico or Brazil. In view of that reasonable debt-service ratio, Korea's ability to borrow has not yet been impaired; but it probably depends crucially on its current and expected future ability to grow and to make its exports grow. Any judgment, therefore, that one may reach concerning Korea's

growth prospects will also serve as a judgment concerning Korea's prospective ability to borrow for the purpose of financing such growth.

Table 6.—The Burden of Foreign Public Debt
in 1980

	Debt outstanding as percentage of GNP	Debt service as percentage of export earnings
Korea	28.8	12.2
Taiwan ^a	12.1	4.2
Mexico	20.6	31.9
Brazil	16.4	34.0
All middle-income, oil-importing countries (average)	15.4	11.9

^aData refer to 1979.

In that respect, Taiwan has the very great advantage of a high domestic saving rate, which renders continued fast growth independent of foreign borrowing. As to Taiwan's and Korea's dependence on foreign trade, both are small enough and their exports diversified enough for changes in their exports to make no significant impact on world trade. The total exports of each are less than 1 percent of total world trade, which partly explains why both were able, even during the depressed 1979–81 period, to increase the value of their exports by almost 19 percent annually.

For the future, both countries are trying, first of all, to limit the growth of their import bill by various energy-conservation methods, by slowing the domestic development of such energy-intensive industries like non-ferrous metal refining, by joint investments in resource-rich countries to secure cheaper raw material supplies (e.g., aluminum), by off-shore prospecting for oil and gas (Taiwan), by the expansion and modernization of coal mining (Korea), and by greater reliance on nuclear power for electricity generation (Korea).

Furthermore, both countries are trying to expand exports; and their efforts are aimed at three targets. One is to recapture, through modernization, automation, and improved quality control, the competitiveness of their light industries, which was lost owing to the rise in wages, and the two countries are trying to accomplish that in diametrically opposite ways. The Korean government seems to be repenting its past excessive favoritism toward large firms and is now stressing financial and managerial assistance to small- and medium-sized firms through such agencies as the Small and Medium Industry Promotion Corporation and the Korea Production Technology Service Corporation. Taiwan, on the other hand, is now discovering the benefits to be had from the economies of scale and is encouraging mergers and the growth of very small firms in the interests of greater efficiency.

Textiles is one industry that is receiving a lot of attention; and it is hoped not only to lower costs by modernizing and automating productive methods, but also to improve quality through more sophisticated design and better dyeing techniques. Quality improvement is especially important, because import restrictions are a response mostly to price competition, very seldom to quality competition. Another industry whose exports Korea plans to expand is the one producing nuts, bolts, and other machinery parts and components (spare parts). They seem to be superior in quality to American products; and Korea hopes to increase their export partly through production in joint United States-Korean ventures, again an area where imports are unlikely to be restricted.

Another important aim of both countries is to compensate for the lost comparative advantage of their light industries (once based on cheap manpower) by gaining a comparative advantage in electronics and other emerging industries based on cheap brainpower. In the past, both countries have been heavily engaged in the assembly of consumer electronics: they are now shifting and trying to shift into the production of semiconductors, large-scale integrated circuits, computer terminals, microcomputers, electronic switching systems, and telecommunications equipment, much of which they need for automation in their own industries, as well as for export. Electronics being a new industry has the advantage of a rapidly growing market, which is unlikely to be protected by import restriction; but it also has the disadvantage that its established members are reluctant to license their know-how and permit its spread to competitors and foreign countries. Partly to deal with that problem, both Taiwan and Korea are soliciting more direct investment from abroad, with Korea allowing multinational companies to set up wholly-owned subsidiaries; and both countries are increasing public and encouraging private expenditures on research and development. In that respect, Korea is ahead of Taiwan, thanks principally to the size of many of her manufacturing firms, more than 50 of which already have their own research and development institutes. Plans are for total research and development expenditures to rise, in Korea by 12 percent per annum to 2 percent of the GNP in 1986; in Taiwan, to rise 15 percent per annum to 1.2 percent of the GNP in 1985. (United States expenditures on research and development were 2.3 percent of GNP in the late 1970s.)

Brainpower in both countries is very cheap. Young electronics engineers earn one-half or less of what their counterparts earn in Japan, who in turn again earn only one-half of what they would get in the United States. The supply is plentiful in both Taiwan and Korea, thanks to the importance they attach to education. Taiwan graduates 50 percent more engineers in proportion to its population than does the United States, and while most of them used to emigrate to the United States, nowadays they increasingly find challenging and promising jobs at home. Korea's engineers are trained in a number of institutes of science and technology, which are largely manned by a United States-trained faculty paid competitive salaries which they supplement by consulting for private industry. Both countries, however, have ambitious plans to upgrade their educational systems and put more emphasis on scientific and

technical training—especially Korea, which plans to extend compulsory education through senior high school, establish 93 new technical high schools and 20 new junior colleges, and increase public spending on education from 3 percent of the GNP in 1980 to 5 percent by 1986.³⁴

In addition to the two countries' efforts to revive their light exports and establish a comparative advantage in the newly emerging high technology industries, Korea's new export drive also had a third target in the developing countries' need for intermediate and capital goods, heavy equipment, and manufacturing and infrastructural facilities. That part of import demand, far from being restricted by the new protectionism, is enhanced by it. The two countries' cost advantage in heavy industry has been demonstrated by the export successes of their steel and shipbuilding industries, and they are well equipped to cater to demand for heavy equipment from later developing countries. Korea is especially well placed for capturing such demand with its newly built and still underemployed heavy industries, its large construction industry whose reputation abroad is well established, and the worldwide presence of its trading companies.

The one ingredient Korea lacks for exports of this type is the ability to grant large, long-term export credits on favorable terms, and one of the main uses to which it hopes to put a part (estimated at 12.5 percent) of the funds it expects to borrow in international credit markets is to relend them as export credits to developing countries that become customers.

In this section an attempt has been made to rationalize the two countries' projected and hoped for export drives, as they are spelled out in Korea's Five-Year Plan for 1982–86 and Taiwan's Four-Year Plan for 1982–85. The rates at which they expect their respective GNP and exports to grow are almost identical; they count on their exports to continue expanding as fast as they did during the past three years (1979–81); and both of them plan to stick with their outward-looking policies and rely on further export expansion to lead the growth of their economies.

CITATIONS

- H. E. Arndt, 1982. "Two Kinds of Credit Rationing." *Banca Nazionale del Lavoro Quarterly Review*. No. 143. December.
- Bela Balassa and Associates, 1982. *Development Strategies in Semi-Industrial Economies*. World Bank Research Publication. Johns Hopkins University Press. Baltimore, Maryland.
- S. H. Ban, P. Y. Moon, and D. H. Perkins, 1980. *Rural Development: Studies in the Modernization of the Republic of Korea: 1945–1975*. Harvard University Press. Cambridge, Massachusetts.
- Bank of Korea, 1982. *Financial Statements Analysis for 1981*. Seoul, Korea.

³⁴ Taiwan spent 3.9 percent of the GNP on education in 1980, and the United States 5.2 percent.

- International Labour Organization, 1983. *International Yearbook of Labour Statistics*. Geneva.
- Kwang Suk Kim and Michael Roemer, 1979. *Growth and Structural Transformation: Studies in the Modernization of the Republic of Korea: 1945-1975*. Harvard University Press. Cambridge, Massachusetts.
- Korea, various years. *Korea Statistical Yearbooks*. Seoul, Korea.
- Anne O. Krueger, 1979. *The Development Role of the Foreign Sector and Aid: Studies in the Modernization of the Republic of Korea: 1945-1975*. Harvard University Press. Cambridge, Massachusetts.
- S. W. Y. Kuo, G. Ranis, and J. C. H. Fei, 1981. *The Taiwan Success Story: Rapid Growth with Improved Distribution in the Republic of China, 1952-1979*. Westview Press. Boulder, Colorado.
- Hans Linnemann, 1966. *An Economic Study of International Trade Flows*. North-Holland Publishing Company. Amsterdam, Holland.
- I. M. D. Little, 1979. "An Economic Reconnaissance." In W. Galenson, ed., *Economic Growth and Structural Change in Taiwan*. Cornell University Press. Ithaca, New York.
- _____, 1981. "The Experience and Causes of Rapid Labour-Intensive Development in Korea, Taiwan Province, Hong Kong and Singapore; And the Possibilities of Emulation." In Eddy Lee, ed., *Export-Led Industrialization and Development*. International Labour Organization. Singapore.
- E. S. Mason et al., 1980. *The Economic and Social Modernization of the Republic of Korea*. Harvard University Press. Cambridge, Massachusetts.
- Jayati Datta Mitra, 1981. Review of Anne O. Krueger, *The Development Role of the Foreign Sector and Aid Studies in the Modernization of the Republic of Korea: 1945-1975*. In *Economic Development and Cultural Change*, Vol. 30.
- F. Modigliani and R. Brumberg, 1954. "Utility Analysis and the Consumption Function: An Interpretation of Cross-Section Data." In K. K. Kurihara, ed., *Post-Keynesian Economics*. Rutgers University Press. New Brunswick.
- Chon Kee Park, ed., 1980. *Human Resources and Social Development in Korea*. Korea Development Institute. Seoul, Korea.
- Yung Chul Park, 1981. "Export-Led Development: The Korean Experience 1960-78." In Eddy Lee, ed., *Export-Led Industrialization and Development*. International Labour Office. Singapore.
- M. Scott, 1979. *Foreign Trade*. In W. Galenson, *Economic Growth and Structural Change in Taiwan*. Cornell University Press. Ithaca, New York.
- M. Shinohara, 1982. *Industrial Growth, Trade, and Dynamic Patterns in the Japanese Economy*. University of Tokyo Press. Tokyo.
- Taiwan, 1976. *The Report of 1976 Industrial and Commercial Censuses of Taiwan-Fukien District of the Republic of China*. Vol. III, Book I. Taipei.
- The Economist*, 1982. 14-20 August. London.
- World Bank, 1982. *World Development Report 1982*. Washington, D.C.