

# Industrial Japan in the Future: The Third Wave?

By Nobuyoshi Namiki

The Japanese economy achieved spectacularly high growth after World War II. It also did extremely well in adjusting to the two oil crises. However, the sharp depreciation of the yen in the second half of 1982 caused some observers to hastily conclude that problems have arisen with the fundamentals of the Japanese economy.

Is it possible that the Japanese economy, which has performed so remarkably well in the past, can have deteriorated so rapidly? The way in which one assesses economic fundamentals is not only a matter of how one perceives the present state of the Japanese economy, but also has a great bearing on medium- and long-range projections of the Japanese economy and society. In order to find out if the fundamentals of the Japanese economy have actually changed or not, they must be examined in relation to the international economic environment.

This article will analyze the Japanese economy by taking the following subjects in order: (1) the real reasons behind Japan's high economic growth, (2) the factors which made it possible for Japan to adjust smoothly to the effects of the two oil crises and the reasons why Japanese economic fundamentals appear to have deteriorated, and (3) Japan's options and a vision of the future of Japanese industrial society.

## Real Reasons Behind Japan's High Economic Growth

Japan's high economic growth from the start of the 1960s through to the first oil crisis of 1973 was truly remarkable. However, Japan was not the only country that enjoyed high economic growth during this time. The world economy as a whole expanded rapidly throughout the 1960s. The industrially advanced countries recorded average growth of slightly over 5% in the 1960s and nearly 4% in the 1970s as against 2.7% between 1870 and 1913 and 1.9% between 1913 and 1950. Their growth rate in the 1980s is expected to be of the order of 2%.

Why did the world economy grow at such a rapid pace? The reason was simple. It was because of the exceptionally strong stimulus of the third upsurge of technological innovation. The third surge of innovation started around 1940 and was the greatest in history. Its achievements included nuclear energy, the jet engine, rockets, antibiotics, synthetic fiber, plastics, computers and electronics, software and systems technology such as operations research, and automation technology. This third round of innovation exerted its strongest stimulus on the growth of the world economy in the 1960s. Its diminishing stimulus in the 1970s coupled with the oil crises that rocked the world twice during the decade, reduced the world economy's growth rate to slightly below 4%. The stimulus of this wave of innovation is expected to weaken still further in the 1980s, and the global economic growth rate is projected to drop to 2%, partly due to the unpredictability of the energy situation.

In order to pinpoint the reasons for Japan's high economic growth in the 1960s, we must go back to the second round of technological innovation. This refers to the series of advances made in the period covering the latter half of the 19th century and the early 20th century and includes (1) the inauguration of telegraph and telephone communications, (2) the development of electric appliances and heavy electric machinery following on Edison's invention of the electric light, (3) the development of synthetic chemistry beginning with synthetic dyestuffs developed by the Germans, and (4) the development of the internal combustion engine, automobiles and aircraft.

Before World War II, Japan tried to absorb the second wave of technological innovation, but did not succeed in fully assimilating the technology related to electric machinery (particularly electric home appliances) and automobiles. Accordingly, it was only after World War II that Japan finally mastered the nucleus of the second wave, which J.A. Schumpeter called the age of electric machinery and automobiles, simultaneous with the third round that followed. Japanese industry

thus had much more to accomplish after World War II than did its American and European counterparts. It was therefore quite natural for Japan to achieve a growth rate in excess of 10% annually, double the world average. The reason for Japan's extremely high growth in the 1960s was the same as that behind the high economic growth of the NICs (newly industrialized countries) since the 1970s.

Incidentally, the first round of technological innovation spanned the second half of the 18th century through the early 19th century. This was the Industrial Revolution in England which gave birth to textile machinery, the steam engine, pumps, machine tools, iron and railways. Japan imported the fruits of the Industrial Revolution under the Meiji (1868-1912) Government's policy of building up industry.

It was only after the start of the 20th century that the Japanese "invented" the lifelong employment system, the seniority advancement system, and the enterprise union system, which are widely regarded to be the "three sacred treasures" of Japanese management-labor relations. The history of these three systems is therefore short, and the lifelong employment and seniority systems will inevitably undergo some changes in the future.

## Adjustment to the Oil Crises: Why Japan's Economic Fundamentals Seem Slack

In the early 1970s, Japan committed two grave policy errors. One was the policy of the monetary authorities in increasing liquidity excessively at the time of the 1971 Nixon Shock. The other was the failure of the 1972 policy for remodeling the Japanese archipelago. In the first case, the Bank of Japan sowed the seeds of inflation by using yen profusely to buy up dollars in an effort to forestall the upward revaluation of the yen. In the latter case, the government's policy of promoting regional development fueled inflation. The mistake on the part of the monetary authorities was failure to realize that

Japanese industry had acquired sufficient international competitiveness to withstand a higher yen, and that Japan's currency should in fact have been revalued.

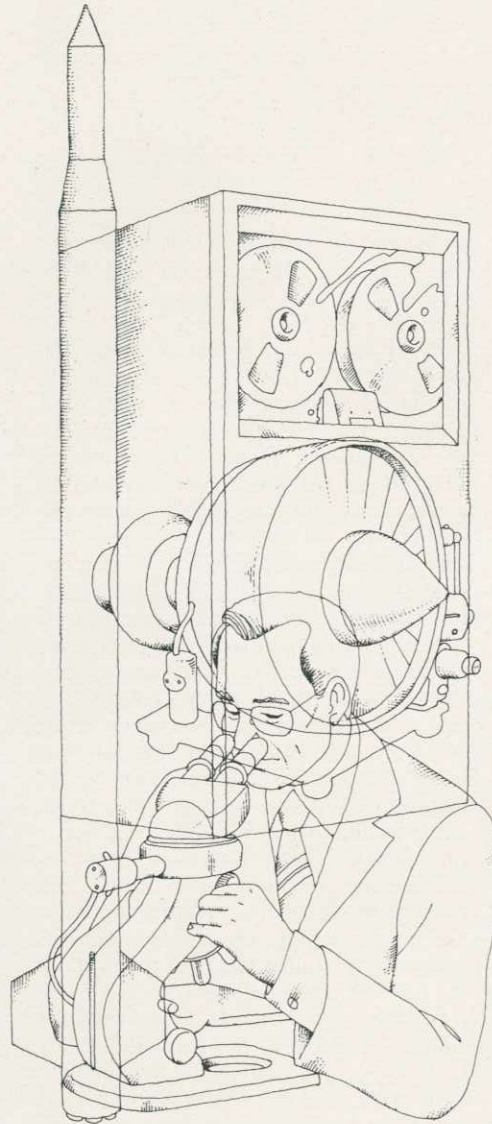
The first oil crisis rocked the world in October 1973, shortly after the bankruptcy of the policy to remodel the Japanese archipelago. Hit hard by the oil shock, the Japanese economy plunged into the worst inflation in the world.

Though plagued by galloping inflation, Japan was the first country to recover from the effects of the oil crisis. Japanese government and Bank of Japan economists (and naturally American and European economists as well) who are captives of current economic theory attribute Japan's quick recovery to the superiority of the Japanese government's gross national demand control policy. With the tools of analysis at their disposal, this is the only conclusion they can draw. In short, they cannot see through to the truth of Japan's economy. If they were asked to explain in what way the Japanese government's policy was superior to those of the U.S. and European countries, they would be at a loss for an answer. They would probably reply, "Judging from the end result, that is the only conclusion that can be drawn."

In this writer's view, there was not much difference between the policies taken by the governments of Japan, the U.S. and the European countries. I cannot but conclude that the difference in performance has been due to a difference in the patterns of social reaction between Japan on the one side and the U.S. and European countries on the other.

At the time of the first oil crisis, Japanese enterprises tried to check the rise of prices even at the cost of their profits. With inflation checked, it became possible to restrain the annual wage hike in the spring of 1975, thus stabilizing wages. No country in the West saw such a drastic drop in corporate profits as did Japan. In fact, in the United States corporate profits actually increased.

What was behind this difference in social reaction? The answer lies in the deep influence of Confucian ethics on Japanese society. The management of big



businesses conformed to the Confucian precept that a ruler should seek his own pleasure only after the people have been made happy. They reasoned that if society can be kept harmonious and orderly, it is worthwhile to cut corporate profits, a move that would not cause human sacrifice. They also reasoned that they should not slash wages because that would hurt the people. Herein lies the big difference between the stances taken by Japanese corporate managers and their American counterparts in tiding over a crisis. Japan's early recovery was not due to the superiority of Japanese government policy.

It should also be noted that even in Japan, small- and medium-enterprises did not hesitate to seize this once-in-a-lifetime opportunity to increase their earnings. Their reaction may have only been natural

given their relatively weak financial position. Nevertheless, Japanese enterprise as a whole suffered from a drastic decrease in earnings.

What, then, explains the difference in economic performance between Japan and the Western countries after the second oil shock?

That there was a difference is self-evident with respect to the rates of growth and inflation. The average economic growth rate of the OECD (Organization for Economic Cooperation and Development) countries in 1980, 1981 and 1982 was 1%. It will probably be 0% in 1983. In contrast, Japan's economic growth rate was 3.7% in fiscal 1980, 2.8% in 1981, and will likely be around 2.3% in fiscal 1982. In terms of economic growth, Japan outdistanced Western countries by slightly more than 2%. Where did this 2% difference come from?

Similarly, as regards wholesale prices, Japan recorded a double-digit increase for two successive years—12.9% in fiscal 1979 and 13.3% in fiscal 1980. After two years in double digits, the rate of increase fell to 1.2% in fiscal 1981. It was projected to remain around 1-2% in fiscal 1982. But while inflation was being gradually brought under control in Japan, wholesale prices in the U.S. rose 12.6%, 14.1% and 9.2% in 1979, 1980 and 1981 respectively. Although the rate of increase in wholesale prices slowed to single digits in 1981, American consumer prices rose 10.4% the same year. So it may well be said that in effect prices in the U.S. increase at a double-digit rate for three years in a row. Although the U.S. succeeded in containing inflation within single digits in 1982, this was only achieved by sacrificing the actual economic growth rate, which dipped to a negative 1.6%. The United Kingdom also succeeded in containing price rises to single-digit levels in 1982, after suffering from double-digit increases for three years in a row, while France suffered from double-digit inflation for four successive years until 1982. It was the same story in Italy.

What causes these differences in economic growth and inflation rates between Japan and other countries? Before

answering this question, let us look at Japan's international payments position. Although it is likely that Japan will record a surplus in the current account balance in fiscal 1982 (ending March 31, 1983) a deficit is expected in the overall balance in fiscal 1982 because of huge deficits in the long-term capital balance due to high money rates in the U.S. It should now be clear to the reader, having read this far, that U.S. Treasury Secretary Donald Regan's statement attributing the depreciation of the yen to the weak fundamentals of the Japanese economy stems from a mistaken view of the economic situation in Japan and the United States.

Now, the explanation for Japan's relatively high economic growth and rapid stabilization of prices lies in the two following structurally flexible aspects of Japanese society.

One is the mechanism of domination by middle echelon leaders while the other is inter-group dynamics. The reader is enjoined to note that both these factors are non-economic. In other words, non-economic factors to which economists do not direct their attention are essential to explaining the real reasons for Japan's economic performance.

The mechanism of domination by middle echelon leaders means that it is not the top executives but the middle echelon leaders who firmly control the members of a Japanese organization. On the occasion of the second oil crisis, in contrast to the first, it was not profits but wages which were constrained in order to adjust to the effects of higher oil prices. Corporate managers did not think the crisis would be so serious, the second time around, and believed they could manage without curtailing profits. They believed rather that it was a time to increase profits, make capital investments, raise productivity and bolster their competitiveness. With corporate managers reaching such a conclusion, it became the turn of workers to shoulder the cost of adjustment. This explains why workers were unable to win any gains in real wages with their 1980 spring wage offensive. As a consequence, as stated earlier, inflation cooled rapidly in fiscal 1980-81. (At the same time, however,

household consumption had to be held in check, and its continued stagnation is one reason for the present slow economic recovery.)

What made it possible to force the workers to shoulder the cost of adjusting to the oil crisis was the fact that labor union executives—who in Japan fall into the category of middle echelon leaders—firmly control the union membership and are thus able to be flexible when negotiating with management. It is probably very difficult for labor leaders in other advanced countries to take the flexible positions available to Japanese union leaders.

The philosophy of groupism in Japan is not to unite in one big harmonious group. Rather, inter-group dynamics refers to the fact that Japanese society is made up of small groups in competition against each other. This feature of society explains the vigorous investment in plant and equipment in Japan after 1978. It is a mistake to think that in Japan innovation motivates an increase in capital investment. The main reason for capital investment is competition among big corporations. All steel companies installed facilities for producing oil well pipes, and now there is overproduction in this field. Similarly, the capital investment by the automobile industry was not particularly intended for innovation. Today, there is a rush to get into robot production, the value of which, it is said, will reach ¥590 billion in 1990. This is an underestimate; it will probably be much more. The major corporations will compete fiercely with each other to invest in the field.

In contrast, plant investment by medium and small enterprises is closely related to personal consumption. Because of the stagnation of personal consumption since 1980, their investment, too, has been sluggish.

Capital investment by big corporations results in an expansion of supply capacity. Expansion of supply results in the ability to export more. This increase in supply capacity made it possible for Japan's real exports on a national income statistics base to increase in fiscal 1980 by 17% and in 1981 by 16%. This explains the more than 2% difference in economic growth

rates between Japan and the other advanced countries.

What, then, is the explanation for the sluggishness of Japanese exports in 1982? As stated earlier, it is expected that the growth rate of the OECD countries as a whole will fall to 0% this year. This will affect Japan's exports, probably resulting in negative growth. Statistics on customs-cleared exports show the exports have been below the year-before monthly figures for every month since February, 1982.

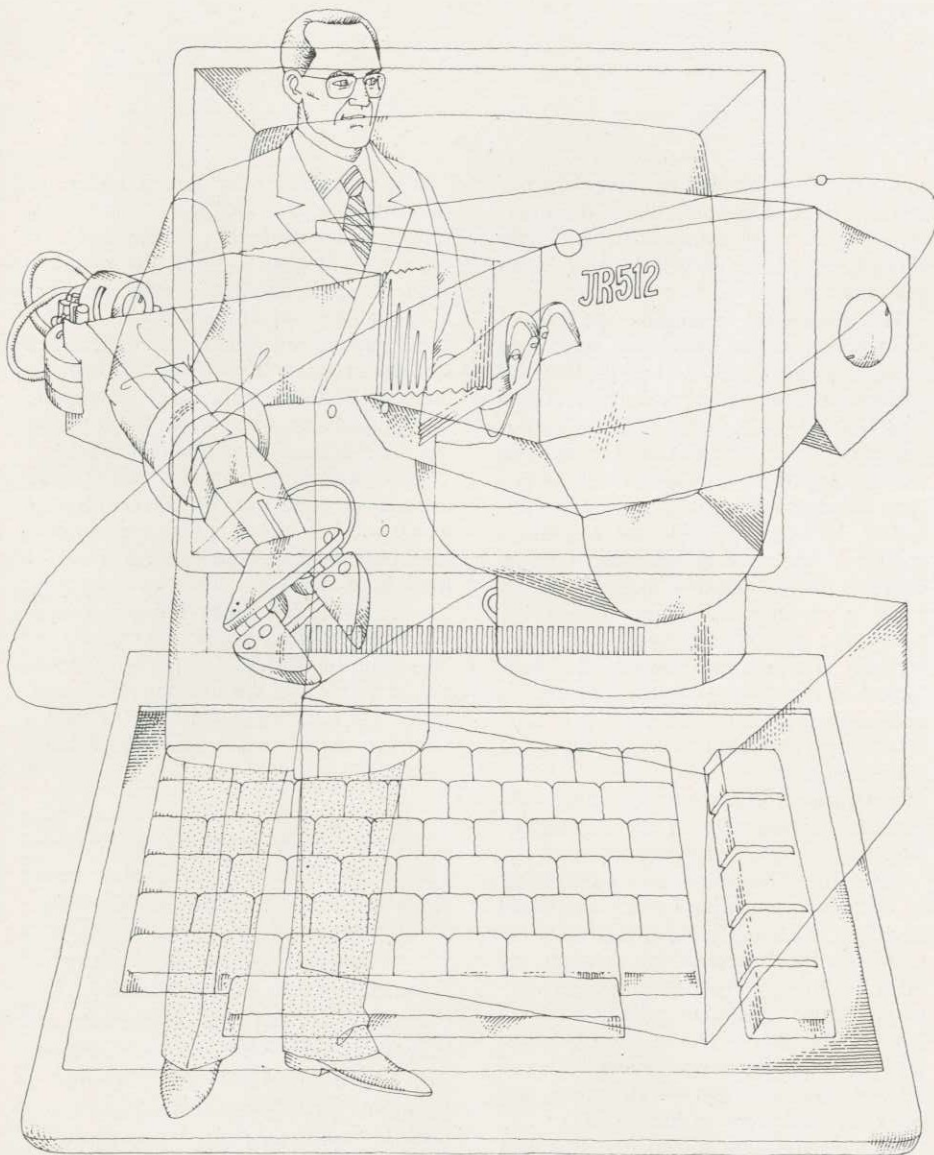
Interestingly enough, West German exports began to record decreases on year-before figures about half a year after Japan's export slide started. This difference is significant. The yen's exchange rate depreciates not because Japan's exports are sluggish, but rather the other way around. Japanese corporations are realizing enough profit from the present volume of exports because the yen's exchange rate is so low. Therefore they are not making much effort to expand exports.

Inventory adjustments have probably been going on in earnest all over the world last year. What would happen in such a situation if Japanese companies should try to clear their overseas inventories by offering bargain prices? It would cause a major disruption in world markets. Aware of this, Japanese companies are not resorting to bargain sales but instead are simply waiting patiently for the situation to improve. They are able to do this because the cheap yen is helping them to post sufficient profits. West Germany has launched an export drive because her economic environment is different from that of Japan.

The above analysis shows that there are no grounds for thinking that Japan's economic fundamentals are in bad shape.

## **Japanese Industrial Society in the Future**

In 1960 Japan entered an era of liberalization. Trade liberalization and liberalization of direct investment were virtually complete by the time the first oil crisis rocked the country. Meanwhile, the manufacturing industries undertook to ration-



alize and modernize their production processes in earnest starting in the early 1950s. It is generally believed that they had all but caught up with their counterparts in the U.S. and Europe by around 1970.

The rationalization and modernization of tertiary industry got into full swing in the 1960s, primarily through the introduction of supermarkets which brought about the so-called distribution revolution. Discount stores expanded, but only for a limited range of merchandise, such as cameras and eyeglasses. Subsequently, every kind of store, including the box store, appeared on the Japanese consumer scene. Supermarkets have grown so much

that some have even entered the department store business.

Around 1970 this wave of rationalization and modernization in the tertiary sector spread from distribution to leisure-related industries such as hotels and bowling alleys, and into the food catering industry, thus running its full course. Meanwhile, the rationalization and modernization of service industries related to manufacturing progressed at almost the same pace as that of the manufacturing industry itself. Particularly noteworthy in this connection has been the emergence and expansion of the leasing business in recent years.

Having developed in this way, what course will Japanese industry follow throughout the rest of the 1980s and beyond?

In considering the future development of Japanese industry, it is important to ask if there is anything pertinent to Japan in the theories advanced by Alvin Toffler in *The Third Wave* and by Daniel Bell in his theories on post-industrial society?

Stating my conclusion first, I would say that these concepts of American origin have hardly any relevance to considerations on the future of Japan. Although the ideas advanced by Toffler and Bell are very popular in Japan (I don't know whether they are as popular in the U.S.), they probably are irrelevant, not only to Japan but also to almost any other country.

First of all, what is Toffler's Third Wave? The First Wave as defined by Karl Jaspers refers to the period of spiritual revolution which man went through from the 10th century BC to the 2nd century BC. This was the period that saw the emergence in China of Confucianism and the numerous academic schools of the Warring Period, in India of Brahmanism, Jainism and Buddhism, and in the Middle East of Zoroastrianism, as well as of the prophets of the Old Testament and the Greek classic philosophers. In many respects, the level of our spiritual culture today falls short of that of the First Wave.

The Second Wave refers to the changes that took place in the course of the industrialization of society after the 18th century. It embraces the three major technological innovations that I mentioned earlier. The problem today is whether or not the fourth wave of technological innovation will take place. Of the technologies that emerged in the third surge of innovation, only electronics will continue to possess the capacity to stimulate economic growth in the future. To be more precise, this will be the "mechatronics" of which so much is heard today. The stimulative efficacy of the other technologies has already passed its peak. Technologies related to the life sciences, fine ceramics and energy will not provide a strong enough growth stimulus, at least not in the 1980s, to take over. Even if they are developed

further, they are not of themselves substantial enough to constitute the fourth upsurge of technological innovation. Toffler says that the Third Wave will be triggered by the entry of computer terminals into the home. This development is, in fact, nothing but a ripple in the third surge of technological innovation of the Second Wave. It is so trifling that it cannot possibly qualify as the fourth round of technological innovation, and the assertion that it does is a misconception which could have been avoided by studying history.

Similarly, Daniel Bell's theory is mistaken. V. R. Fuchs, in his book *The Service Economy* (1968), argued that the emergence of the tertiary industry is a phenomenon that concerns the composition of labor and not real production. He arrived at this conclusion after analyzing American society over the preceding 40 years. His opinion was that a slow rise in productivity and increased use of part-time workers caused the component ratio of tertiary industry workers in the total labor force to rise. In my view, the development of tertiary industry progresses in relation to actual production. Recent statistics show, for example, that the expansion of secondary industry leads to the expansion of tertiary industry. When a company in secondary industry expands, it often separates its sales, credit, investigation and research, and/or transportation divisions into independent companies. Statistically, this process shows up as expansion of tertiary industry.

Did Bell give any thought to this phenomenon? He does not appear to have made any such analysis in formulating his post-industrial society theory. He prophesied that in American society the universities and research organs, not the government or big manufacturing enterprises, would be central to the management of American society. In short, he believed that the institutions of which he was a member would become the standard-bearers of the future. At the start of the 1960s, when Bell conceived this idea, the American manufacturing industry possessed overwhelming strength. Being a sociologist, Bell must have thought that secondary

industry would be able to solve its problems by itself. Looking only at the situation in his own country, he probably thought that secondary industry had no real problems.

However, when we consider the realities of America in the 1980s, we must conclude that Bell's theory of post-industrial society was nothing but an illusion. As the American manufacturing industry's competitiveness wanes in the face of international competition, the growth of American tertiary industry is inevitably impeded. It is not possible for a nation's economy to develop soundly on the strength of its tertiary industry alone. Only when the secondary industry is sound and healthy can the tertiary industry also sustain sound growth. It is now historical fact that American universities and research organs were unable to write an effective prescription to cure the ailing Chrysler Corp.

If we grasp the problem correctly in this manner, it is easy for us to visualize the future of Japanese industry.

First, the robotization and automation of manufacturing will progress at a rapid pace. At the same time, the popularization of office automation through the introduction of computers and other electronic office machines will also reduce labor tremendously in the tertiary industry. The employment problem will become serious as a result, and working hours will be reduced in order to solve it.

At the same time, in order to stimulate consumer demand, vigorous efforts will have to be made to create new products. However, the expected decline in the ability of the third round of technological innovation to stimulate economic growth will make this difficult to achieve. If labor saving in production processes goes ahead while the development of new products makes little headway, a serious employment problem will arise. One might then argue that one way out is to slow the tempo of automation. But in view of the increasing competition from NICs, Japan has no other option but to keep up the pace. The U.S. and European countries too have no alternative but to automate and to shorten working hours.

If China and India should undertake the full-scale introduction of industrial robots and automation in the mid-21st century, will they be able to maintain domestic political and social stability? What will become of the economies of the U.S., Europe and Japan, that will have to buy the products turned out by these two countries? And in that event, what kind of philosophy will be needed for conducting international economic relations?

The possibility is very strong that around the middle of the 21st century the world will be confronted by a monumental problem of this kind that will affect the history of mankind. That is when man may enter the real Third Wave, a composite of the spiritual revolution of the First Wave and the societal industrialization of the Second Wave. We must take this possibility into account if we hope to gain a concrete vision of the future of Japan's industrial society. ●

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