

JAPAN ECONOMIC CURRENTS

A COMMENTARY ON ECONOMIC AND BUSINESS TRENDS

Japan's Latent Strength: A Country Based on Science and Technology

by Toru Omuta, Asahi Shimbun

Japan's economy continues in torment. Whatever happened to the Japan whose vigor overwhelmed the world during the 1980s? Today, the image of a ne'er-do-well who drags on the global economy has become firmly fixed in the public mind.

Ever since the self-reflection and despair of the 90s gripped the nation, Japan's non-performing loans and fiscal deficits have become widely known, both at home and abroad. Many short-term prescriptions for Japan's economic rehabilitation have been proposed. But because they bring huge pain, resistance is considerable. Unfortunately, this will take time.

Does Japan's economy have no alternative but to continue losing its place? Not necessarily – just as

Japan rebuilt itself from scorched earth into a leading world economic power after World War II, out of the despair following upon the bursting of the bubble, one can feel the quickening of economic rebirth. Indeed, a national consensus is forming, quietly but steadily, that Japan should regain its proper position through its strength in science and technology.

In February of this year the American Council for an Energy-Efficient Economy (ACEEE), a non-profit environmental group, published its ratings of some 3,300 vehicles sold in the US. Of the top-scoring 12 vehicle types ranked in terms of fuel efficiency, exhaust gases, and environmental load created during the manufacturing process, 10 were Japanese.

Japan's Auto Sector

Ranked highest in the ACEEE survey were Honda and Toyota's electric cars and hybrids (vehicles powered both by gasoline engines and electric motors which complement each other under varying usage circumstances).

Even during the 1990s, while the speed of Japan's economy decelerated, Honda and Toyota recognized

that in this era of the public concern about the environment, it was wise to continue to investing substantial funds in research and development. And, what with the severe exhaust gas restrictions in California and the rise of environmental awareness in Europe, the understanding that Japan must seize the leadership in the global automotive market had already penetrated the minds of the top management in Japanese auto companies.

Market leaders must not only pay attention to what is being done by other manufacturers, but pave the road. During Japan's post-war period of robust economic growth, a substantial number of Japanese companies were able to expand their businesses with only a second-tier strategy – simply proceeding on tracks already established by their competitors in Japan and elsewhere. But Honda and Toyota set their sights higher than this second-tier strategy.

As long as three years ago, a senior Toyota executive dared to refute conventional wisdom about whether fuel cell cars – widely considered to be next R&D generation of the Big Three US automakers (including Daimler Chrysler) –

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would dominate the market. Rather, he said, the future may very well lie in hybrid cars.

Japan's Robotics Sector

As for robotic technology, there are many Japanese corporations that deserve attention. AIBO, Sony's robotic dog became a hit around the globe. SDR-4X, Sony's newest humanoid robot which dances and sings, will go on sale late this year. And just last month, ASIMO, Honda's two-legged humanoid robot, rang the bell at the New York Stock Exchange to signal the start of trading. Last year, Omron marketed NeCoRo, a cat-like robot.

The key to the increasing popularity and successive launches of robotic products in Japan lies in its culture. One wildly popular character is Atom Boy, a heroic humanoid robot born in the year 2003. Atom Boy is the brainchild of the late Osamu Tezuka, who was a giant in Japan's comic/animation world. Another famous TV animation, Doraemon, broadcast throughout the world, is a story about children and a cat-like robot that comes from the future.

But beyond cute comic characters, robotics play an essential commercial role in Japan. In automated factories across the country, industrial robots are not monsters that put humans out of work, but rather blend in on the factory floor and are even sometimes given affectionate nicknames as quasi-colleagues.

Indeed, when asked about the inspiration of AIBO, the robot's chief Sony engineer said, "We wanted to make something useless." After the collapse of the bubble economy, in a Japan in which consumer spending had become depressed, such whimsy was probably needed in order to cultivate a market for new merchandise.

Japanese companies systematically apply the technical know-how that has developed out of their core work to the practical use of robotics. Examples are readily apparent –

consider Sony's integrated circuit technology, Honda's motor system-atically, and Omron's various sensor technologies. The launch of robotic products did not happen just by chance. Robotics themselves create new markets, being fed back into products incorporating artificial intelligence or high tech sensors, with the aim of achieving "invisible robotization."

Japan's Nano Technology Sector

Japan is ahead of the pack in the field of nano technology – the microscopic processing technology for a nano world ranging from several atoms to several thousand atoms. Carbon nanotubes (carbon atoms forming minute tubes), were discovered by NEC's Sumio Iijima, a special senior researcher who was awarded this year's Benjamin Franklin Medal in Physics.

In promoting nano technology, a cooperative system, rare in Japan, is being forged between government, industry and academia. But how do those recent technological developments and government efforts encourage Japan to better develop its

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science and technology correlate with one another?

The ratio of Japan's science and technology research expenditures to GDP have reached the level of 3 percent, larger than that of most other industrial nations, whose expenditures are closer to 2 percent. Some 20 percent of Japanese research and development costs are borne by the government, compared to about 30 percent in the United States and 35 percent in Germany. As a result, Japan's science and technology is more dependent on private sector R&D.

There are cultural differences, as well. Japan's higher education places emphasis on the nurturing of homogeneity among engineers, rather than on individualism and uniqueness. Japanese corporations have typically molded their engineers into teams focused on a specific goal. That has resulted in the development of high product quality.

But Japan has finally begun to notice that this targeted method is not working as well as it did in the era when it was trying to catch up with the West. The reason is simple – Japan no longer has something to copy from or to serve as a base. To succeed today, companies must create something entirely new – breaking down the conventional barriers between basic and applied

science. Dynamic efforts through which applied research brings new questions and new themes to basic research are inevitable. In the end, more R&D expenditures by public institutions such as universities, and the lowering of barriers between corporations and research institutions such as universities, will be required.

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Cooperation Between Industry, Academia, and Government

In line with the Science and Technology Basic Law enacted in 1995, the government's budget for science and technology boosts the ratio of government-borne research and development expenditures from the current 0.7 percent of GDP to 1 percent, a level common in the West. In addition, cooperation among industry, academia, and the government will be facilitated by the newly created Council for Science and Technology Policy, the Japanese version of the Council of Competitiveness (COC) in the United States.

With the Prime Minister serving as chairman, the council consists of

14 opinion leaders from those three areas, including Honda's CEO Hiroyuki Yoshino and Tsukuba University Professor Emeritus Hideki Shirakawa, who received the 2000 Nobel Prize in chemistry. The main areas of investment are in four categories: life sciences, information communication, the environ-

ment, and nano technology/materials.

It is clear that industry and academia have come to recognize that it is essential to abandon the second-tier strategy mindset and replace it with the desire to become “Number One,” “Only One”. Does Japan have what it takes to become “Number One,” “Only One”? The accumulation of know-how in the science and technology area, including human capital, is a necessary condition. But that alone is not sufficient because every industrial nation has know-how and talented workers.

The key lies in the characteristics of Japan's culture. As discussed,

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environmental and robotic technologies are manifestations of today's Japanese culture, in which harmonious coexistence with the surroundings is considered to be ideal. Animation and comics contain an element of "ukiyoe," an art form that reflects a deep appreciation of minutiae and yet has an extremely distorted form. Japanese tend to be highly attentive and pay great attention to detail.

Lacking in natural resources, but blessed with homogeneous human resources, Japan will have to find a way to create products utilizing a combination of intelligence, uniqueness, and high added value. This once again manifests Japan's will to create a country based on science and technology.

In order to realize this goal, an embrace of values emphasizing creativity and individualism in the nurturing and evaluation of personnel is critical. From that standpoint, establishing Japan as a country based on science and technology, with everyone involved, will be challenging. Certainly, realizing this goal will require a workforce of individualistic and unique R&D workers. But to reach that stage, many systems such as education, corporate rules, and social norms must change. Japan must also overcome an inherent handicap –

according to polls, Japan ranks the lowest among the industrial nations

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in terms of adult interest in science and technology.

Hopefully, Jung had it right – a problem is solved as soon as it is identified. Where science and technology are concerned, Japan has reached the stage in which awareness of the nature of the problem is widespread. This understanding is the beginning of Japan's revitalization. ■

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A prolific writer, Mr. Omuta has co-authored three books and published a number of scientific articles through his career.

The Most Important Bilateral Relationship

by Robin White, Industrial College of the Armed Forces

The visit of a head of state to another country is ideally an occasion to reaffirm the strength of the bilateral relationship, address areas of mutual concern, and frankly discuss areas of disagreement. The February trip of President Bush to Japan accomplished these goals, and the circumstances of the post September 11 trip ensured that the leaders covered a wide range of issues.

Japan's expanded security role in supporting the campaign against terrorism set a highly positive tone, yet the stagnant Japanese economy shadowed the summit.

The U.S. and Japan have an extremely important, strong alliance, but one that often fails to get the public attention given to more contentious relationships. On the Japanese side, this can generate a feeling of being neglected, as evidenced by the overdone "Japan passing" rhetoric of the late 1990s. On the U.S. side, many Americans fail to appreciate the important contribution Japan makes to the U.S. security presence in Asia.

Like all strong alliances, the U.S.-Japan relationship is not free of conflict, and, naturally, it is the problem areas that get the most attention. Frictions often centered on the trade relationship, but U.S.

complaints about trade issues have been supplanted by a pervasive worry about the state of the Japanese economy. Ironically, Japan's inability to deal swiftly with its structural problems could do more damage than specific trade barriers ever did. The issues are closely linked, however, because the vested interests and structural rigidities responsible for many obstacles to trade are the same forces that prevent needed restructuring.

The concerns of the U.S. government go well beyond the effect that Japan's inability to come to grips with restructuring has on the U.S. economy. Washington needs a strong Japan – economically, politically and diplomatically. If Japan cannot find the political will to change, the quiet concern on this side of the Pacific is that Japan will lose its ability to be a leader. Japan

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could play a more important role, but a weakened, inwardly focused Japan may not have the will and presence to do so.

As to the state of the relationship today, personalities and personal relationships play an important role in managing bilateral ties. President Bush and Prime Minister Koizumi have met four times (in Washington D.C. in June 2001, again in D.C. post-September 11, at the APEC Ministerial, and in Tokyo last month.) They can and do talk frankly. Participants in the Tokyo meetings were struck by the fluid and substantive discussion they had on foreign policy issues. As President Bush told the Diet, the U.S. and Japan share a vision for the Asia-Pacific region, and realization of that shared vision will require the U.S. and Japan to work together more closely than ever.

Despite the growing concern of the U.S. government about Japan's economy, President Bush was supportive and encouraging, applauding Prime Minister Koizumi's

energy and determination and expressing confidence that the Prime Minister will continue to demonstrate leadership. He urged

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Diet members to move forward boldly with reform and reconstruction in the spirit of the Meiji Restoration, and promised U.S. support.

But on both sides of the Pacific, many observers are pessimistic about Japan's capacity for change, and wonder if Prime Minister Koizumi and other reformers can overcome deeply entrenched special interests. The Bush Administration came into office deploring the U.S. government's use of *gaiatsu* (external pressure), but if *naiatsu gaiatsu* (pressure from inside) is non-existent or counterproductive, where is the incentive for change?

There is, in reality, very little the U.S. can do, be it through public *gaiatsu* or private "friendly advice." And while we look hopefully at Japan's historical ability to transform itself, ominous negative factors include demographics, a sclerotic political system, and a social structure that values stability over growth.

Much more needs to be done. Public funds for banks to prevent a financial crisis are only a temporary, "stop-gap" measure, short of the proactive steps necessary to get at the root of the problems. Actions to increase the money supply and blunt deflation are necessary. But as long as properties, loans and investments are tied up in non-productive uses,

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the enormous capital saved by the Japanese people is not in circulation, either to their benefit or the benefit of their Asian neighbors. With little evidence of LDP support for the Prime Minister's wide-ranging reforms, the stage seems set for more compromise and less decisive action.

Japan's proactive response to world terrorism contrasts sharply with its slow movement on the economy. U.S. government officials have repeatedly praised Japan's rapid response to the September 11 attacks. Despite the sensitivities of the Japanese people and those in his coalition, Prime Minister Koizumi led Japan to provide significant logistical support to the U.S. military. He moved with speed and decisiveness, and his visit to the White House on September 25 to explain his 7-point plan to President Bush demonstrated a different kind of leader in Tokyo.

As the U.S. public comes to terms with the reality of a long, painful fight against terrorism, we look to our allies to continue alongside us. Japan was there at the be-

ginning and should continue to play an important role. In addition to its security-related support, Japan can play a role in financial intelligence, diplomatic coalition building, economic reconstruction, and cooperation on intelligence and legal issues.

Japan's counterterrorism legislation, while a major and commendable development, is nonetheless narrowly drawn with a sunset clause – but the fight against terrorism is a long-term effort. On the U.S. side, there must be a readiness to share not just information but evolving strategic planning, with intensified dialogue on critical issues.

Japan's hosting of the Tokyo Conference on Reconstruction in Afghanistan is a fine example of Japan as international leader and significant player. Japan has also provided assistance to refugees, aid to Pakistan, including debt rescheduling, and economic assistance to India. Also greatly appreciated by the U.S. is enormous emotional and financial support to the American victims of the September 11 attacks, including \$10 million from the

Japanese government and \$34 million from the Japanese business community. Through cooperative efforts, the U.S. and Japan are addressing humanitarian problems and challenges of development. These efforts require a long-term commitment, and the U.S. and Japan can combine our unique strengths for the benefit of the world.

Yet without a credible economy, Japan is likely to lose its credibility in the eyes of the world. Not only does its economic weakness diminish Japan's ability to provide resources to the world – investment as well as aid – it diminishes other countries' perception of Japan as a global leader. The Prime Minister, in his January visit to Southeast Asia, outlined a vision of stronger Japan-ASEAN ties and greater regional integration – yet it is China that is having greater tactical success in pushing its game plan for an Asian economic community. Even those Asian nations exploring free trade with Japan know that certain sectors are out of bounds due to the influence of the agriculture lobby on Japan's foreign policy.

The U.S. wants to see Japan playing a major role in global affairs. For this role to be fully realized, the

Japanese public needs to accept and welcome the responsibilities of this complicated world. It would be encouraging to see Japan's political figures and opinion leaders prompting the Japanese public to think carefully about the kind of role they want their country to play. Japan

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has influence, and that influence can be an important force in shaping the world in the 21st century.

Americans who know Japan and know the Japanese people are aware of the deep, pervasive, and greatly admirable Japanese interest in learning, from the housewives who volunteer to practice conversation with foreign language students to the readers who make Japan's book consumption the highest per capita in the world. An increasing number of Japanese have traveled, studied and worked abroad, and even those who have not, maintain an interest in other countries and cultures. These are the people – not just the politicians, bureaucrats and reporters – who can go beyond a general interest in world affairs to join in a mature and wide-ranging debate on Japan's role in the world.

Japan's leadership could take on the responsibility of sharing information in order to generate such a debate, and the press can play an important role in ensuring that a wide-ranging, long-term, and even potentially uncomfortable debate can take place.

Japan has an enormous richness of spirit, coupled with untapped diplomatic influence that could make Japan a dominant world player. U.S. and Japanese interests won't always coincide and there will be areas of disagreement. But Japan can play a key role that the US will welcome, as both countries work to ensure that our common interests and common values lead to a more prosperous, stable and democratic world. ■

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"How Japan's Private Sector Views the Japanese Economy"

Tetsuro Sugiura, Fuji Research Institute, January 31, 2002.

The "most serious recession Japan has faced since World War Two" should be bottoming out this summer or fall, said Tetsuro Sugiura, Chief Economist of Fuji Research Institute's Research Division.

The current situation is grim, Sugiura acknowledged – government debt is ballooning, new non-performing loans are accumulating faster than the old ones can be written off, unemployment is at an all-time high of 5.4 percent, exports have fallen for the past three years, and Japan's fabled trade surplus has fallen by half as manufacturing increasingly shifts to China and Mexico.

Dangerously, the excess debts held by key sectors of the Japanese economy (real estate, construction, transportation and communications, retail, manufacturing, wholesale, and services) are causing into a banking crisis: the ratio of bank loans to GDP has been falling for the past 10 years.

Understandably, banks are reluctant to lend to companies in the face of so many shaky borrowers. Trade credits dropped precipitously in the 3rd quarter of 2001 and are continuing to fall. Perhaps as many as 20,000 companies will go

bankrupt in FY 2001. But tight credit will play a major part in causing those bankruptcies. Thus, a vicious circle is perpetuated, Sugiura warned.

The Koizumi government is keen to boost consumption as an important component of financial recovery. But falling prices, coupled with a downward pressure on wages and salaries, and widespread fears of joblessness as the concept of lifetime employment disappears, consumption is understandably weak. Indeed, consumption is falling for every age category (especially people aged 40-49) except those who are close to retirement (age 50-59).

As a result of such deflationary pressures, Japan's long-term interest rates are not likely to shoot up, Sugiura believes. But rates could rise sharply if the bond rating companies, such as Moody's and Standard & Poors, continue to sharply lower Japan's bond rating. ■

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