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JAPAN ECONOMIC CURRENTS
A COMMENTARY ON ECONOMIC AND BUSINESS TRENDS

Japan's Industrial Revitalization: Its Origin and Future

Jun Kurihara, Harvard University

It is clear that Japan's industrial recovery is being carried aloft by the current upswing of the world economy, which is in turn being driven in large part by the locomotive US and Chinese economies. But questions remain as to whether Japan's industry has truly been resuscitated from the ramshackle situation during the "lost decade" of the 1990s or whether the current recovery is only a temporary phenomenon that might fade after the world economy loses momentum.

The Tide Has Changed

At the end of 2001, Japan's industrial production began to pick up one quarter earlier than Japan's entire economy thanks to its exports to the United States, China, and other trading partners. As the table shows, industrial production has increased by 11.5 percent since the fourth quarter of 2001. In the previous expansion (between the first quarter of 1999 and the fourth quarter of 2000), production increased by 10.1 percent.

Despite lingering fears of US monetary tightening, a hard landing of the Chinese economy, and the historic price level of crude oil, Japan's economic upswing is expected to continue and will be strong enough to revitalize its industrial might. A closer look at some leading sectors shows the magnitude of the changes in Japan's industrial landscape.

First, industrial growth has been led by the information and communications technology (ICT) sector. At the moment, much attention is being given to booming Chinese imports of steel, cement and chemicals. But increased Japanese exports of these materials are offset by falling consumption at home as the government chokes back on public works spending. Surging exports and a surprising recovery in profitability in the materials industries, now that corporate restructuring has taken root, are of great significance for the Japanese private sector. But they are not leading Japan's industrial revitalization – ICT is.

Second, there is a tremendous change within the ICT sector, as shown in the table. ICT is divided into three sub-categories—consumer products (e.g., television sets, digital cameras, and cell phones), capital products (computers and photocopiers), and intermediary or producer products (a myriad of small electronic component products and semiconductors).

Currently, the industry accounts for 7.9 percent of Japan's total production increase. Comparison in contribution of ICT products between the current and previous upswings shows that the magnitude coincidentally remains the same. But each of the three product segments reveals differences. First and foremost, intermediary products demonstrate an accelerated 8.4 percent increase compared with a strong 6.6 percent in the previous upswing. Second, consumer products show a meager 0.1 percent increase in a stark contrast to a steady 0.7 percent rise in the previous upswing. Third, capital products show a minus 0.6 percent presenting a mirror contrast to a healthy 0.6 percent increase in the previous expansion – a clear reflection of the drastic gyrations of the swelling and bursting of the IT bubble.

Japanese companies accordingly aggressively relocated their production facilities for capital products, rearranged their product mix in consumer products, and

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COMPARISON IN JAPAN'S INDUSTRIAL PRODUCTION GROWTH BETWEEN THE CURRENT ECONOMIC EXPANSION AND THE PREVIOUS ONE.
(PERCENTAGE CHANGE)

Major Industry Segments (with a special emphasis upon the information and communications (ICT) industry)	Weight (value-added base, 2000)	Current Expansion (2001 4Q – 2004 1Q)*		Previous Expansion (1999 4Q – 2000 4Q)*	
		Contribution to Growth of Industrial Sector	Growth Rate	Contribution to Growth of Industrial Sector	Growth Rate
Industrial Production	100.00	11.5	11.5	10.1	10.1
ICT Products	15.63	7.9	46.5	7.9	48.9
ICT capital products	2.99	-0.6	-19.8	0.6	19.8
Communication equipment	1.75	-0.2	-8.7	0.7	37.2
Computers**	2.00	-0.2	-8.1	0.3	16.7
ICT consumer products	1.27	0.1	7.6	0.7	58.5
Home electronics machinery	1.08	0.5	48.1	0.0	-0.5
Cell phones	0.08	0.2	22.2	0.6	72.7
ICT producer products	11.38	8.4	73.5	6.6	58.1
Integrated Circuits: ICs	4.89	4.2	86.7	3.4	69.2
MOS-type ICs (memory)	1.16	1.9	160.8	0.8	66.5
Electronic components	5.07	2.7	52.9	2.0	40.4
Fixed capacitors	0.88	0.9	102.5	0.5	60.2
Mid-size active matrix LCDs	0.29	0.8	268.8	0.4	142.5
Automobile	6.80	0.7	10.0	0.1	2.0
Passenger cars	5.57	0.5	9.4	0.2	3.7
Motor vehicle parts	3.91	0.8	20.6	0.5	11.8
Iron and steel	4.40	0.7	15.8	0.7	15.1
Cement and cement products	1.93	-0.3	-15.2	-0.1	-5.6
Chemical products	11.74	0.7	5.8	0.9	7.3
Textiles	3.36	-0.6	-17.3	-0.4	-10.9

* The periods in which industrial production growth is calculated are different from the business cycle periods (the troughs of industrial production are one quarter earlier than the entire economic upturns, see in the text).

** Personal computers in the computer category are subdivided into the capital products segment (60 percent) and the consumer products segment (40 percent).

Source: Author's calculation based upon the statistics (industrial production indices) compiled by the Ministry of Economy, Trade and Industry (METI).

increased their production facilities for electronic components, especially for high-end products.

Production and product portfolios have shifted in parallel for two reasons: as the world's factory, China attracts the attention of Japanese firms as a manufacturing footstep for lower value-added products. And second, smart Asian firms are swiftly catching up with Japanese firms. Accordingly, Japanese firms have escaped from the markets of "commoditized" products—the theatre of fierce price warfare under a competitive threat from Asian firms, as witnessed in the profit-depleting price warfare waged in the semiconductor (DRAM) market and a humiliating retreat of Japanese firms.

In sum, Japan's ICT industry has metamorphosed itself in accordance with a change in a protean business environment—the rise of China, the rapid catching-up of other Asian countries, and head-to-head competition with the United States and Europe.

Engine of Growth: Digitalization

The Japanese economy is steaming ahead along with the US and Chinese economies, far ahead of the Euro zone economy. Some pessimists believe that industrial revitalization is dependent solely upon buoyant exports to the United States, China, and beneficiary countries of the two economies. They reason that, since Japan's engine of growth is exports, this revitalization might be ephemeral, by pointing to Japan's feeble domestic demand and a possible cyclical downturn.

But structural change, especially within the ICT sector, is accompanied by another technological engine of growth—digitalization. Digitalization is rapidly changing Japan's industrial picture by creating new types of products and services. Thanks to relentless ICT advancement, ubiquitous digitalization has become an engine of growth strong enough to disperse digital products to every corner of the world and is used in many consumer products, including digital cameras and camera-equipped cell phones.

The use of digital products for automobile manufacturing is expanding in various areas including car navigation systems and sophisticated safety equipment. Japan's automobile makers have surpassed their American and European counterparts by an extensive use of more reliable electronic components that are "made in Japan." And digitalization requires the manufacturing of highly customized semiconductors that has now become Japan's stock-in-trade.

Japanese Industrial Strategy

Japan's electronic giants long enjoyed unrivaled competitiveness in the semiconductor market by manufacturing DRAMs for computers. But Japanese manufacturers were eclipsed when South Koreans caught up with Japanese and a new business model (electronics manufacturing service, or EMS) emerged.

Having learned bitter lessons in the DRAM fiasco, Japanese have come to embrace six strategies avoiding profit-depleting price warfare. First, being judicious about the choice of product, they adopt a product portfolio of higher profitability. Second, they put emphasis upon technological product sophistication by manufacturing smaller, thinner, lighter, and more complex products. Third, emphasis is placed upon technological product capacity. They manufacture full-color liquid crystal displays (LCDs) with higher-resolution capacity, or extremely large or miniature displays with higher energy efficiency.

These three strategies are commonly used by all companies – competitive foreign firms will soon assimilate Japanese firms. Japanese firms have therefore developed three other means to protect their market share. The fourth is a "packaging" strategy, as seen in the field of system LSI, in which "one chip" or a "black box" is "packaged" into a group of various semiconductors to conceal and mask technological

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advancement against prospective competitors.

The fifth strategy is to design new products or services, often in concert with strategic alliances to forge new *de facto* standards. In order to enhance sophistication of the "packaging" strategy, they also look to collaborative product design. And finally, like their foreign counterparts, Japanese companies have adopted strategies aimed at cost efficiency through simplified facility relocation and new purchasing practices.

Challenges Ahead

At present, Japan's electronic components industry enjoys unparalleled competitiveness – possibly as much as two-thirds of world production (of which one-third is produced domestically). Some people look to a competitive threat from China or South Korea.

But as far as the components segment is concerned, there is no threat from abroad. Recent months have witnessed a slowdown in Japan's swelling trade deficit with China accompanied by impressively expanding exports; its trade surplus with South Korea is now record high. The competitive components industry is one of the major contributors for such changes.

It is safe to be cautiously optimistic about the future of Japan's industry with this indispensable components sector, but there are always challenges and threats from competitors. ICT requires relentless technological advance; a failure to explore new technologies or new uses of products would make the Japanese industry an easy pray for savvy foreign competitors.

Accordingly, policy makers and corporate strategists are expected to take following three things to heart. First, is the dramatic change within the ICT industry – once-omnipotent electronic giants are forced to constantly transform themselves. Last year's study by the author and his colleague of the electronic components industry conducted last year suggests Japanese electronic giants whose components segments are competitive and orderly connected with other segments remain successful, while electronic giants whose components are uncompetitive fall behind.

Second, components that are labeled as "made in Japan" are popular with customers. But Japanese manufacturers cannot spare sufficient time to find prospective use or users of their products currently produced or under development. Marketing and searching activity should be formulated to enhance the utilization of Japan's industrial might.

Third, several products are not sold domestically but are produced only for overseas markets because of Japan's labyrinthine regulatory system. The resultant compartmentalized markets prevent the growth of new product markets. Digitalization is an effective tool to connect one market to another irrespective of borders—national, industrial, or segmental, leading to the birth of innovative products and services.

Efforts for further deregulation or re-regulation are required to nurture an environment for a buoyant digital economy. Otherwise Japan's digital components industry, the envy of the world, might be suffocated within the cobweb of regulations in Japan. ■

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Japan's Recovery is Permeating through the Economy

by Arthur Alexander, Georgetown University

According to the latest estimates of real gross domestic product, the Japanese economy has now grown for a full two years. As economic activity pulled out of a trough in mid-2002, many people wondered just how long any rebound might last. Understandably, the short-lived cyclical recoveries of the previous decade had introduced a cautious note to most analysts' forecasts.

It is now apparent that many of the underlying structural problems confronting business are being resolved – the foundation for a longer recovery is more secure than at any time since the early 1990s.

Disposable Income and Consumption

Disposable income is key to understanding household consumption, which accounts for more than 60 percent of aggregate demand. As can be seen in the raw, unadjusted data in Figure 1,the decline of the year-end and mid-year bonus is clearly apparent. But the underlying seasonal and random elements mask the overall trends. Because of these obvious issues, most Japanese analysts use year-to-year comparisons to estimate trends. However, statisticians have long recognized that this technique delays the recognition of turning points by half a cycle, which is one reason that new situations often seem to creep up on Japanese policymakers without warning.

Figure 2 is the seasonally adjusted data shown in Figure 1. The gray line shows the seasonally adjusted series, while the red one is a centered five-month moving average that removes much of the remaining random variability without shifting the turning points.

From 1999-2002, nominal disposable income in workers' households with two or more individuals fell, accelerating in 2002 as both deflation and company restructuring gained strength. Disposable income fell 12 percent from the 1999 peak to the 2003 trough. But the overall trend since early 2003 has been up, albeit with some large month-to-month changes. The recent recovery adds up to less than a 3 percent gain from the bottom, but when combined with falling consumer prices, real disposable income has climbed by 3.5 percent over the past year.

Consumption started to fall in 1997, about two years before disposable income headed down. Nominal consumption of both the limited sample of workers' households, as well as for all households groups, fell 11 percent from the 1997 peak. But consumption likewise turned upward in 2003 for both groups, as shown in the smoothed, seasonally adjusted trends in Figure 3.

Workers' consumption now has risen by 3.4 percent since hitting bottom in January 2003; growth of all household consumption has been a weaker 2.6 percent. When another half percent or so from falling consumer prices is factored in, it is apparent that the rebound

FIGURE 1
MONTHLY DISPOSABLE INCOME, WORKERS' HOUSEHOLDS
THOUSAND ¥, JAN. 1995-APR. 2004

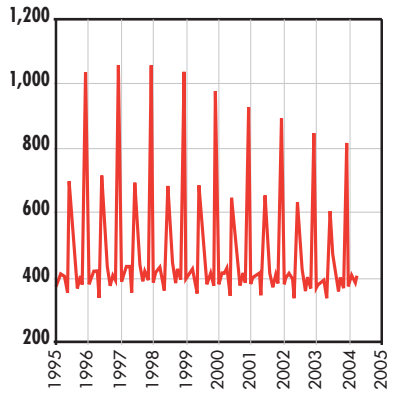
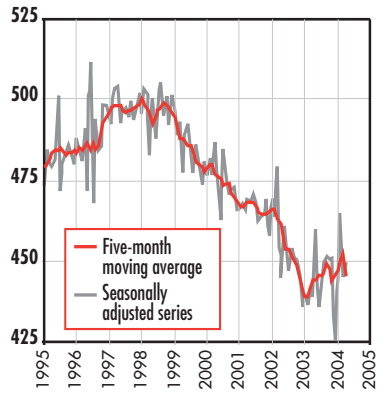


FIGURE 2
DISPOSABLE INCOME, WORKERS' HOUSEHOLDS,
THOUSAND ¥, JAN. 1995-APR. 2004



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since early 2003 has been consistent and a significant contributor to overall economic strength.

Employment

From 1997, the total number of employed persons (self-employed, employees, and family workers) fell almost continuously for five straight years. With 2.8 million fewer people working in 2002 than five years earlier (4.3 percent of the actively working population), there is little mystery about why consumption declined. The job loss, which I attribute to the drawn out process that Japanese firms have used to bring down employment to desired levels, ended rather abruptly in 2002. The number of jobs then remained stable until late last year when employment started to rise. Though the increase has not been substantial compared with the loss of jobs over the previous five years, the process has continued now for more than six months (see Figure 4).

Although the number of people working has started to increase, a countervailing trend has appeared in the total number of hours worked. As temporary jobs and contract employment has spread though industry as a way to introduce greater flexibility and lower costs, the aggregate number of hours worked has declined. Despite the increased number of people who are working, total working hours is still heading downward.

Industrial Production

The manufacturing sector generated the first stimulus of the current expansion. After the collapse of the information technology investment bubble in 2000-01, production hit bottom at the end of 2001. A quick rebound plateaued barely six months later (see Figure 5).

The question at the time was whether the recovery would be aborted prematurely. Uncertainties over the war in Afghanistan, the American invasion of Iraq, the price of oil, and the SARS epidemic in Asia contributed to falling demand and rising anxiety. What saved the Japanese economy from a downward spiral was that companies maintained very close control over inventories. With the lesson of ten years of slow growth, managers never allowed production to outrun shipments; consequently, inventories never accumulated and when demand resumed, output could immediately respond. The last few months have seen output jump, accompanied by similar rates of increase of inventories. This last phenomenon is not raising worries at this time because stocks are at historically low levels, relative to shipments. Unless there is an unexpected fall in demand, the manufacturing phase is on pretty firm ground.

Too Much Borrowing

Japanese companies borrowed too much in the form of interest-bearing debt—loans and bonds—to withstand the slowdown of

FIGURE 3
CONSUMPTION: WORKERS' AND ALL HOUSEHOLDS,
THOUSAND ¥, JAN. 1995-APR. 2004

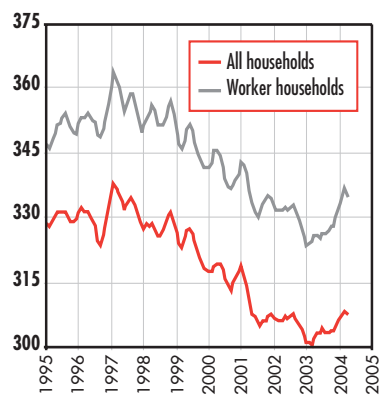
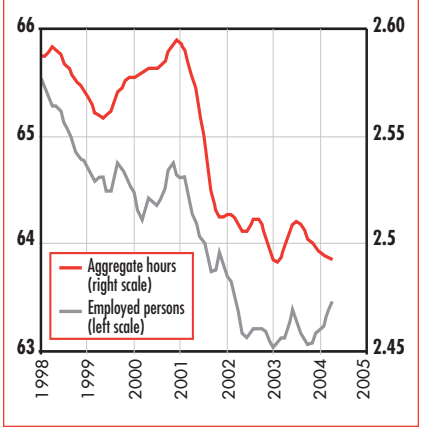


FIGURE 4
EMPLOYED PERSONS (MILLION) AND AGGREGATE WEEKLY WORK HOURS (BILLION), SEASONALLY ADJUSTED, 5-MONTH CENTERED MOVING AVERAGE,
JAN. 1998-APR. 2004



growth, revenues, and profits. Figure 6 shows one representation of this excess: private, non-financial companies' loans and bonds as a ratio to GDP.

After soaring for 15 years, companies are reducing their indebtedness. The ratio of debt to GDP fluctuated between 0.8 and 0.9 from 1965 to 1985. Now debt is returning to the level of the earlier period. However, the 1960s and 1970s experienced overall economic growth of 6-10 percent annually, compared to current rates of 1-2 percent; the amount of sustainable debt is considerably lower today than three decades ago.

Healthy balance sheets require that Japanese companies reduce their debt to even below the ratios of the 1960s or 1970s. At current rates of debt reduction, this is unlikely to be reached for another three to four years.

TABLE 1:
JAPAN' TRADE WITH CHINA
(1996 THROUGH MAY 2004, BILLION YEN, ANNUAL RATE)

	Exports	Imports	Balance
1996	2,339	4,080	-1,741
1997	2,581	4,702	-2,121
1998	2,569	4,483	-1,914
1999	2,569	4,523	-1,954
2000	3,158	5,497	-2,339
2001	3,609	6,472	-2,863
2002	4,755	7,071	-2,316
2003	6,322	7,910	-1,588
2004	7,390	9,372	-1,982

FIGURE 5
MANUFACTURING PRODUCTION INDEX,
2000=100,
JAN. 1998-APR. 2004

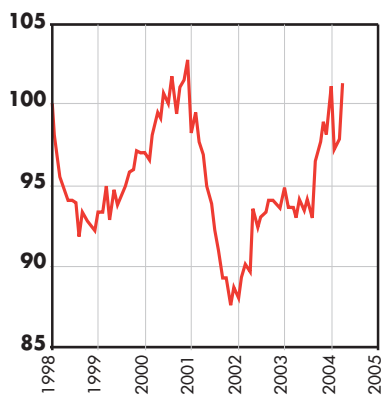
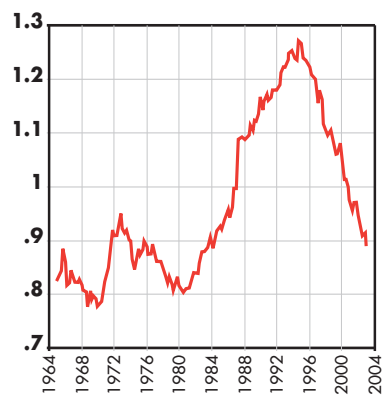


FIGURE 6
RATIO OF INTEREST-BEARING DEBT TO GDP, NONFINANCIAL COMPANIES
1965-2003



Is the Recovery Export-Driven?

The widely-held explanation for Japan's economic recovery is that it is being driven by exports to China. On the surface, there is some support for this claim. Export growth to China in 2003 accounted for two-thirds of the rise in total exports; export growth was more than one-third of the GDP increase. Putting these ratios together, China could be said to have been responsible for 25 percent of last year's growth in Japan. But this conclusion would be wrong.

In order to proclaim that exports to China drive growth, it is necessary to verify that other factors

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do not change in such a way as to dilute the effect of foreign demand. This common analytical trap comes from an excessive devotion to the idea that GDP is the sum of household consumption, government spending, investment, and net exports.

This aggregate demand view of national output is indeed the way that the national accountants calculate GDP. To convert this definition into a useful predictive model, particularly with respect to exports, it is necessary that exports not be related to the other components of aggregate demand.

But exports and imports are highly correlated; when exports rise, imports also go up. Since imports subtract from aggregate demand, the two variables tend to cancel each other. The relationship between changes of net exports and GDP is zero.

Table 1 shows Japan's trade with China since 1996; imports have been larger than exports every year, which means that the net demand impact of this bilateral trade has been negative. Simply put, trade with China has reduced aggregate demand, not added to it.

Simply put, Japan's trade with China allows it to be more efficient. Japan imports cheaper goods for both consumers and producers, and it exports items made in Japan's relatively more efficient factories. These are the classic benefits of trade – devoid of mystery and lacking the mythic value of export symbolism. China is not unimportant in this view; however, the focus should not be on exports, but on the total economic relationship. ■

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