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JAPAN'S ECONOMIC STAGNATION, EXTERNAL BALANCE AND THE YEN RATE

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This paper deals with the present stagnant economic condition of the Japanese economy, a changed role of import and export. The recent surge in import of manufactured goods and its implication with respect to exchange rate fluctuation is discussed. A simple long-run exchange rate model and a forecast of the yen rate up to year 2000 is added.

Keywords : anemic recovery, financial bubble, elastic demand of import, and yen/
dollar rate

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I. A Prolonged and Anemic Recovery

The Japanese economy of 1996 is going to register a growth rate well over three per cent, after the three successive years near-zero growth. However, this does not imply that the economy will be on the track of three per cent growth from now on.

The process of economic recovery has been weak in all the way since the bottom of 1994.

The first half of 1995 was hit by the great earthquake in Kobe and then by the "abnormal" appreciation of the yen rate. In the latter half of the year, when the yen/dollar rate came back to the range of 100-110, business mind regained its original pace of recovery.

In view of the anemic recovery of the economy and the need of help to shattered Kobe district, the fiscal spending was boosted in the latter half of 1995 and it continued to the first half of 1996. Government capital formation in 1996 is likely to record a two digit rate of expansion.

Unemployment rate has peaked out after April when it registered a historical high (3.5% in April) due to the emerging new graduates still seeking jobs. But employment of new graduates has been steadily increasing since April; firms are revising employment plan upwards.

When we look to 1997, there appears an issue of tax raise; the present 3% consumption tax is going to be raised to 5% as of April 1st. The recent General Election (October 20, 1996) gave LDP a majority. It was a little short of absolute majority, but the present cooperation among three parties is likely to continue.

Lately the new Hashimoto cabinet, which is a LDP-led (non-coalition) government for the first time since the beginning of 1994, made it clear that (1) the tax raise of 5% in Spring of 1997 is certain, and (2) there would be no additional ad-hoc revision of the 1996-Budget and (3) from 1997 on the government will address to reducing budget deficit which has already exceeded 4% line (over GDP). This means that a quarter-to-quarter pattern of public spending is a sharp decline from the second quarter of 1996.

Corporate firms are still in the process of adjustments to surplus capacity¹⁾; the industrial electronics sector, that is almost free from this problem, has been leading the recovery of business investment. However, a cutback of investment in semiconductor production capacity will soften the overall pace of investment recovery.

All information fitted together, 1997 is likely to be a year of slow growth—in the rage of 1.4% to 1.6%.

II. A Bleeding Recovery... Aftermath of financial bubble

There is a significant "leakage" of flow from the income-expenditure cycle of the economy. That is a leakage through the present scheme of writing off bad debt by financial institutions. The present amount of bad debt of the all banking institutions (around 35 trillion yen, officially) will be written off with three more years if they put all the current operating surplus into write-off and spend additionally a certain amount (14%) of their capital gain accumulated on their long-held stocks.

But this simulation overlooks the fact that the procedure presumes that the five trillion yen would-be income of private savers is literally "confiscated" by the present low interest policy. Would be amount of interest income to be paid out to saver is added to banks' operating surplus and it is "dumped into gutter". In addition to this, all the banking institutions will refrain from the would-be spending expenditure from operating surplus (such as investment into computer networks and bonus payments to employees etc.). These factors would add up to a large drop of domestic expenditure, more than one percent of current GDP, hence suppressing the actual growth rate of the aggregate demand well below the potential growth path.

Massive Waste of Savings at the Front-gate of Aging Society

The financial boom (or Bubble) produced inexpensive capital for non-financial firms. The small part of surplus fund went abroad. But, most part of was financed to the domestic financial and real estate development sectors. Annual Report of National Income shows that the amount of loss in market value of land and other immovable assets add up to more than five hundred trillion yen ---equivalent of 1994 GDP.

Most part of bad debt was produced from unrecoverable loans to real estate developers whose value of collateral dropped sharply. Land price is still falling as of March 1996.

Particularly, land value for commercial use in downtown district of big cities are falling at a rate of 15% or so.

For the household sector, net worth has not grown at all since 1989. Net asset ratio over personal disposable income has even declined. As a result, Japanese household faces a necessity of raising saving ratio to make up for the loss. This point is relevant when we discuss the future trend of yen rate in relation to the capital account in the balance of payments.

III. Over-employment Situation...Why unemployment rate is so low?

In the last boom period of 1987-90, employment expanded together with business investment. After the boom, there came up a threatening employment crisis for the middle-aged, a generation of baby-boomers of Japan (born 1947 to 1950). With the end of high growth and the anticipated progress of "silver society", the highly-paid generation is now out of balance in the corporate finance.

With respect to the blue-collar workers at factory level, restructuring had started much earlier in the first half of the eighties. The middle managers at headquarters office of major corporations were a new target of restructuring. Including the present author, many economists predicted the coming of hard times for white-collar middle-aged. The strong improvement of office work productivity in the US became a new model. Office machine

1) According to my own calculation, manufacturing industries as a whole have not yet finished adjustment of surplus productive capacity. The investment boom of 1987-90 was led by auto industry and consumer electronics, let alone by real estate developers. As of the beginning of 1996, there should be not less than of 4% of surplus real capital stock in the manufacturing industries. Capital goods, however, have become more malleable recently. Readjustment of surplus stock of equipment is being conducted more flexibly than before. Yet there should remain the impact of over-capacity in the industries in general.

(word-processing and data-processing as well as information transmission) revolution would enhance the pace of labor discharge. A prevailing view among labor economists was that unemployment rate of 4% or even 5% should not be surprising. The actual unemployment rate, however, came up around three and half. It is a historical high, but well below our prediction. All sorts of enquetes to corporate firms turned out an unanimous outcome that the majority of firms are suffering from over-employment specifically among white-collars. But there has happened no massive layoffs. And unemployment rate has begun to lower again. There was a jump in the rate in April due to the new graduates who are seeking jobs. From May and on, firms began to add new recruits.

What have happened in the past five years of recession? What have Japanese companies done about their overemployment situation. A common pattern of firms' behavior facing over-employed is:

- 1) suppress new recruits and wait for natural decrease by retirement;
- 2) shift employees to subsidiaries (with low pays but jobs are secured)
- 3) expand number of subsidiaries by means of creating venture business,
- 4) take advantage of a government subsidy program that encourages a restraint from "free discharge" of labor²⁾.
- 5) finally and more positively, shift to a new field of product and redistribute employees.

Somehow, the threatening over-employment situation seems to have been overcome by the gradual but steady adjustments by firms. I cannot tell which one out of the above-mentioned measures has really worked. In the manufacturing sector, the number of regular workers declined by 2.7% from 1990 to 1995 and part-time and other non-regular workers increased. In service sector, number of employees increased significantly (two and half million jobs were created during the same period).

Much criticized long-term employment system of Japan seems to have generally survived and the notion of job security for public remained strong among corporate management.

IV. Changes in the Role of Import and Export

Exports have been the leading sector for the recovery phase in the past business cycle of Japan, but this role has diminished recently. Needless to say, the appreciation of the yen rate and the general propagation of the practice of "voluntary export restraint" on finished goods export is a major factor. In the field of intermediate goods trade, a considerable part of its export has become a part of productive operation by the US and other globalized firms. Major part of Japan's export is occupied by capital goods and intermediate goods which are indispensable for overseas productive operation, hinting at the emerging intra-industry division of labor. In summary, Japan's export has become inelastic with respect to price change ow-

2) The program is only applicable to specified "depressed" sectors.

ing to the above-mentioned two factors.

Price Destruction

The picture of Japan's imports, on the other hand, is quite different; price elasticity of import demand by Japanese consumers and producers has become elastic. This is due to a crumbling long-run relations among consumers, producers, and subcontractors. The high yen rate produced ample opportunity for business firms who import from overseas. Strong market force was the reason why Japanese parent companies in automotive industry, for instance, began to import auto-parts from the US instead of purchasing them from domestic subcontractors, a part of "long-run customers". The high yen rate made overseas production more profitable for Japanese manufacturers; import from "overseas subsidiary companies" in Malaysia, China and Thailand have increased enormously.

A surprising jump of the yen rate in the Spring of 1995 continued to the end of Summer. It was a final push for the destruction of Japan's closed business relations through market force. The extraordinary high yen rate was temporary, and the yen rate came back to a more normal rate of 100 to 110 in the Fall³⁾. However, the opened-up import market and loosened "long-term business relationships" are to remain. Consumers are now accustomed to

a wide range of choice of imported goods in chain-stores. Import of manufactured goods increased by 44% in terms of dollar value in the five year period of 1990-1995.

The big increase in manufactured imports since 1994 is only explainable by the combination of increased price-elasticity of imports and structural changes. Japan is currently maintaining an unusual import-growth, in spite of the stagnating economy. It is partly a reason why GDP growth rate has been low; at the same time, this implies that Japan is acting as a major engine for world economic growth, particularly for Asia-Pacific.⁴⁾

Table 1 Trend of Japan's Balance of Payments

Bal G&S	Currt Acnt	BC/GDP %	Per capita mfg imp.	
1989	5.912	8.654	2.164	118
1990	3.864	6.474	1.505	138
1991	7.292	9.176	1.999	131
1992	10.205	14.234	3.017	119
1993	10.702	14.670	3.086	112
1994	9.834	13.342	2.785	124
1995	6.955	10.387	2.159	148
1996	4.836	7.493	1.512	170

3) It was not a coincidence that the backward movement of the exchange rate occurred when Mr. Sakakibara was appointed to the chief of International Finance Bureau of MOF. He really worked to obtain agreement that the US side would not wish the weak dollar against yen, and that the over-appreciated yen rate would give no benefit to either side.

4) Japan's external balance surplus is steadily shrinking, and the bilateral trade surplus against the US is shrinking even more (see Chart). However, this does not imply that the US trade deficit equally shrink; it is on an expanding trend instead. The reason is that other Asian exporters, notably China, are expanding their trade surplus.

V. Long-run Trend of the Yen Rate

First I should like to present a chart of PPP and market rate of yen/dollar rate. PPP study is continuously conducted by our government (Economic Planning Agency) and the differential between PPP rate and the market rate is regularly published by EPA in its annual report titled "Price Report" as a measure of "internal/external price differentials". In Japan, this differential is a political issue. A wide differential between the two rates show that Japan's domestic price as measured by the market rate is significantly higher than overseas price. Typically, large differential shows up in the prices of such categories as food, energy, transportation, and rent (see Table 1). One of the major factors that produce this large

Table 2 Gap between PPP and Market Rate

	New York	London	Paris	Berlin
Overall	1.52	1.50	1.43	1.44
Food	1.75	2.01	1.93	2.04
Durable	1.41	1.14	1.05	0.99
Clothing and Footwear	1.76	1.70	1.30	1.38
Energy	2.02	1.89	1.47	1.22
Water	1.91	1.15	0.86	0.52
Transportation	1.61	1.25	1.22	1.34
Telecommunication	1.12	1.08	1.43	1.04
Medicare	0.86	2.19	1.81	3.72
Education	0.96	0.69	2.37	1.22
Rent	1.97	1.61	1.41	1.37
General Svc	1.18	1.23	1.08	1.16

Source : *Price Report*
by EPA, Tokyo, 1994

differential is the tax scheme that imposes a heavy tax on energy (particularly oil); another factor is extraordinarily low productivity in the domestic (non-tradable) industrial sectors such as agriculture and distributive. To narrow the gap, we need a powerful administrative reform that encourages more competition in these hitherto protected sectors. But, as is well recognized also in Korea, these domestic sectors have been under protection for long, and reform means a destruction of status quo⁵⁾.

A Simple Econometrics on the Long-run Trend of Yen/dollar Rate

Market exchange rate diverts from PPP. But, when we look at a long-run series of the yen-rate, we realize that the rate really regresses on a basic factor, that is, the relative relation between Japanese and American CPI (see Chart 1). The second explanatory variable is the ratio of net exports (goods and service) over current GDP. It explains a medium-term change of exchange rate, with relatively large unexplained error terms in the two subperiods of 1978-81 and 1983-85⁶⁾.

Medium-term adjustment with respect to the balance of payments imbalance tend to be offsetting in the long-run, and the long-run factors remain. One of them is the relative price of petroleum. The relative CPI between Japan and the US seems to be determined by another long-run factor, that is, a complex mixture of productivity trend, attitude toward inflation taken by the monetary authority and the general public. A regression of the relative CPI

5) Administrative reform was a campaign issue in the latest General Election. LDP led by Prime Minister Hashimoto was said to be most precautionary about the issue. It is natural since LDP rides on the great coalition of business, large and small, and farmers and shopkeepers.

on time trend and the money supply of the US (in a log-linear format) shows a perfect fit (see Chart 3). On the other hand, Japan's CPI is heavily dependent on the relative price oil and a complex mixture of productivity trend and other structural elements (see Chart 4).

These regression tests lead us to a small recursive model of long-run yen-dollar rate. The following is a table of forecast yen-dollar rate on the three different sets of assumptions on the future trend of USM3 (3% or 2% growth) and the rate of oil price increase (3% or 5%) starting from 1996⁷⁾. The case 1 assumes USM3 keeps expanding at an annual rate of 3% and oil price at 3%, a modest rate. Case 2 deals with 5% increase of oil price which the US money supply expands at 3%. Case 3 compares with case 1 with a lower rate of monetary expansion in the US, that is, 2% versus 3%.

The case 1 gives a frame of reference for discussing the long-run future trend of yen-dollar rate. We forecast basically a moderate appreciation of the yen over dollar on the condition that the relative CPI between the two countries will maintain a higher inflation rate on the US side. As long as the yen rate maintains this steady path against the dollar, the present pace of fast growth of manufactured goods import will continue. By the end of this century, Japan's balance of trade of goods and service will come close to equilibrium.

Changed market structure of Japan will show an import market that is responsive to changes in exchange rate. This will contribute

to the stability of yen; I should like to point out that the era of violent fluctuation of yen-dollar rate is over. And PPP will keep coming closer to the market rate in the future, probably around 120yen/dol range. Differential between PPP and the market rate will remain in the range of 1.2 to 1.4. Total eradication of the differential will be impossible. A difference in taxation scheme will remain; natural and geographical characteristics will prevent high efficiency in transportation and distribution in Japan. High land price, even though it is mitigated by liberalization of agricultural trade and decentralization of business and political power, will prevail.

Finally I should like to touch upon the future trend of household saving and saving-investment balance of Japan. Some say that the fast rate of aging society of Japan will bring about a lower personal saving rate, but the following two factors may cause a reverse direction of personal saving rate; 1) although aging speed is fast, Japan's today's average age of population is well below the Western societies, and there is a solid ground for us to anticipate that older households are saving significantly. A high age-profile of wage and substantial amount of retirement bonus will be a source of high saving. 2) As a result of drop in the ratio financial asset over personal disposable income, there is a good reason why one should expect a temporary rise in personal saving rate since household should plan to make up for the loss inflicted by the bubble-burst in the past years.

If this speculation is correct, Japan may well

6) The first subperiod corresponds to the time of the second Oil Shock and the second subperiod to the time of the strong US Dollar of Mr. Raegan.

7) A constant adjustment is conducted to the two equations of Japan's CPI and EXRCY in order to take into account of 1) present structural change in CPI movement (the so-called "price destruction" process) and an unusual jump of yen-dollar rate in 1995.

see a revival of excess supply of saving that could lead to a rising external balance accumulation. However, the future movement of capital outflow will be different; it has been led by massive FDI by corporate firms until recently. The pace of FDI outflow is likely to be slower since firms began to realize that the present exchange rate of 110 to 115 is going to prevail and will make it profitable to invest and to produce at home, not abroad.

This time, we will see a change; the worst performance of pension funds and other trust fund in the past is going to bring about a massive outflow of resources abroad, as the market of fund management will be fully liberalized in the near future. The change in capital account will be a factor that might contribute to depreciation of the yen rate in the future.

A Small Long-run Model of Yen/Dollar Rate

$$1-a) \text{EXR} = -55.6 + 2.968 \cdot \text{RPJPUS} - 11.22 \cdot \text{BPGS}(-1)$$

(0.88) (4.75) (1.90)

$$\text{RR} = .7524 \quad s = 30.7 \quad \text{DW} = .679$$

Observation period: 1976-1995

$$1-b) \text{EXR} = -98.9 + 2.608 \cdot \text{RPJPUS} + 1.0665 \cdot \text{OILPR}(-1)$$

(3.34) (7.01) (5.69)

$$\text{RR} = .8965 \quad s = 19.83 \quad \text{DW} = 1.965$$

Observation period: 1976-1995

Relative CPI between Japan and USA

$$2) \text{Log}(\text{RPJPUS}) = 5.445 - .01722 \cdot \text{Time} - .07794 \cdot \text{Log}(\text{USM3})$$

(25.8) (9.60) (2.52)

$$\text{RR} = .9896 \quad s = .01 \quad \text{DW} = 1.137 \quad \text{Observation period: 1980-1995}$$

Japan's CPI over Long-term Factors

$$3) \text{Log}(\text{CPI}) = 3.902 + .02203 \cdot \text{Time} + .03856 \cdot \text{Log}(\text{POILR}(-1))$$

(70.3) (19.1) (4.76)

$$\text{RR} = 9869 \quad s = .01 \quad \text{DW} = 1.750$$

Table 2 Exchange Rate Up to Year 2000

	EXR-1	EXR-2	EXR-3
1994	102.21	102.21	102.21
1995	94.06	94.06	94.06
1996	106.43	106.43	106.57
1997	105.38	105.76	105.67
1998	101.85	102.67	102.30
1999	98.02	99.27	98.60
2000	94.20	95.87	94.94
USM3	3%	3%	2%
Oil Price	3%	5%	3%

USM3 = Rate of expansion of M3 in the US

Oil Price = Rate of Increase in \$ per barrel