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Has Consumer Price Index Stopped Declining?

—The background against the first increase in five and a half years—

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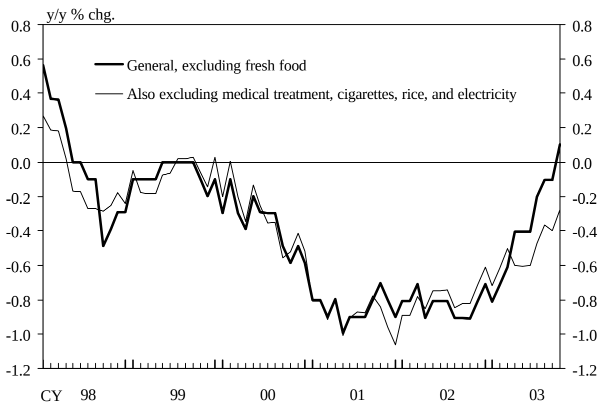
The first increase in five and a half years

The Consumer Price Index (CPI), excluding fresh food, which fluctuates substantially (same basis used hereafter; bold line in Chart 1), had been declining at around 0.8 percent on a year-on-year basis until early 2003. However, the rate of decline diminished steadily thereafter. Recently, in October, it marked an increase of 0.1 percent for the first time in five and a half years (the last increase was in April 1998). This paper argues that the movements in the recent CPI are largely affected by temporary factors and hence, in its underlying trend, the CPI is likely to continue its gradual decline.

Chart 1: Developments in the CPI



Note: Adjusted to exclude the effects of the consumption tax increase in April 1997. Data before Dec.2000 are on the 1995 base CPI.
Sources: Ministry of Public Management, Home Affairs, Posts and Telecommunications, "Consumer Price Index."

Effects from temporary factors

The rate of decline in the CPI clearly diminished in less than a year, due largely to temporary factors that have little to do with movements in business cycles. The following four factors are very important: (1) a rise in medical treatment expenses borne by individuals, reflecting public insurance reforms; (2) an increase in the price of cigarettes due to the tobacco tax increase; (3) a rise in rice prices from this year's unseasonably cool summer; and (4) the waning effects of the reduction of electricity charges that took place last year.

(1) Medical treatment

Medical treatment in the CPI is calculated based on the formula that has been set up in line with the national health care system. This means that it is directly affected by the public insurance scheme that includes, for example, changes in the ratio of medical expenses co-paid by individuals, medical treatment fees paid to medical institutions, and government-set prices of prescription drugs. From April 2003 onward, employees are required to co-pay 30 percent, instead of 20 percent, of total medical expenses. Reflecting this insurance reform, medical treatment in the CPI has been increasing at around 10 percent on a year-on-year basis since April,[i] pushing the overall CPI upward by about 0.2 percentage points.

(2) Cigarettes

Cigarettes have been rising by about 8 percent on a year-on-year basis due to the rise in the tobacco tax that took effect in July 2003. This has been pushing the overall CPI upward, by almost 0.1 percentage points.

(3) Rice

Rice is not classified as "fresh food" and thus remains in "CPI (excluding fresh food)." Affected by an unseasonably cool summer, this year's harvest was the poorest in a decade.[ii] Because the new rice crop widely appeared on retail shelves in October, the increase in CPI rice prices for that month surpassed 10 percent on a year-on-year basis, giving an upward pressure of about 0.1 percentage points.

(4) Electricity

In FY2002 from April through October, electric power companies one after another reduced electricity charges, citing the fruits of business efficiency. The series of the reduction exerted downward pressure on the CPI by about 0.1 percentage points. In FY2003, as a full year has passed, this factor has ceased to give downward pressure on the year-on-year CPI.

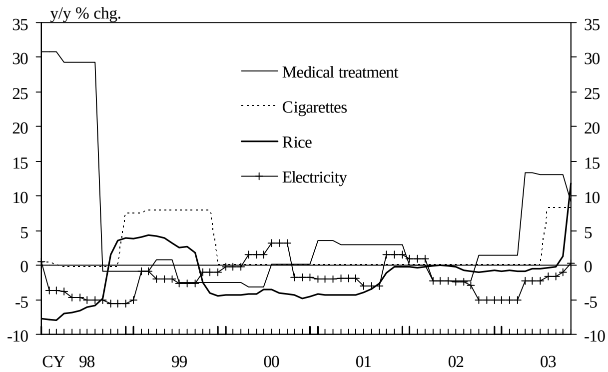
While these four factors in total exerted downward pressure on the overall CPI during FY2002 by a little more than 0.1 percentage points, they have recently been pushing the CPI upward by about 0.4 percentage points (Chart 2). This illustrates that the recent contraction of the decline is mainly caused by these temporary factors.[iii]

Chart 2: Impact of the temporary factors on CPI

y/y % chg., shaded areas indicate contributions to General excluding fresh food

	FY02	03/2Q	03/3Q	03/Oct.
A. General, excluding fresh food (10,000)	-0.8	-0.4	-0.1	+0.1
B. Temporary Factors (657)	-0.13	+0.15	+0.25	+0.36
o/w Medical treatment (171)	-0.01	+0.23	+0.23	+0.17
Cigarettes (72)	±0.00	±0.00	+0.06	+0.06
Rice (106)	-0.01	-0.01	±0.00	+0.12
Electricity (308)	-0.12	-0.07	-0.04	+0.01
A-B	-0.7	-0.6	-0.4	-0.3

Figures in parentheses show the weights in General, excluding fresh food (total = 10,000)



Note: Adjusted to exclude the effects of the consumption tax increase in April 1997. Data before Dec.2000 are on the 1995 base CPI.
Source: Ministry of Public Management, Home Affairs, Posts and Telecommunications, "Consumer Price Index."

Modest deceleration

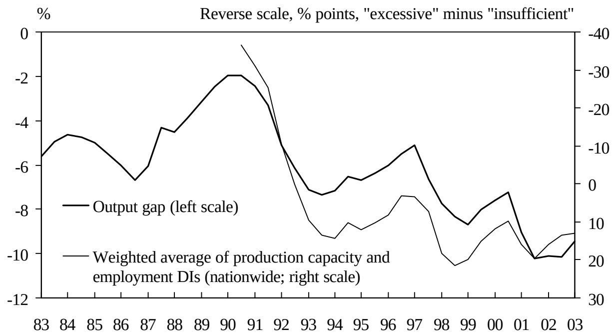
In other words, excluding the factors given above (the thin line in Chart 1 and the bottom row in the table of Chart 2), the recent decline is about 0.3 percent on a year-on-year basis. This shows that, while at a first glance the CPI has been moving rapidly from a nearly 1 percent decline to positive territory, it would be more appropriate to assess the underlying trend as the rate of decline narrowing only mildly, from around 0.7 percent to 0.3 percent, and a modest decline as still continuing. It is too early to conclude that the CPI has stopped declining at this stage.

That said, judged by the developments of the CPI from around 2001, the rate of decline has tended to become somewhat slower.[iv] This illustrates possibilities of some changes, albeit marginal, taking place in factors contributing to changes in prices. In this respect, the following three aspects will be examined: output gap, low-pricing strategies of firms, and consumer expectation on prices.

Somewhat narrower output gap

An output gap is the difference between the supply capacity of an economy and aggregate demand. This is the basic concept when evaluating the underlying inflationary or deflationary pressures from a somewhat long-term perspective. Chart 3 depicts the output gap estimated by the Research and Statistics Department of the Bank of Japan and a *Tankan*-based DI indicator similar to the output gap.[v]

Chart 3: Movements in the output gap related indicators



Notes: 1. The DI Indicator is the average of the diffusion indices of production capacity and employment conditions, weighted by capital and labor shares in national account (FY1990-FY2001 averages). The survey target for the production capacity DI was limited to the manufacturing industry before 1990/Q3. For this reason, the figures are calculated for the period from 1990/Q4, when the survey target was extended to cover the nonmanufacturing industry.
2. The output gap is estimated by the Bank of Japan, Research and Statistics Department.

Sources: Cabinet Office, "National Accounts," "Capital Stock of Private

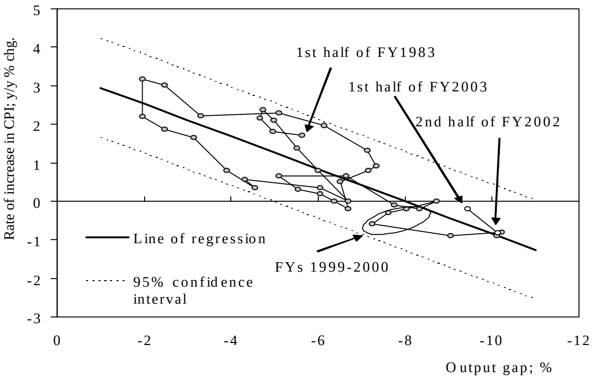
Enterprises Statistics"; Ministry of Economy, Trade and Industry, "Indices of Industrial Production"; Ministry of Health, Labour and Welfare, "Monthly Labour Survey"; Bank of Japan, "*Tankan*, Short-term Economic Survey of Enterprises in Japan," etc.

Looking at these indicators, the output gap dropped substantially, mainly around 2001, but bottomed out and has been improving slightly, reflecting business cycles.

Empirically, from a long-term perspective, there is a downward-sloping relationship (the Philips curve) between the output gap and the rate of changes in the CPI, in which when the output gap widens/narrows, the rate of decline in prices becomes larger/smaller (Chart 4).

Given this relationship, some improvement of the output gap can be a factor contributing to the slower rate of decline, at least to a certain extent.

Chart 4: Japan's Philips curve



Notes: 1. Estimation: Rate of changes in CPI = 3.36 + 0.42*output gap
t-value in parentheses (11.27) (9.11)
Sample: 1st half of FYs 1983-2003, R^2 = 0.68,
Standard error = 0.64
2. Effects from the consumption tax adjusted in the CPI (excluding fresh food). Year-on-year figures until 2000 are on the 1995 base. Includes the temporary factors mentioned above.
Sources: Ministry of Public Management, Home Affairs, Posts and Telecommunications, "Consumer Price Index," etc.

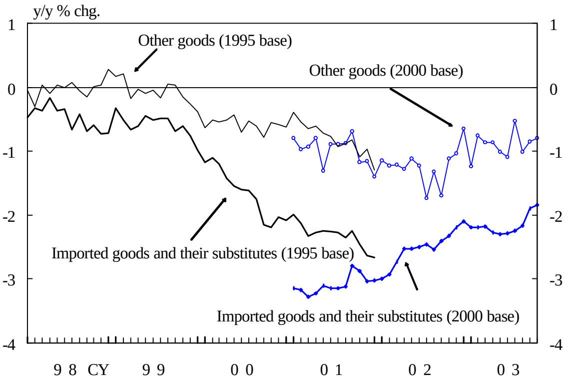
Firms' low-pricing strategies less notable

The relationship between the output gap and the inflation rate is sometimes far from downward-sloping, not only on a monthly or a quarterly basis, but also in a period averaged over 1-2 years. This is because, apart from the output gap, prices are also affected by various factors such as the temporary ones mentioned above, foreign exchange rates, and pricing strategies of firms.[vi] For instance, around 1999-2000, the output gap was improving along with the economic recovery. The year-on-year rate of decline in the CPI, however, expanded at that time (movement toward bottom-left in Chart 4). On the other hand, the rate of decline in prices did not expand as much toward 2002, although the output gap widened substantially from the economic slow down (horizontal right movement).

The output gap and prices did not move in tandem during this period, largely due to firms' low-pricing strategies. These types of strategies became widespread around 1999-2000; they have subsequently become less notable, and have occurred independent of business cycles. Around 2000, the business model of stimulating demand using inexpensive imports gained extreme popularity, mainly in apparel. This was fueled by the appreciation of the yen and the expansion in the supply capacity of East Asian countries. The influx of inexpensive imported goods had an impact of pushing prices downward not only through lowering production costs, but also through promoting competition and streamlining of distribution channels.

In this respect, by picking out imported products and their close substitutes from the CPI, it can be seen that the acceleration of the decline from 1999 through 2000 was particularly conspicuous in imported goods and their substitutes (Chart 5). On the contrary, their decline is recently decelerating. This shows that low-pricing strategies using inexpensive imported goods have become less notable.

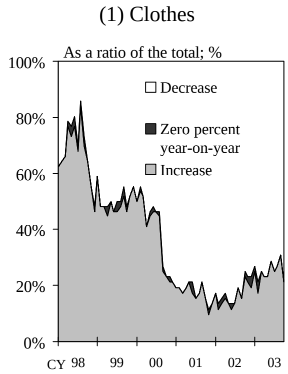
Chart 5: Movements of imported goods and their substitutes in the CPI

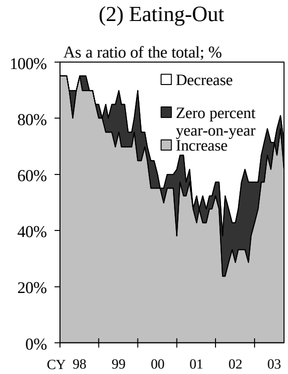


Note: For details, see the notes of the chart "Consumer prices of imported goods and their substitutes" in the Bank of Japan's *Monthly Report of Recent Economic and Financial Developments*.
Source: Ministry of Public Management, Home Affairs, Posts and Telecommunications, "Consumer Price Index."

Low-pricing strategies were widespread in industries directly associated with inexpensive imports, but they were also very popular at one stage, for example, in the food-service industry. As for the number of increasing/decreasing items in the "clothes" and "eating-out" categories in the CPI (Chart 6), from 1999 through 2001, the number of increasing items was clearly in decline and the number of decreasing items was dramatically on the rise. Recently, however, this tendency has reversed for both categories, as the ratio of increasing items is on a recovery trend. This may be partially related to the aforementioned improvement in the output gap, but, more importantly, it probably indicates that low-pricing strategies are no longer stimulating demand, and that firms are trying to unwind the previous situation.

Chart 6: Low-pricing strategies of firms observed in the CPI





Notes: 1. As for each item in clothes and eating-out, the year-on-year rate of change is calculated and the number of items are categorized into decline/zero percent year-on-year/increase. Here, clothes consist of "Clothes" and "Shirts, sweaters and underwear" in the CPI released by the Ministry of Public Management, Home Affairs, Posts and Telecommunications.
2. Effects of the consumption tax are adjusted. Data until 2000 are on the 1995 base.

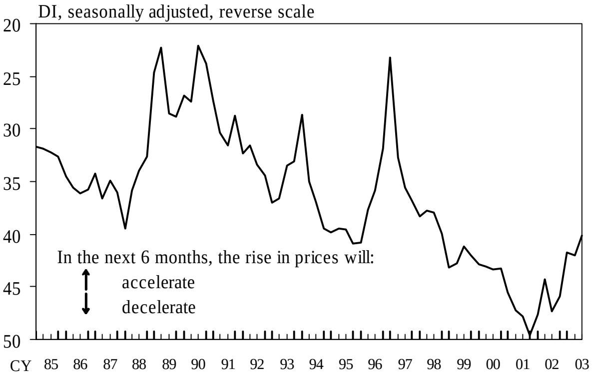
Source: Ministry of Public Management, Home Affairs, Posts and Telecommunications, "Consumer Price Index."

Changes in consumer views on prices

Chart 7 confirms how consumers observe these price movements, by looking at surveys conducted on them: consumer views on how prices will move based on the *Consumer Confidence Survey* released by the Cabinet Office. Until around 2001, consumers substantially inclined toward the view that the rise in prices will decelerate. After that to date, this trend has been waning.

Of course, it is likely that the temporary factors mentioned above have influenced consumer views on prices in 2003. From a somewhat long-term perspective, however, when looking at the movements from around 2001, it seems that consumer views also reflect their recognition of alleviating downward pressure on prices that results from improvement in the output gap and the less prevalent low-pricing strategies discussed above.

Chart 7: Consumer views on prices



Source: Cabinet Office, "Consumer Confidence Survey."

Outlook for consumer prices

As mentioned above, the recent weakening in the year-on-year rate of decline in the CPI has been substantially affected by temporary factors. Among the four factors mentioned in this paper, electricity added downward pressure in FY2002, yet it has not contributed to the additional increase this year. This indicates that electricity is not likely to affect the future year-on-year rate of the CPI. However, the other three factors—medical treatment, cigarettes, and rice—will continue to push prices upward for one year, and then, the upward pressure will dissipate. To this extent, the year-on-year rate of decline in the CPI in FY2004 will be larger than that in FY2003.[vii]

The question is how the underlying trend, or the part of price fluctuations that are affected by the developments in the output gap and the low-pricing strategies of firms, will improve in FY2004. Among these, the low-pricing strategies of firms can move independently of business cycles, and it is difficult to predict what will happen to them. Consequently, the remaining point here would be the outlook for the output gap; in other words, the pace and sustainability of economic recovery.

Judging from the overseas economic outlook, exports and production, and developments in corporate profits, the probability that the economy will continue to recover toward FY2004 is gradually rising. Nevertheless, with persisting downward pressures from structural factors such as excess debt and employment, the pace of economic recovery is likely to be only modest. Thus, the recovery is expected to narrow the output gap only marginally, and the downward pressure on the CPI is unlikely to disappear during FY2004.

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[i] In detail, the year-on-year increase of medical treatment in the CPI was about 13 percent in April-September, but the pace of increase slowed somewhat in October to around 9 percent. This was because the item had already risen in October 2002. As a part of the current public insurance reforms, medical cost burdens shouldered by the elderly had already been raised in October 2002, ahead of other reforms.

[ii] As of October 15, the rice harvest index released by the Ministry of Agriculture, Forestry and Fisheries, stood at 90, below the normal year (=100). However, the current situation is as serious as it was at around the same time in 1993 (the figure was 75) when the rice shortage was a major problem. Retail stores have been making efforts to restrain rice prices by promoting the sales of blended rice, which consist of less expensive rice and old rice. In the price survey that forms the basis of the CPI, the single-branded rice, such as *koshihikari*, is given a very large weight, which is fixed as of 2000. Hence, rice prices in the CPI may actually be higher than those that an average consumer would actually pay. The October CPI showed that the rate of increase in a single-branded rice was about 10-17 percent, and the increase of blended rice was approximately 6 percent. Since the weight of the former is larger in the CPI, this has pushed rice prices substantially upward.

[iii] In addition, the rise in petroleum products such as gasoline and kerosene is pushing the CPI up by about 0.1 percentage points. This is basically because crude oil prices surged in the early spring of 2003 due to escalated geopolitical risks and, even though they fell back temporarily, they continued to stay at high levels on the whole.

[iv] Price indices compiled using the Laspeyres formula, such as the CPI, have the characteristic that the rate of decline tends to become small (or the rate of increase becomes large) as time passes from the base year (the base year is 2000 for the current CPI). See Economic Commentary, "Why is the Rate of Decline in the GDP Deflator So Large?" (July 2003) by Maiko Koga, Bank of Japan, Research and Statistics Department. This aspect is also considered to have some effect on narrowing the rate of decline in the CPI compared to around 2001.

[v] For the estimation methods and caveats for the output gap used in this paper, see "The Output Gap and the Potential Growth Rate: Issues and Applications as an Indicator for the Pressure on Price Change," Bank of Japan Quarterly Bulletin May 2003 issue. Also available at http://www.boj.or.jp/en/ronbun/03/data/ron0305b.pdf

[vi] There may be substantial errors in the actual estimates of the output gap, as they are based on various assumptions.

[vii] As for rice in particular, if the crop in FY2004 turns out to be fairly normal, it is natural to think that rice prices will fall back from this year's high levels, which have been severely affected by the cool summer. Thus, attention should be paid to the possibility that this will not only dissipate the upward pressure on the CPI, but exert downward pressure on the CPI in FY2004. Moreover, for medical treatment, depending on the ongoing debate on this issue, medical treatment fees paid to medical institutions and government-set prices of prescription drugs may be lowered, creating some downward pressure.