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## Diagnosis: Macroeconomic Mistake, Not Structural Stagnation

Recent calls for Japanese economic stimulus, most notably at the G-7 finance ministers meeting on 15 April 1998, have been pitched in terms of two concerns: Asia cannot recover without greater Japanese growth and import demand, and data indicating that Japan is slipping into recession make the situation more serious than it was when Japan was merely growing slowly. While both of these concerns are valid, they do not address two issues of Japanese economic performance in the 1990s that must come first for Japanese policymakers: First, is macroeconomic stimulus the appropriate response to prolonged Japanese economic stagnation? Second, if stimulus is appropriate, how much growth should be the attainable goal of that stimulus? More detailed discussion of the role and form of fiscal expansion can only be tackled once these issues are resolved.

An inadequate countercyclical policy response to the 1980s asset-price bubble and its burst accounts for most of the Japanese growth slowdown in the 1990s. There appears to be little justification for invoking additional factors such as a wholesale decline in Japanese economic potential or in the competitiveness of the “Japanese model.” While there are significant structural problems in the Japanese economy that, if removed, would increase its long-run growth rate, there was no sharp worsening of these factors during this period that could be a proximate cause of the 1990s slowdown. The Japanese growth slowdown, therefore, merits a policy response of macroeconomic stimulus. Properly designed and implemented, that should be sufficient to restore growth. Deep structural reforms, although beneficial for both Japan and the world economy over

the long run, are not a necessary response to this short-run crisis.<sup>1</sup> This is because Japanese potential economic growth remains high even in the aftermath of the bubble. Accordingly, the goal of that macroeconomic stimulus should be to make the Japanese economy grow faster than potential—which, I argue, is likely between 2.0 and 2.5 percent annual real GDP growth—until the current output gap is closed by reemploying unemployed workers and unused industrial capacity. An economy in recession is analogous to a plant temporarily deprived of sun and food: the plant, once taken into the greenhouse and fed to make up for its deprivation, will bloom as if nothing had waylaid it.

## Why Japanese Slow Growth Merits a Macroeconomic Response

The potential growth rate of the Japanese economy is a benchmark for the extent to which current Japanese slow growth can be dealt with by macroeconomic policy rather than structural reform. If the decline in output in the 1990s could be fully explained as a drop in the potential growth rate of the Japanese economy—where that potential growth rate is the long-run trend rate at which the economy would grow and around which business cycles would fluctuate—then the appropriate fiscal and monetary policy response would be to do nothing. In other words, if the structure of the Japanese economy reset to a slower growth path in the 1990s, the change would represent the best possible result of Japanese markets as presently constituted. The only way to raise growth in that case would be deregulation and wholesale structural reform.

Such a structural change in potential growth would require an explanation, however, and no obvious one is available. While the asset bubble's collapse certainly was damaging to balance sheets throughout the Japanese economy and especially to those of banks, such a shock would not disrupt the fundamental capacity of the economy to grow. The basic financial "infrastructure" of intermediaries and bond and equity markets still exists, and technological capabilities more broadly in the economy were not lost. Certainly, no physical or human capital in the Japanese economy was suddenly destroyed or rendered obsolete during the 1990s (Kobe earthquake aside). As noted, there were no international shocks on par with the combination of the breakdown of Bretton Woods and the first oil shock in 1973, which marks the last great drop in the rate of

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1. See Bergsten and Noland (1993) and Bergsten, Ito, and Noland (forthcoming) for a discussion of an agenda for Japanese structural reform. It must be noted that most microstructural reforms (such as retail deregulation) are usually accompanied by short-run contractionary effects at the macro level, even as they offer long-run benefits (see the discussion in chapter 6).

productivity growth for the OECD economies (the Asian crisis, remember, followed over five years of Japanese stagnation). McKinsey & Company (1996) and Alexander (1997), among others, persuasively argue that Japan had a sharp decline in its relative and absolute rate of return on capital *around 1980*. While this implies that Japanese potential growth is at a lower *level* than it might have been, or many assume, it is not evidence of structural change since that time.

If a shock is not to blame, then what has gradually changed either in the Japanese economy or in its environment to knock it from its previous status as a fast-growing economy, if not a model economy? In terms of its external environment, improvements in the United States' or other countries' competitiveness should not affect Japan's ability to grow, unless Japan were being shut out of multiple strategic industries that offer special rents and growth spillovers. That would be a situation hardly consistent with either Japan's continuing success at exporting high-value-added products or with the research evidence on the limited number of such truly strategic industries. It is difficult to imagine that a complex industrialized economy such as Japan's could suffer a decline in its terms of trade that would affect a sufficient range of sectors in the way that a developing economy dependent upon one or a few commodities can be affected—especially without seeing a similar decline in similar countries.

Nor could the much remarked upon burden of rigidities and distortions in the domestic economy, such as the legitimately criticized protection in the Japanese retail sector, have “caught up” with Japan over time. Without government efforts to actively expand rather than merely protect (even zealously) special interests, competitive sectors with a greater real return will grow faster over time and attract more resources, thereby shrinking the burden of protection as a share of the economy.<sup>2</sup> For all the complaints about inertia on the part of Japanese policymakers in the 1980s and 1990s, the reality is not that they have *increased* regulation and inflexibility, but simply that they have not deregulated as quickly as is desirable. The government's Strategic Impediments Initiative has had real if small effects, there was financial deregulation a decade prior to this year's “Big Bang,” and some government construction contracts have been opened to more competitive bidding. As a result, the number of distortions in the Japanese economy has shrunk. For example, agricultural employment is down to 3 percent of the workforce, and more discount retail opportunities are

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2. An additional effect is that many special interests benefit from remaining small, excluding new entrants, and maintaining the ability to coordinate action on their own behalf (see Olson 1971). A classic illustration of this phenomenon of a shrinking burden even in the face of entrenched interests is the protection of coal mining in Western Europe, where the benefits to miners (and their unions) have remained steady or increased over time, while mining with all its public costs has continuously declined as a share of GDP.

available to Japanese consumers than ever before. Structural reform certainly offers further opportunities for efficiency gains, but an insufficient pace of reform cannot be the cause of the current growth slowdown.

It is better to think about Japanese macroeconomic performance from the viewpoint of fundamentals. A country's economic growth normally comes from three sources: growth in the stock of physical capital, growth in the stock of human capital (either the size of the available labor force or the skill and education of that workforce), and growth in the productivity with which labor and capital are used (known as "total factor productivity" [TFP] and thought to track technological progress). For a country's potential growth rate to shift, either its accumulation of physical or human capital must slow or its rate of TFP growth must decline.<sup>3</sup> Demographic and educational factors are slow to change, especially for mature societies such as Japan's. The only aspect of growth in the stock of human capital in the 1990s to change noticeably in Japan is a rise in the employment/population ratio (Haltmaier 1996), but this is hardly of size to account for the shortfall and is more sensibly understood as a response to temporarily declining income growth. Meanwhile, capital accumulation has slowed only slightly since the 1980s, as savings rates have remained high (even if returns to investment remain low).

Productivity growth is calculated as the residual of growth in per-worker income after growth in per-worker physical and human capital have been accounted for. Following Bosworth and Collins (1996), the average annual contribution to growth of each of these factors is calculated for Japan during the periods 1984-1990 and 1990-1994.<sup>4</sup> Assuming a constant capital share of 0.35 in production, the cumulative growth in TFP during 1984-1990 was 9 percent, and it declined to just under 4 percent in 1990-94 (i.e., a difference on the order of 0.5 percent a year). If the capital share is allowed to rise with capital's share of income during the investment boom, which averaged 0.42 in 1984-1990, the productivity numbers change very little. Ultimately, there is no drop in TFP growth of a magnitude sufficient to justify a significant downward revision of Japanese potential growth. The observed drop is nowhere close to comparable to the generalized drop in productivity growth seen in 1973 in the

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3. Recent economic theories of "endogenous" growth emphasize that some factors have positive externalities for growth beyond their direct usage. To some extent, these are captured by the weighting of the labor force for its quality; another source featured in these models is technological progress embodied in capital. As discussed in Bosworth and Collins (1996) and Young (1995a, 1995b), however, there is little empirical support for this claim as a major source of growth. In any event, such spillovers from capital investment would be far more likely to accrue to an economy that is in a state of technological catch-up than to one at the cutting edge of many industries such as today's Japan.

4. All data are taken from World Bank *World Data* and from Penn-World Tables as in Bosworth and Collins (1996).

industrialized countries or to the drop in Japan around 1980 previously mentioned. It is, in fact, within the range of the usual variation of productivity with the business cycle.

Given the determinants of cross-country differences in long-run growth rates, Japan's potential growth rate should remain high in the 1990s. The neoclassical growth model predicts that economic growth is driven by two fundamental forces: convergence of low-income countries to the higher-income countries' level (through the diffusion of capital and technological knowledge) and determinants of countries' ability to accumulate and make use of productive factors at whatever initial income level. The latter include such factors as schooling and life expectancy (which affect the level of human capital), government consumption and inflation (which affect the accumulation of investment capital), and the rule of law and respect for property rights (which affect labor and capital productivity, as well as technological progress). Lower fertility actually increases per capita economic growth because when a population is growing, a portion of the economy's investment is used to provide capital for new workers rather than more capital per worker, and *per capita* growth is what we are concerned with when we speak about productivity and economic welfare. None of these growth fundamentals changed in Japan in the 1990s from their relatively positive score in international comparison.

Taking all these factors into account, a recent study makes a long-run forecast of 3.2 percent annual real economic growth for Japan from 1996 to 2000 (Barro 1997, 43). While this estimate is somewhat imprecise, it is consistent with what would be generated by any mainstream cross-national growth regression, and the average growth forecast for the remaining rich OECD members, based on these fundamentals, is 0.8 percent lower.<sup>5</sup> This high growth rate obtains even taking into account the fact that, given Japan's current high income and position at the technological frontier, convergence is working against Japan. In fact, the estimated effect of convergence in the panel regression estimated comes in part out of Japan's rapid catch-up in the 1950s and 1960s. This number is almost certainly an overestimate, and more realistic estimates of the level of potential growth are generated later in this chapter. Nonetheless, taking the long view reminds us that it is difficult to find anything in 1990s Japan that could justify a significant negative *change* in the level of Japanese potential growth.

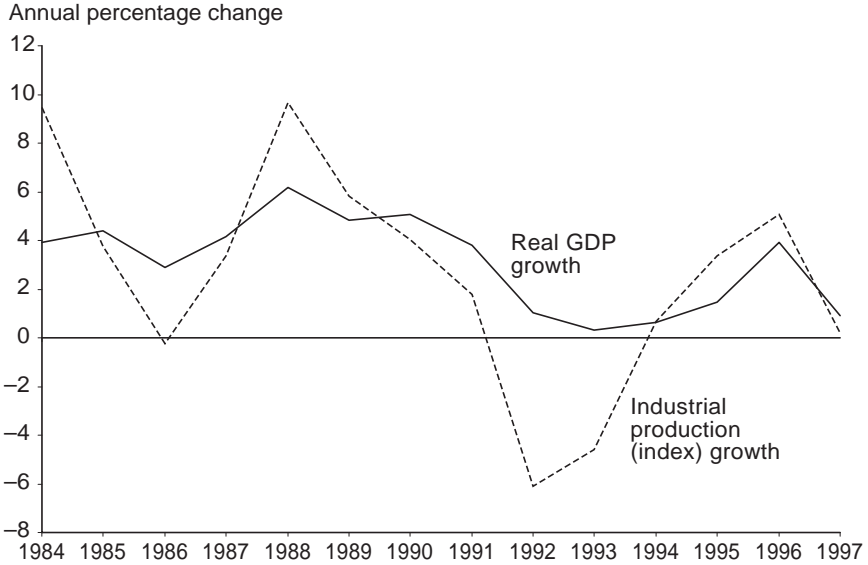
## What Has Happened to Japanese Economic Growth?

The movements of Japanese macroeconomic aggregates and the order in which they moved tell the story of an economic decline caused by fiscal

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5. The 95 percent confidence interval on forecasts made from this regression is 2.0 percentage points in each direction. By "rich OECD countries," I mean that Mexico and Turkey are excluded from this average.

**Figure 1.1 Real GDP and industrial production growth, 1984-97**



Note: Both are annual growth based on the calendar year.

Sources: For GDP, Economic Planning Agency of Japan, <http://www.epa.go.jp>.

For industrial production, Ministry of International Trade and Industry of Japan, <http://www.miti.go.jp>.

austerity and financial *laissez-faire*. The basic message here is that investment bust and government inaction led to most of the decline. Consumer and inventory factors followed these downward, which is inconsistent with a story of structural change.

Since the bursting of the asset-price bubble, economic growth in Japan has stagnated. From 1992 to 1997, annual real growth in Japanese GDP has averaged 1.4 percent—a number biased upward by the 3.6 percent burst in 1996.<sup>6</sup> Industrial production actually declined sharply in 1992-93 and again in 1997, and has not yet returned to its 1991 level (see figure 1.1). While some slowdown in economic performance was likely after the strong growth seen during the 1988-91 boom (when GDP grew by an average of 4.9 percent annually), the present downturn exceeds the normal depth and duration of a business cycle in Japan and elsewhere. The downturn is particularly striking given that the two major external influences on the Japanese economy—the yen/dollar exchange rate and

6. Leaving out 1996, growth averaged only 0.9 percent. This higher growth rate in 1996 can be largely attributed to the effects of a one-time policy mix cut short, rather than a return to a recovery track, as discussed in chapter 2.

**Table 1.1 Real GDP annual growth, 1992-97 (percentages)**

	Japan	United States	Europe <sup>a</sup>
1992	1.0	2.7	1.0
1993	0.3	2.2	-0.3
1994	0.6	3.5	2.9
1995	1.5	2.0	2.4
1996	3.9	2.4	1.8
1997	0 <sup>b</sup>	3.8	2.6 <sup>c</sup>
1992-97	1.2	2.8	1.7

a. United Kingdom, Germany, France, Italy, Netherlands, and Spain.

b. The source is *Monthly Finance Review*, February 1998, Ministry of Finance of Japan.

c. This is a predicted value, as of October 1997.

Sources: Japan and United States: *International Financial Statistics, IMF*; *Stat USA*, US Department of Commerce; Europe: *IMF World Economic Outlook*, May and October 1997.

the price of oil—have been relatively sedate if not entirely benign.<sup>7</sup> The Japanese macroeconomic performance has been poor in comparison to that of the United States (2.6 percent average annual real GDP growth from 1992 to 1997) and even of the slow-growing European economies (the combined average annual real GDP growth of the United Kingdom, Germany, France, Italy, Netherlands, and Spain was 1.7 percent from 1992 to 1997), as shown in table 1.1.

Looking more closely at the development of Japanese GDP and its components from 1984 to 1997, the boom and bust in growth can be largely accounted for by a major swing in nonresidential investment (see table 1.2). In the years of particularly strong economic growth, from 1987 to 1990, this investment growth accounted for 2.0 percent a year in GDP growth on average; the share of investment in real GDP climbed from 13 percent in the early 1980s to an average 19 percent share during the boom. When investment declined in real terms to 7.2 percent of GDP in 1992 and 10.4 percent in 1993, as compared to an average rate of growth of 12 percent a year from 1987 to 1990, it cumulatively took 3.3 percent off GDP in those two years. While private consumption growth declined between the late 1980s and the 1990s, dropping from an average annual contribution to GDP growth of 2.7 percent in 1987-1990 to 0.7 percent in 1992 and 1.0 percent in 1993, this effect takes a back seat to the swing in investment. Private consumption continued to show positive growth rather than contraction until 1997. This leading role for investment is consistent with the standard story that macroeconomists tell of the Japa-

7. While it is true that the yen appreciated 20 percent versus the dollar between January and April 1995, by historical standards this was not an unprecedented swing, and it was more than fully reversed by September 1995. The US economy, on the opposite end of this currency fluctuation, has not shown major ill effects from it.

**Table 1.2 Contribution to growth of GDP of components, 1984-97 (percentages)**

Fiscal year	Private consumption	Residential investment	Nonresidential investment	Private inventory	Government consumption	Public investment	Public inventory	Net exports	GDP
1984	1.5	0.0	1.5	0.2	0.2	-0.3	0.1	0.8	4.1
1985	2.1	0.1	1.7	0.1	0.1	-0.5	0.0	0.5	4.1
1986	2.3	0.5	0.5	-0.3	0.5	0.4	0.1	-0.8	3.1
1987	2.4	1.3	1.2	0.1	0.2	0.6	-0.1	-1.0	4.8
1988	3.3	0.3	2.6	0.5	0.2	0.0	0.0	-0.8	6.0
1989	2.5	0.1	2.1	0.0	0.2	0.1	0.0	-0.6	4.4
1990	2.4	0.3	2.1	-0.1	0.2	0.3	0.0	0.3	5.5
1991	1.6	-0.7	0.5	0.3	0.1	0.5	-0.1	0.7	2.9
1992	0.7	-0.2	-1.4	-0.7	0.2	1.1	0.0	0.6	0.4
1993	1.0	0.2	-1.9	0.0	0.2	1.0	0.0	-0.1	0.5
1994	0.9	0.4	-0.4	-0.2	0.3	-0.1	0.1	-0.3	0.6
1995	1.9	-0.4	1.2	0.2	0.3	0.7	0.0	-1.0	2.8
1996	1.7	0.7	1.5	-0.1	0.1	-0.2	0.0	-0.4	3.2
1997	-0.7	-1.1	0.4	0.2	0.0	-0.5	0.0	1.5	-0.3

Note: The 1997 figure is the average of the first three quarters of FY 1997. The contribution of each GDP component is calculated as the change in the component divided by the initial level of GDP, that is,  $(C_t - C_{t-1})/GDP_{t-1}$ .

Source: Economic Planning Agency, <http://www.epa.go.jp>.

nese economic slowdown in the 1990s.<sup>8</sup> Easy monetary policy and a rising yen in the mid-1980s contributed to a rise in stock and, with a lag, land prices in Japan. The rise in equity and property values (and, thus, in corporate cross-shareholdings) provided ample collateral for cheap borrowing, which fed further asset demand. The secular rise in asset prices, without signs of inflation in the rest of the economy, led to the Ministry of Finance's reluctance to instruct the Bank of Japan to raise interest rates. United States pressure for low interest rates also contributed to that reluctance. Starting with a 75 basis-point rise in May 1989, however, the Bank of Japan did tighten monetary policy sharply, raising its instrument interest rate by a total of 450 basis points in only 14 months.<sup>9</sup> Stock prices fell quickly and far from a December 1989 peak and, with a four-month lag, so did land prices, albeit not as far.

This asset-price decline reversed the borrowing cycle, as everyone's collateral lost value, banks tightened lending, and borrowers faced rising debt burdens as a proportion of their capital. The contraction of credit and expansion of debt fed back into a decline in aggregate demand, which put further downward pressure on asset values. As a result, Japanese economic growth peaked in the second quarter of 1991, shortly after stock prices peaked. The Bank of Japan kept real interest rates high for an extended period, not lowering nominal rates again until after real estate prices began to decline in spring 1990. Although the effects of tighter money on equity markets is almost immediate, there is a long lag, on the order of two years, between monetary easing and its effects on real economic growth. Therefore, the Bank of Japan's delay in allowing interest rates to fall exacerbated the situation.<sup>10</sup> This contractionary cycle can be seen in the real declines in investment in 1992-94 shown in table 1.2 and in the resultant GDP stagnation.

In summary, the recent course of Japanese economic growth is the result of an overly lengthy investment boom, followed by a proportionately sharp backswing after the bubble burst. Such a bubble and investment response is hardly an unusual process for any market economy in which banks and collateralized lending play a role.<sup>11</sup> The savings and

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8. For longer narratives largely along these lines, see Bordo et al. (1997), Fisher (1996), Kiyotaki and West (1996), Miller (1996), and Miyazaki (1997).

9. Other monetary policy measures that acted to restrain credit growth included a ceiling on banks' real estate lending imposed in April 1990 and the enforcement of the Basle capital accord minimum starting in March 1993.

10. The Bank of Japan should not be heavily criticized for this policy timing. As has been seen worldwide in the 1990s, monetary policymaking is extremely difficult in the face of asset-price inflation.

11. Kiyotaki and Moore (1997) give a formal model of "credit cycles" amplified through the use of land as collateral, building on a long-standing macroeconomic literature on debt deflation.

loan crisis in the United States and the accompanying overhang of consumer and business debt, the real estate property bust in the late 1980s in the United Kingdom, and the 1990s banking crises in France, Spain, and the Nordic countries are several recent examples of such events driving business cycles on a smaller though sizable scale.<sup>12</sup> In addition, this story of a credit boom and bust driving the recent Japanese business cycle does not require invoking such additional factors as the inefficiency of the Japanese “economic model” or rampant corruption of financial supervision (though the latter certainly did not help matters in 1990s Tokyo, as it did not in 1980s Arizona and Texas). Clearly, this interpretation recognizes the importance of bad loans to the banking system and of harm to balance sheets throughout the economy. If anything, it assumes that such swings in credit, frequently in response to monetary policy, are a major contributing factor to business cycles in Japan and elsewhere.<sup>13</sup> While the accumulation of these financial burdens has contributed to the persistence of the current downturn, that is not evidence that this decline in corporate and household wealth represents a change in Japanese economic fundamentals. Rather, it should be seen as the standard response of the economy to a credit contraction on a larger scale. Kiyotaki and West (1996) and Fisher (1996) estimate models of Japanese investment based on pre-1990s data and find that investment in the early 1990s responded to movements in output and in interest rates in a sensible way, consistent with their predictions.<sup>14</sup> Stated more generally, even severe economic downturns can arise out of the aggregation of individually rational financial decisions with no “real reason” or exogenous shock to blame. This recognition emphasizes the desirability of responding forcefully to movements in aggregate demand, because inefficiencies (such as adverse selection of investment projects) increase during downturns; if business cycles instead reflected real economic shocks, then any policy response would imply working against the proper functioning of markets.

Returning to the movements of GDP components shown in table 1.2 underscores the interpretation that it was a credit boom and bust that

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12. Fisher (1996, 327) reports that Bank of Japan Governor Yasushi Mieno “sent delegations to the United States and the United Kingdom to investigate how their financial authorities dealt with the property collapses in London and the savings and loan crisis” in the months before interest rates were raised.

13. Much work in macroeconomics in the last decade has focussed on this idea of the importance of the “credit channel”; Bernanke and Gertler (1989) and Bernanke, Gertler, and Gilchrist (1998) summarize this literature.

14. “[O]ne does not have to give pride of place to extraordinary asset price movements to tell a coherent story about the behavior of investment” (Kiyotaki and West 1996, 278); “The fact that endogenous [monetary] policy as estimated from past data accounts for a considerable portion of the fall in output (and investment) is also consistent with the view that the recent recession is not anomalous relative to historical experience” (Fisher 1996, 337).

was allowed to drag on for too long that led to the low-growth 1990s in Japan, and not a shift in fundamentals. Only nonresidential investment and private consumption show meaningful variation, as already discussed. Except for 1991, when land prices tumbled following the earlier equity-price collapse, and 1997, when a spring tax increase cut into housing demand, growth in residential investment never moved sufficiently to be of importance in explaining GDP. Inventories have long been insignificant as a source of business cycles in Japan (see West 1992) and, in these data, continued to play almost no role in the 1990s.<sup>15</sup> As can be seen, the contribution of net exports to Japanese GDP growth did fluctuate in the 1990s, but in no apparent relationship to the multiyear trends in GDP growth. Sensibly, year-to-year swings in Japanese net exports are largely determined by movements in exchange rates (e.g., the large surpluses during the strong dollar years of the 1980s and the decline in the surplus in 1995 following the appreciation of the yen against the dollar).

If the Japanese economy were going through a fundamental transformation in this period—or, as some argue, refusing to transform itself as the international economy changed around it—movements in these other components would explain a greater share of the GDP growth slowdown. Failure to plan properly or rapid forced sectoral change should precipitate a rise in inventories, which should *precede* and lead to the main decline in GDP, as companies take time to adapt or consolidate. Declining general international competitiveness or a terms-of-trade shock to certain Japanese exports should show up as a trend decline in net exports. A radical shift in consumers' savings patterns should have produced significantly underpredicted swings in consumption and a commensurate alteration in the demand for housing (as a store of value)—again, *ahead* of the subsequent decline in GDP. None of these sequences or shifts occurred.<sup>16</sup> None of this argument denies that much of the investment in Japan in the 1980s was wasteful or at least low returning. However, there was no worsening of this return to investment. McKinsey & Company (1996) and Alexander (1997) show that these low returns date back to 1980 and that they did not sharply decline further in the 1990s.

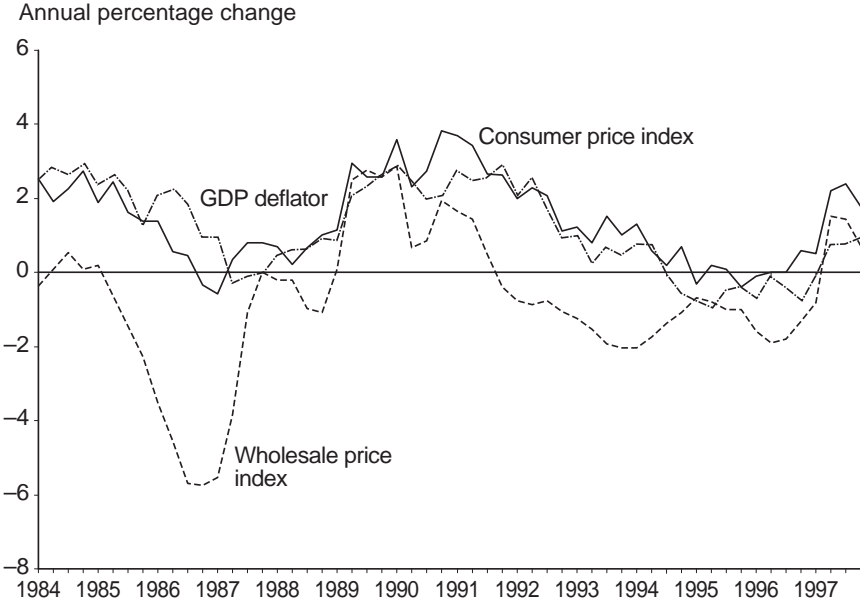
Figure 1.2 plots the annualized quarterly change in three measures of the Japanese price level. There was a clear downward trend in inflation based on the consumer price index (CPI) from January 1991 to the end of 1995, with the monthly rate dipping into outright deflation on 11

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15. This pattern may reflect the early and wide adoption of “just in time” inventory management in Japan, because, until recently, variations in inventories played a much larger role in US business cycles.

16. Starting in the second half of 1997, consumption finally did decline rather than slow, as noted, and inventories did build up in a significant way, thus lagging the main developments in GDP, and, therefore, understandable as the result of persistent stagnation due to a lack of aggregate demand.

**Figure 1.2 Inflation, 1984-97**



Note: The figures are calculated based on CPI and WPI end of quarter/over quarter.

Source: Economic Planning Agency, <http://www.epa.go.jp>.

occasions since January 1994. Movements in the wholesale price index (WPI) and the GDP deflator, two alternative measures of the price level, show even greater tendencies to deflation in recent years. The upward shift in inflation in April 1997 in all three series is associated with the rise in the consumption tax from 3 to 5 percent (after one year, this one-time effect on the price level will drop out, and actual inflation should be thought of as the measured level minus that jump).<sup>17</sup> These price movements tracked the path of GDP growth seen in figure 1.1, which is consistent with interpreting this as a decline in aggregate demand. Had there instead been a structural decline in the Japanese economy, say in the relative prices of traded versus nontraded goods or in the productivity of workers, the likely result would have been inflation, because Japanese purchasing power would have declined.

Meanwhile, the paths of government consumption and public investment, the remaining components in table 1.2, did exert significant influ-

17. Moreover, in Japan, as in all industrialized economies, measured inflation is biased upward from true inflation, because the basket of goods priced takes too little account of improvements in quality and substitutions for more expensive goods as prices change. Depending on the size of this measurement error, a CPI inflation rate of 1 or even 2 percent could represent actual price deflation.

ence on the course of Japanese GDP in the 1990s through their conspicuously inappropriate variation. Government consumption, which includes the unemployment and social welfare transfers expected to automatically move in the opposite direction of the business cycle, grew no more quickly than during the 1980s boom and contributed little to growth. Public investment did move countercyclically with large announced stimulus packages in 1992, 1993, and 1995—but not on a par with the size of the slowdown—and even turned contractionary in 1994, 1996, and 1997.<sup>18</sup> This pattern of fiscal austerity in response to a severe decline in aggregate demand is ultimately the story of what has happened to Japanese economic growth.

## How Much Growth Should Japan Try to Achieve?

To get a sense of Japanese economic performance in recent years, it is best to focus on estimates of how much short of potential Japanese growth fell. Taking slow growth as given, or fixating on whether Japan is in actual recession (negative growth), misses the point. An output gap is the amount that GDP growth falls below potential, or the sustainable long-run trend in a given year. The cost of a recession may be thought of as the lost wealth of the cumulative below potential growth, the negative output gaps, during that recession.

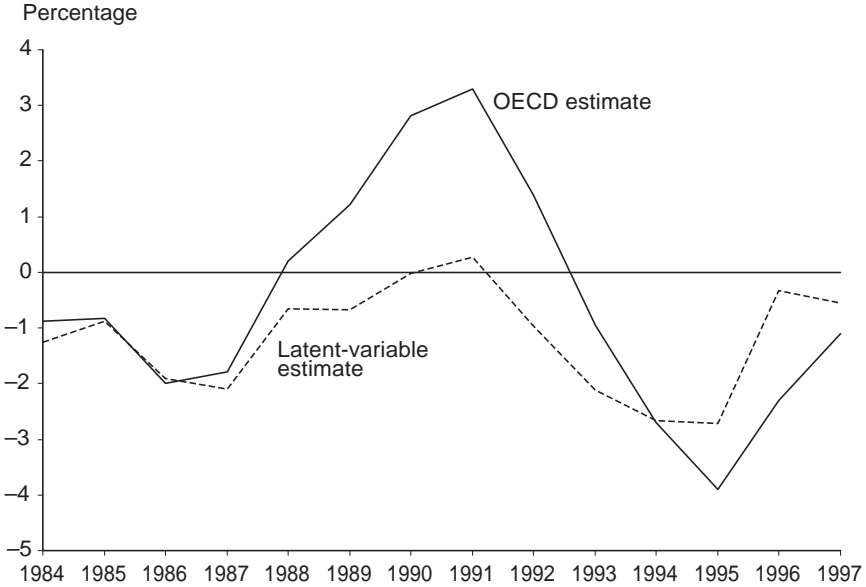
To estimate an output gap requires some assumptions about the potential growth rate. Luckily, one need not assume either that one can discern directly the inherently unobservable potential growth rate of the economy or that whatever the recent average growth rate was is the true potential rate. In the short run, an economy that runs below potential generates slack, that is, capital and labor resources being underutilized. The logic of supply and demand says that excess capacity should put downward pressure on factor returns (such as wages) and, therefore, on inflation. The converse, that when an economy has a falling rate of inflation there remains slack in the economy, can be used under appropriate circumstances to identify output gaps statistically.<sup>19</sup> To the extent that prices and wages are sticky downward (i.e., resist nominal declines) as inflation nears zero, such an estimate will *understate* the magnitude of the output

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18. A detailed analysis of these packages and their impact is given in chapter 2.

19. Of course, the statement “If there is an output gap, then there is declining inflation” is not logically equivalent to the converse. There are other reasons why inflation might decline, such as an increase in the counterinflationary credibility of the central bank or an appreciation of the domestic currency. In 1990s Japan, however, neither of these factors would appear to be driving prices. Furthermore, there are statistical measures in any situation that can be used to control for these other factors.

**Figure 1.3 Output gap, 1984-97**



Source: *Economic Outlook*, November 1997, OECD; author's calculations.

gap in the economy, because stability of the inflation rate will falsely imply that potential output has declined to absorb most of the slack.

This caveat is highly relevant to the current Japanese situation because disinflation continued during the 1996-97 period of a declining value of the yen and prolonged loose monetary policy from the Bank of Japan, both of which normally would lead to rises in the inflation rate (see figure 1.2). Thus, the path of prices was consistent with the interpretation that price pressures diminished as slack in the economy accumulated. The absence of any second-round effects on inflation via the passing on of the 1997 indirect-tax rise (i.e., that one-time shift in the inflation level followed by a change in the trend of inflation) is further indication of the lack of pricing power in the slack Japanese economy.

It is possible to be more rigorous about determining the existence and magnitude of an output gap in Japan. Figure 1.3 plots output gaps for Japan estimated by two different methods.<sup>20</sup> The OECD figures are from their “production function” approach, which decomposes potential output into its technology, labor, and capital components, and estimates full-employment levels of each (this is consistent with the discussion of sources of growth given above). This bottom-up approach requires certain

20. See Haltmaier (1996) and Laxton and Tetlow (1992) for discussions of the various methods in current literature.

assumptions about factor markets, such as what constitutes the NAIRU (the nonaccelerating inflation rate of unemployment, or the full-employment level of unemployment) and the potential labor-force participation rate.<sup>21</sup> The latent variable approach, following Kuttner (1994), uses a statistical method to derive estimates of potential output that are consistent with observed inflation rates.<sup>22</sup> In short, the two output-gap series shown provide a comparison between estimates of potential output where the former is structural but requires ad hoc decisions to pick up changes, and the latter is statistical but highly adaptable to current conditions. The output gap should be smaller under the latent-variable approach, because it allows more for a recent run of slow growth to represent a change in potential growth; it is also more likely to perceive problems of price- and wage-stickiness near zero inflation as an indication of drop in potential.

For purposes of this paper, and the discussion of the current Japanese macroeconomic situation, the message is clear. Both methods indicate that sizable output gaps existed in the Japanese economy beginning in 1992 or 1993. Surprisingly, by the latent-variable estimate, the solid growth of 1988-91 was not in excess of potential; this is consistent with an estimated drop in the potential output growth rate from over 4.5 percent in 1988 to between 1.5 percent and 2 percent after 1992.<sup>23</sup> The OECD output gap shown in figure 1.3 is based on 2.6 percent average potential annual growth since 1991.<sup>24</sup> On both measures, even the strong growth in 1996 is not enough to close the gap in that year, and above-potential growth would be necessary to reemploy all the resources underutilized in the Japanese economy at present. Thus, even allowing for an unprecedented and, as discussed above, difficult to justify short-run decline in Japanese potential annual economic growth on the order of 2.5 percent, the performance of the economy was still poor in terms of aggregate demand. Structural explanations are insufficient to account for the growth decline.

## Implications for the Current Policy Discussion

The implications of recent poor Japanese economic performance being the result of insufficient demand may seem obvious. However, if Japanese policymakers have fully comprehended this point, then their response

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21. See OECD (1994) for a detailed discussion of their methodology.

22. See the appendix for a discussion of its implementation on recent Japanese data.

23. This amount is so out of step with the evolution of productivity in any other country or time period as to be difficult to believe except as a statistical artifact (see the appendix).

24. The latest version of *OECD Economic Surveys: Japan* (OECD 1997c, 15) changes this to 3.25 percent from 1988-93 and 2 percent per year since then. The current Japanese Economic Planning Agency estimate of average potential growth in 1990-96 is 2.7 percent.

has been insufficient. Japan is not only growing more slowly than in the glory days of the 1960s and 1970s or than during the recent bubble years, it is falling short of the rate at which it can grow *now* by a larger amount than it has *ever* fallen short of its potential in the postwar period. The cost of this forsaken growth can be seen by adding up the cumulative four-year output gap, using either method, for every four-year period, starting in 1971-74: either the 1993-1996 or the 1994-97 observations are the largest (most negative) under both the latent-variable and OECD estimates. Because the output gap by construction represents movements in output that reflect aggregate demand rather than structural factors, this is simply national wealth forgone. That is not to say that all of the output gaps of the 1990s were avoidable through fiscal and monetary fine-tuning. No one would suggest that any government could ever smooth out all business-cycle fluctuations or that output-gap measures, however estimated, provide a precise metric of how much and when to offset.

Yet discussions that implicitly or explicitly compare the benefits of counteracting such a pronounced shortfall in Japanese national income to a program of saving money in pursuit of any other policy goal have a difficult time justifying the former, because the cumulative cost of growth forgone is so large having been allowed to persist for so long. Let us assume that any discretionary policy response to the Japanese downturn would only have begun in 1994, since the first two years could have been perceived as a normal downturn, perhaps even a desirable offset to the preceding boom. The cumulative output loss from 1994 to 1997 is 6.26 percent of GDP by the latent-variable estimate and 9.80 percent by the OECD estimate (if the benchmark forecast of 3.2 percent for long-run Japanese growth that is based on the fundamentals were used, it would be percentage points higher still). It should also be remembered that, when a given year's output gap is closed, above-potential growth until the slack is taken up would not be accompanied by any meaningful rise in inflation. No economic policy option—not deregulation, nor fiscal consolidation, nor even saving for the burdens of an aging society—comes close to having this large a direct impact on national economic well-being in such a short span of time as this cost of unrestored growth.

From the viewpoint of national welfare, there is nothing special economically about the Japanese economy entering into recession, that is, having below-zero growth. The benchmark to measure performance is the shortfall from potential. As a result, stimulus attempts that are solely intended to be sufficient to keep growth nonnegative are setting far too paltry a goal. Concerns that negative growth has additional destructive effects beyond the obvious distance from potential growth—such as inducing a financial crisis or a cycle of increasing consumer reluctance to spend—are more directly related to deflation and accumulation of bad assets than to negative growth per se. In any event, they only add to the urgency with which stimulus must be undertaken. They do not, however, indicate either that macroeconomic stimulus would be insufficient or that it is enough to merely prevent meltdown.