

The Myth of the Investment-Led Recovery

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DEAN BAKER

# *The Myth of the Investment-Led Recovery*

*The investment-led recovery is an artifact of unrevised data. It will lose its statistical foundation altogether once the Bureau of Economic Analysis publishes its revisions in 1996.*

The popular wisdom about the current recovery is that investment has been a leading force in bringing the economy out of the recession. According to this view, the deficit-reduction package that was pushed through by the Clinton Administration would lead to an immediate (with its initial proposal) and sharp fall in interest rates. That, in turn, would provide a powerful stimulus to investment. And it would lift the whole economy. This investment would help to offset the fall-off in demand attributable to the spending cuts and tax increases in the deficit-reduction package. In the longer term, it would lead to higher productivity growth, and therefore more jobs at better wages, than if the deficit-reduction package not been put in place.

In fact, this story depends entirely on the peculiar treatment of computers in the government's measure of investment. While the most frequently used 1987-fixed-weight measure of investment shows double-digit growth for every quarter since Clinton took office, more accurate measures of investment show a very different picture. It can be shown unambiguously that:

- Investment has provided *less* demand stimulus in this recovery than the average of the prior four recoveries;

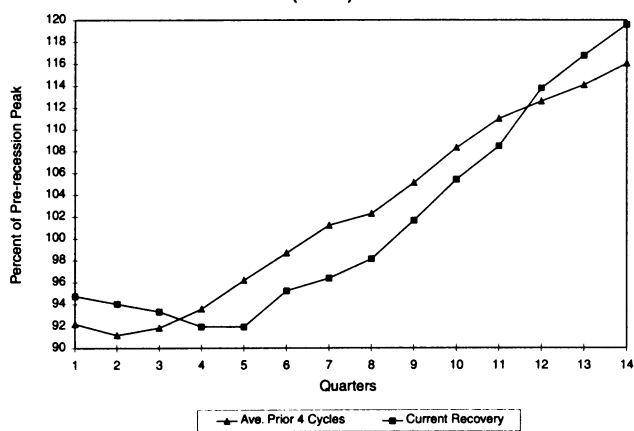
- investment as measured by the Bureau of Economic Analysis' (BEA's) "chain-type annual weights" index has grown less rapidly than in the prior four recoveries;

- after the BEA does its comprehensive revisions to GDP data in the summer of 1996, its new fixed-weight measure of investment will show that investment (at least through the second quarter of 1994) has grown less rapidly than the average of the prior four recoveries.

The fall in interest rates that both preceded and followed the announcement and approval of the Clinton deficit-reduction package undoubtedly has had a stimulatory effect on the economy. Thus far, this has largely offset the contractionary impact of deficit reduction. But this stimulus has been felt primarily in the areas of consumer durables and residential housing. To date, there is no evidence that investment has been increased as a result of deficit reduction to levels beyond what would be anticipated in any recovery from a recession. While there is nothing wrong with consumers spending more on durable goods or housing, neither of these sectors will produce the future productivity-growth dividend from deficit reduction that was promised. If important government programs are being sacrificed in the name of deficit reduction (including types of public investment that will lead to future productivity growth), then a payoff that is only in the form of more consumption of durable goods and housing seems rather dubious. At the very least, this is not the basis on which the deficit-reduction package was sold to the public.

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Figure 1 Investment/Prerecession Peak (Real)



Source: The Bureau of Economic Analysis.

### The case for the investment-led recovery

The claim that investment has been a leading force in this recovery stems from the BEA's 1987-fixed-weight index measure of investment. This index does show strong investment growth in this recovery, beginning with the second quarter of 1992. By this measure, investment has grown at a nearly 14 percent annual rate from the second quarter of 1992 through the second quarter of 1994 and compares very favorably with that of prior recoveries. *Figure 1* shows the quarter-by-quarter level of investment in the current recovery, compared with the average of the prior four recessions. In both cases, investment is expressed as a percentage of the peak quarter prior to the onset of the recession. As can be seen, in the current recovery, investment originally lagged behind its performance in prior recoveries. This began to change with the second quarter of 1992 (quarter 6). The gap closed rapidly in the next five quarters, and the current recovery's investment performance moved above the average of the prior four recoveries in the fourth quarter of 1993 (quarter 12). The current recovery has moved further ahead in the last two quarters.

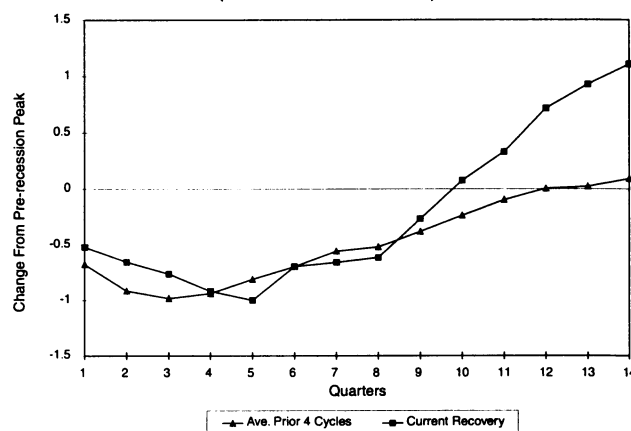
When expressed as a share of GDP, the performance of investment looks even stronger in the current recovery. Since overall GDP growth has been considerably slower in this recovery than in the prior four, the same amount of growth of investment has amounted to a much larger growth in the share of GDP. *Figure 2* compares investment expressed as a share of real GDP in this recovery with its performance in the prior four recoveries. The lines show the change in investment (measured as a percentage

of GDP) from its prerecession peak. As can be seen, investment performance expressed as a share of GDP initially has exceeded the average of the prior four recoveries. This was due to the extremely weak GDP growth through the first year of the recovery. This gap was closed in the first quarter of 1992 (quarter 5), and the two lines remained close even through the fourth quarter 1992 (quarter 8). At that point, the investment performance in the current recovery took a sharp upward turn. By the second quarter of 1994, the growth of investment (expressed as a share of GDP) was over one percent larger than the average of the prior four recoveries.

Taken together, these two graphs present a picture of very strong investment growth. The second graph shows that investment has been a leading source of demand that has pushed the economy forward. The first graph indicates a large increase in the quantity of investment being put in place. It should provide for large increases in productivity and, therefore, wages and living standards in future years. This is an extremely optimistic portrayal of the current economic situation. It is also extremely misleading.

The strong performance of investment shown in Figures 1 and 2 depends entirely on the peculiar way in which the BEA measures computer investment. In the fixed-weight index used above (the most frequently cited measure of investment), the BEA counts computers at the price they would have sold for in the base year of 1987. They calculate the price of computing power in 1987, based on speed, random access memory, and other key features of computers and related equipment. They then count each

Figure 2 Investment/Prerecession Peak (Share of Real GDP)



Source: The Bureau of Economic Analysis.

computer sold in subsequent (or prior) quarters based on what it would have cost to purchase that much computing power in 1987. For example, suppose that a standard notebook computer that sold for \$1,200 in the second quarter of 1994 has as much computing power as a \$10,000 workstation did in 1987. In its fixed-weight index, the BEA would count the \$1,200 computer as a \$10,000 expenditure. Since computing power is falling so rapidly in price, this leads to a situation where there is an enormous divergence between the fixed-weight measure of computer investment and what is actually being spent in current dollars.

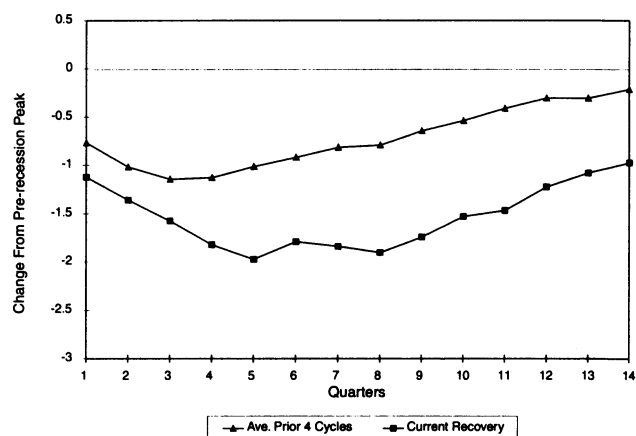
There are two issues created by this divergence: First, what is the best measure of computer investment, from the standpoint of the impact of investment on productivity? Second, what is the best measure of computer investment, from the standpoint of its impact on aggregate demand? The latter question is far simpler to answer. It will, therefore, be dealt with first.

### *Investment as a source of demand*

The question of how computer investment affects demand is very clear. A dollar spent on computer investment has *exactly* the same impact on demand as a dollar spent on any form of investment, or as a dollar spent on anything else. The 1987 price of computing power is absolutely irrelevant. This means that, if we want to examine the impact that computer investment (or investment generally) has had on aggregate demand, we need only to examine the share of nominal investment in nominal GDP. We need to look at the actual numbers of dollars spent on investment in a quarter and divide it by the total amount spent in the economy in that quarter. If it's not rising, then investment cannot be giving a boost to demand, regardless of how much computing power is being purchased with those dollars.

This measure shows that, from the standpoint of generating demand, this recovery has clearly not been investment-led. *Figure 3* shows the change in the share of nominal GDP that goes to investment, from its pre-recession peak, in this recovery, and from the average of the last four recoveries. As can be seen, this recovery clearly lags far behind the average of the prior four recoveries. There has been a very slight narrowing of the gap from its widest point in the

Figure 3 Investment/Pre-recession Peak (Share of Nominal GDP)



Source: The Bureau of Economic Analysis.

fourth quarter of 1992 (quarter 8), but the investment share still remains more than 0.5 percent behind the average of the prior four recoveries. Since the overall pace of the current recovery has been far slower than the prior recessions as well, there is clearly no basis for claiming that this is an investment-led recovery from the standpoint of demand growth.

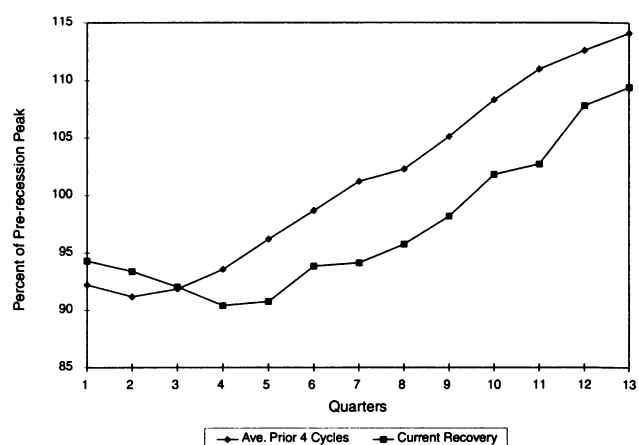
### *Investment and productivity*

Even if the investment in the current recovery has not generated a significant amount of demand, it can still be argued that the economy will experience a significant upturn in productivity growth as a result of the impact of the investment that has taken place. This could be true, if the correct way to measure the impact of computer investment on productivity is to take a fixed measure of the value of computing power and apply it to all periods, regardless of the price of computing power at that time. Unfortunately, this would almost certainly lead to an enormous overstatement of the impact of computing power on productivity. The example mentioned earlier shows why. If a firm can purchase a notebook computer for \$1,200 in current dollars, then it should expect (at the margin) that the \$1,200 will have the exact same impact on output as \$1,200 spent on any other capital good. It is completely irrelevant that the same amount of computing power cost \$10,000 in 1987. The firm's decision to purchase the computer, rather than some other good, is based only on its current price. (The expected future price will be relevant as well. If the price of a product is falling rapidly, as is the case with

computers, a firm can decide to put off buying it until its price falls further. The expected drop in prices is similar to a more rapid rate of depreciation. Firms would have to take this into account in their investment decision.) This might mean, for example, that the \$1,200 notebook computer is used only when it's necessary for an employee to travel with a computer, whereas a \$10,000 workstation may have been used continuously. It could be entirely rational to spend \$1,200 for a computer that would only be used on rare occasions, regardless of what this computing power might have cost in some prior period. By this view, computers (and indeed, all investment goods) should be measured by the price that is paid at the time they are purchased, because this will be the only factor considered by profit-maximizing firms. It would be necessary to deflate the nominal price by some overall deflator constructed from consumption goods, but the changes in the price of investment goods would be irrelevant (see E.F. Denison in *For Further Reading*). Clearly, if this is the correct way to measure computers, then there will be no productivity boom associated with the investment we have made so far during this recovery.

There is an intermediate way to measure computers. It lies between the fixed-weight index conventionally used and the nominal price-consumption deflator approach suggested above. The BEA also calculates a chain-type weights index for all components of GDP. This index recalculates weights for each good annually. The weights are constructed by taking a geometric average of the prices and quantities of goods over a two-year period. This average is then attached to an index, which is a chained sum of year-over-year changes (see A.H. Young in *For Further Reading*). This removes most of the distortion that results from using a fixed-weight index, when the price of an important good is rapidly changing. The chain-type weight measure of investment also does not present a very strong picture of investment in the current recovery. *Figure 4* shows investment measured by the BEA's chain-type weight index in this recovery and the average of the prior four recoveries. It demonstrates that investment originally was stronger, primarily because the dip in the recession was not as large as in prior recessions. The current recovery falls behind the average of the prior four in the third quarter of 1991 (quarter 3). The gap has grown rapidly until the fourth quarter of 1992

Figure 4 Investment/Pre-recession Peak Chain Index Measure



Source: The Bureau of Economic Analysis.

(quarter 8). Since then, the gap has remained fairly constant, as investment has grown at approximately the same pace it grew in prior recoveries. By this measure, the investment performance since the fourth quarter of 1992 can be seen as acceptable by historical standards. But it is not adequate to make up for its prior weakness. It certainly cannot be the basis for claiming an "investment-led recovery"; nor is it large enough to yield any significant productivity dividend.

### *The disappearing investment-led recovery*

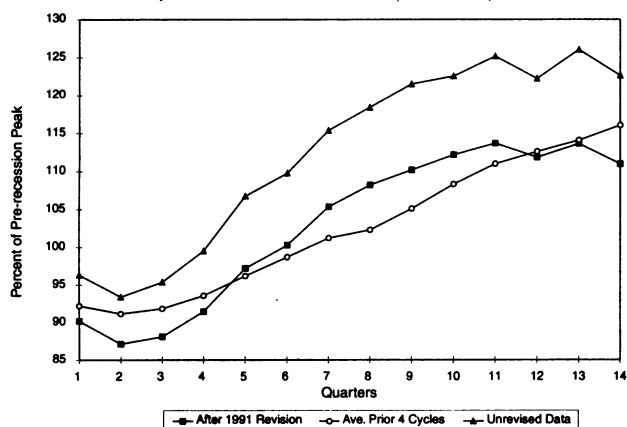
Although the BEA's standard investment series currently provides a basis for claiming that investment is growing exceptionally rapidly in the current recovery, it is already possible to know that this will change in the not too distant future. The BEA does benchmark revisions of its GDP numbers every five years. These benchmarks involve use of more extensive data sets than are available when the quarterly GDP numbers are issued. The benchmark revisions also update the base year for all fixed price indexes. The next benchmark revision is scheduled for 1996. At that point, the base year will be moved up five years from 1987 to 1992. This will make the prices that exist in 1992 the basis for valuing all goods both prior and subsequent to the new base year. Since there was a huge fall in computer prices between 1987 and 1992, a much lower weight will be placed on computer investment. That will mean that the total amount of investment will fall significantly.

It is exactly what happened to the reported level of investment after the last set of revisions in 1991.

Prior to the revisions, the investment performance in the 1982 recovery appeared very strong. The change in the pricing of computers to a 1987 base from the prerevision base year of 1982 substantially reduced the amount of computer investment and, therefore, the total quantity of investment. After the revision, the 1982 recovery showed the weakest investment performance of any of the five recoveries since 1960. *Figure 5* shows the investment performance of the economy in the 1982 recovery, as reported before and after the 1991 revisions.

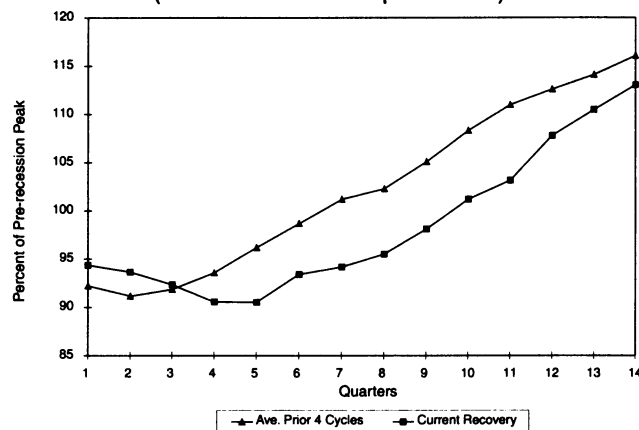
The lower weight that will be assigned to computer prices in the 1996 revision can already be approximated by simply taking the ratio of 1992 computer prices to 1987 computer prices. This ratio is approximately 0.54. (This is a crude approximation obtained by taking the ratio of 1992 nominal expenditures on computers to the measure obtained for 1992 using the 1987 fixed-weight index. To be more precise, it would be necessary to look at the movements in prices of particular components of the computer index. The exact movement of these components and their weight in computer purchases in prior and subsequent years would determine the exact index for each year.) *Figure 6* shows the path of investment in the current recovery (using the 1992 price of computers) compared with the average of the prior four recoveries. This picture is, in effect, what the BEA's standard numbers will be saying the recovery looked like after its 1996 revision. By this view, the investment in the current recovery clearly lags behind the average of the prior four recoveries. Usually, economists consider the revised numbers published after a benchmark revision to be far more accurate than the

**Figure 5 The Last Investment-Led Recovery (Investment/Prerecession Peak)**



Source: The Bureau of Economic Analysis.

**Figure 6 Investment/Prerecession Peak (Real With 1992 Computer Price)**



Source: The Bureau of Economic Analysis and the author's calculations.

unrevised numbers. It would certainly be unusual, at the least, for someone to deliberately use unrevised numbers at a time after the revisions have been made—in order to make an argument that could not be supported by the revised numbers. In other words, the investment-led recovery is an artifact of unrevised data. It will lose its statistical foundation altogether once the BEA publishes its revisions in 1996. Investment that only exists in unrevised data is not likely to have very much impact on demand or productivity.

### Interest rates vis-à-vis investment

There is still a great deal of uncertainty about the strength and durability of the current recovery. One thing that is certain is that, to date, investment has not played a particularly important role. From the standpoint of generating demand, investment has clearly lagged behind the average of the prior four recoveries. When computers are properly measured, it will also become clear that there has been no investment boom which will lead to future productivity growth. Even the appearance of an investment-led recovery will disappear after the BEA revises its GDP data in 1996. In short, there is no evidence to support the contention that deficit reduction has sparked a surge in investment through a fall in interest rates. This could still happen in the future (if interest rates go back down). But it certainly has not happened so far.

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