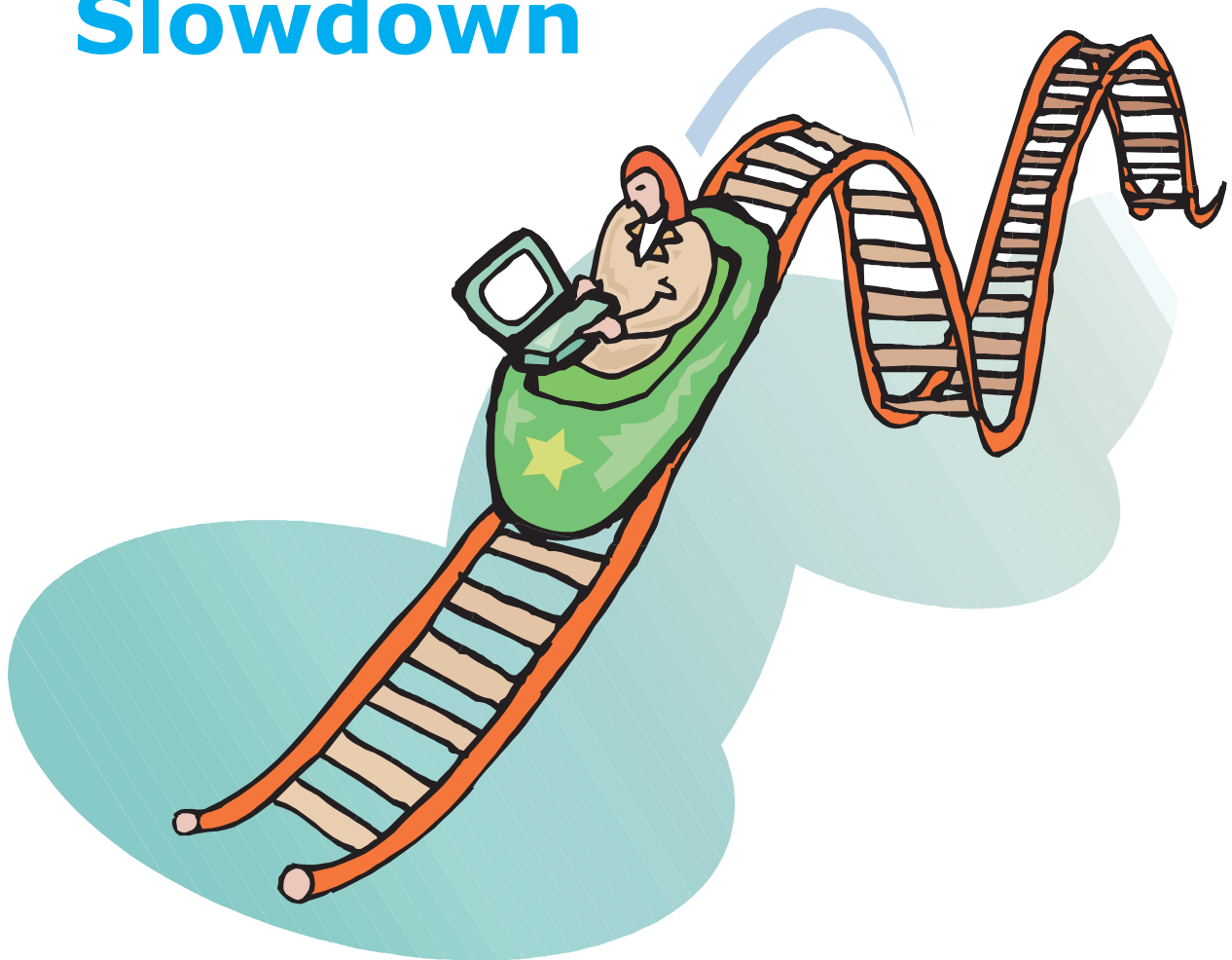


Making Sense of the Current Growth Slowdown



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Making Sense of the Current Growth Slowdown

Profit warnings, falling stock prices and layoffs have dominated the headlines in recent months, raising fears of recession. Two months ago, when a reporter asked our Bank's President Bob McTeer whether we are in a recession, he replied that, so far, we are not because we have not had two straight quarters of GDP declines. Nevertheless, the sheer magnitude of the slowing of growth from a very fast to a sluggish pace can feel like a recession, particularly with the rise in the unemployment rate—even to the still very low level of 4.5 percent. While the first quarter GDP report was reassuring, there is still some nervousness, especially because firms are cutting payrolls, following the typical pattern of adjusting payrolls to slower growth with a lag.

This presentation will try to make sense of the current growth slowdown and the economic outlook. First, I will review how economic growth slowed more quickly than expected, emphasizing the role of disappointing profits and high tech indicators. Then, I will delve into how the growth slowdown is affecting investment and consumer spending. To provide a balanced picture, I will review some good economic news that many have overlooked. Next I will turn to what indicators we should watch before ending with a discussion of the economic outlook. My bottom line is that although recent tech, stock market, and 401k woes have taken the economy to the edge of recession, they probably won't drive us over that edge.

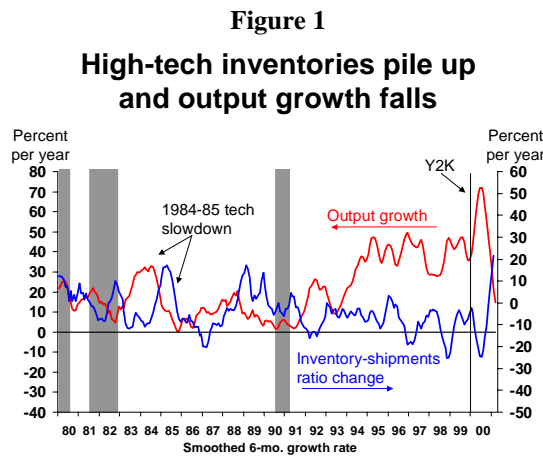
How Growth Slowed More Quickly Than Expected

In 1999 and early 2000, the pace of growth in the U.S. accelerated sharply, after pausing temporarily in late 1998 when the global economy was threatened by the fallout from the Asian economic crisis and the Russian default. Amid signs of emerging inflationary pressures, the Fed more than reversed the interest rate cuts of late-1998 and tightened the stance of monetary policy through the spring of 2000. The aim was to put the economy into a soft-landing, a modest growth path that would contain inflation without inducing a recession. And by late last summer, it appeared that the economy was heading that way.

However, engineering a soft-landing runs the higher risk that an unforeseen downside shock could tip a modestly growing economy into a recession. Unfortunately, such a shock occurred in the fall, when the economy downshifted rapidly, kicked off by a spate of profit warnings that led many firms to question the future returns to investing more capital. This in turn led to sharp slowing of investment, falling stock prices, and rising layoff announcements. These factors coupled with higher energy costs, cut into consumer confidence and retail sales, spreading the growth slowdown.

If most private analysts were expecting a soft-landing, what brought about the spate of negative profit warnings? I believe that there are at least two important sources. The first is that Y2k helped induce a synchronized global upswing and then downswing in high-tech investment.

In order to test their computer systems before Y2K, many companies postponed new equipment purchases in late 1999. After the systems and the world survived the date change, this pent-up demand was unleashed and optimism about the returns to information technology jumped. Indeed, high-tech output, which had grown at a fast 40 percent pace during the 1995-99 boom, accelerated to nearly 70 percent as the surge in demand depleted inventories and as the book-to-bill (orders-to-shipments) ratio for equipment to make semiconductors jumped to boom levels. This led many analysts to overestimate the growth and profitability prospects of high-tech firms, with the NASDAQ hitting record highs in early 2000.



But as the surge in high-tech demand unwound, output growth plunged in the midst of a buildup of inventories. One of the first signs of the tech slowdown came from the September reports from this very Board of Directors. And by the fall, an inventory overhang in the tech sector was emerging, as reflected in the six-month change in the inventory-shipments ratio. The change in this ratio is helpful because it strips out a downward trend in the level of inventory ratios stemming from the on-going adoption of better management techniques. Both the current upswing in inventories and the fall in high tech growth are bigger than those experienced in the largest prior high-tech slowdown, that of 1984-85.

Historically, high-tech output growth has notably picked up only after the inventory-shipments ratio has stopped posting increases on a six-month basis. Given the high level of the March reading and since the growth rate of the inventory-shipments ratio covers a six-month period, it appears unlikely that this inventory indicator will return to zero before the fall. This, in turn, suggests that a return to fast high-tech growth is unlikely before late 2001 at the earliest. Negative news on inventories and orders has led many analysts to downgrade their forecasts for the high-tech sector.

Aside from Y2K, profit surprises also arose because faster productivity growth of the late 1990s did not deliver an anticipated surge in profit growth. Indeed, my colleague Evan Koenig found that stock prices rose in the 1990s in anticipation of faster productivity growth.

To some extent, these expectations were based on past experience. In the 1960s, faster productivity growth was associated with stronger profit growth for non-financial corporations. In some ways, the nineties seem much like the sixties. Both were marked by an exceptionally long expansion, with corporate profits not being driven by big swings in the exchange rate or oil prices—at least until the very end of the decade.

However, the productivity and profits relationship did not hold up in the 1990s. For example, profits grew fast relative to productivity growth over the first half of the 1990s for reasons associated with firms reducing their leverage, falling interest rates, and corporate restructuring activity. In the latter half of the 1990s, when productivity growth surged, we failed to see much of an upturn in profit growth—especially after profits finished recovering last year from a temporary slowing stemming from the Asian Crisis. Indeed, based on the experience of the 1960s, the $3\frac{3}{4}$ percent average productivity growth over the past three years would have been associated with inflation-adjusted profits growing at around a 12 percent pace, much higher than the actual 5 percent rate.

Figure 2

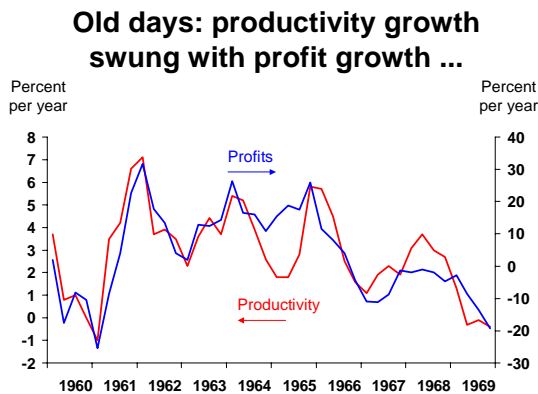
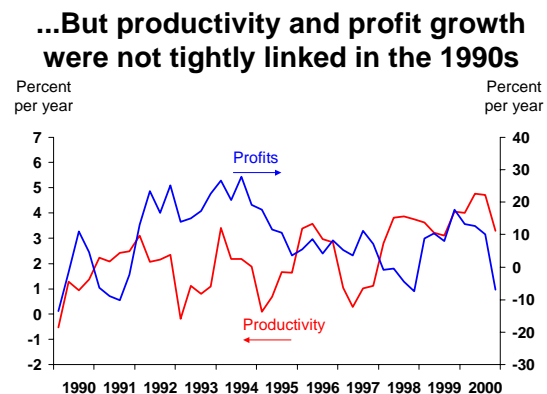


Figure 3



Several differences between the 1960s and 1990s help account for this change. First, productivity improvements may not boost profits much because markets are more competitive, meaning that more cost savings are passed onto consumers rather than the bottom line. Globalization of traded goods markets and the deregulation of many service industries in the early 1980s have boosted competition over the last two decades. Second, the very factor driving faster productivity in the second half of the 1990s, the information revolution, also cuts firms' pricing power by making it easier for buyers to shop for the lowest price. Examples include B2B purchasing systems for firms and Internet shopping for consumers.

Figure 4

**Productivity and profits:
how the 1990s differ from the 1960s**

- Markets are more competitive
 - globalization
 - deregulation
- Information revolution cuts pricing power while boosting productivity

The Impact on Investment and Consumption

Now let me turn to how the profit induced-slowdown has affected two key components of growth, investment and consumption. First, let's take a closer look at investment.

In addition to profit disappointments and Y2K effects, other factors have also helped to slow investment. As stock prices fell and as firms announced layoffs to cushion profits, sales and cash flow weakened. In response, many firms curtailed investment orders and the manufacturing slowdown intensified. Another factor has been the *dot com* bust, which helped end the high-tech arms race. Today, many old economy firms are more deliberative in their high-tech investments, as opposed to a year ago, when many rapidly expanded information budgets out of fears that *dot coms* would otherwise drive them into extinction. Finally, personal computer growth has slowed sharply, as many consumers see little need to upgrade their systems or buy their first computer.

Figure 5

Other factors slowing investment

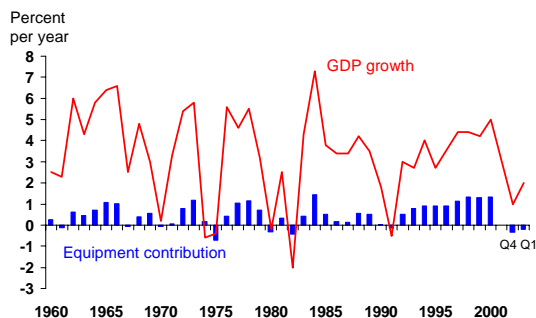
- Stock prices and layoffs hurt sales/cash flow
- The *dot com* bust
- Personal computer market growth slows

How important is the investment slowdown? It is very significant because investment has played a key role in the long expansion of the 1990s. Indeed, since 1993, the contribution of equipment investment to GDP growth—the bars—has hovered around 1¼ percentage points, which is remarkable given the smaller and more short-lived boosts from equipment investment in earlier expansions to the pace of overall GDP growth—depicted by the line. Today, information technology comprises about half of equipment investment, and its growth has been so rapid, that this component accounted for nearly all of equipment investment's contribution to GDP growth last year! Thus, only comprising about 5 percent of GDP, high-tech investment directly accounted for roughly one-third of overall economic growth in recent years!

Most recently, equipment investment has posted two consecutive quarters of decline, with computer and software investment falling last quarter for the first time since the Gulf-War recession. Partly as a result, GDP growth—depicted by the line—has slowed sharply.

Figure 6

Equipment investment fueled the 1990s expansion but has petered out lately



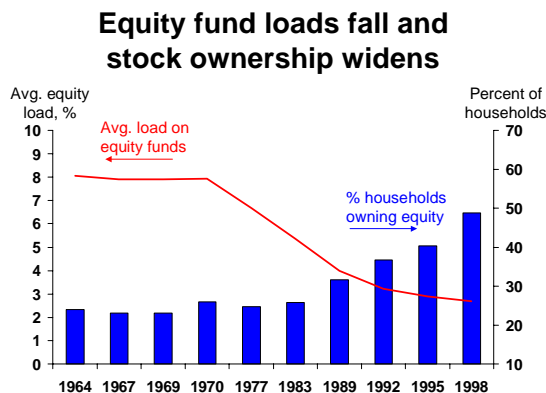
The Impact on Consumers

The growth slowdown has also slowed consumption through several channels. First, falling stock wealth has likely curtailed spending, especially since more people own stocks. Second and more importantly, the profit slowdown has affected peoples' expected labor income as layoff fears have sapped confidence and retail spending. Job concerns have also been compounded by the fact that many households are over-extended on debt. Let me elaborate on each of these factors.

Between 1994 and 1999 overall U.S. stock prices roughly tripled in value and helped boost household net worth a great deal, as household wealth rose from around 2½ times the size of disposable income to roughly 4¼ times the size of income. At the same time there was a sizable decline in the personal savings rate as many households felt less need to save for their retirement, future downturns, their childrens' education, or their heirs. Indeed if we correct the measured savings rate for technicalities regarding capital gains, there is a notable negative correlation between the savings rate and the wealth-to-income ratio. However, following the stock price gains of the late 1990s, overall stock prices, as measured by the Wilshire 5000, fell by roughly 25 percent between the first quarters of 2000 and 2001, with the value of equities directly and indirectly held by households falling by roughly 4 trillion dollars. This has raised concern that a negative stock market wealth effect could slow consumption spending considerably.

Some analysts have raised doubts about the stock wealth effect on consumption, pointing to instability, over different time periods, in estimates of its size. However, conventional models do not account for the increased share over time in the share of households owning stocks, partly because ownership data are not available on a regular basis needed for estimating models. As shown in Figure 7, stock ownership rates, the bars, have nearly doubled since the 1970s, owing to a rise in indirect ownership through mutual funds. This rise from about ¼ to ½ of households is associated with a huge decline in loads on equity mutual funds, the solid line, from nearly 8 percent of one's initial investment to 2½ percent. Loads have fallen owing to declines in computer processing costs and economies of scale in the very competitive mutual fund industry. The large drop in loads removed a big barrier to stock ownership for small investors, for whom mutual funds were the only feasible way to own a diversified portfolio of stocks. Unlike the infrequent ownership rate data, the load series that I have constructed is available on a frequent enough basis to estimate models.

Figure 7



Using mutual fund loads to proxy for the rise in stock ownership yields more reliable estimates of stock wealth effects which impact consumption to a modest degree over long periods of time. Reflecting the rise of stock ownership rates, my model estimates that this effect is stronger than a decade ago but is roughly 40 percent smaller than the estimates from many conventional models.

In viewing the impact of the recent 25 percent market correction, we should not forget that household stock wealth is still much higher than it was in the mid-1990s and that wealth effects have a more drawn-out and less abrupt impact on consumer spending than do income effects. According to my findings, the wealth gains posted between 1994 and 1999 bolstered consumption by roughly 3½ percentage points, but that the correction since then has cut this boost to around 2½ percentage points. Thus, despite the recent correction, the sizable stock wealth gains from the last half of the 1990s that still remain will likely continue to bolster consumer spending for some time. It's just that the correction will likely reduce the medium-term boost from earlier stock market gains to consumption by roughly 1 percent and the boost to GDP by 0.6 percent. This effect, while notable, is far smaller than many people fear.

Figure 8

**Stock wealth effects
on consumer spending**

- Traditional stock wealth estimates unreliable
- Despite correction, stock wealth rose by 150% since mid 1990s
- More reliable model: correction cuts stock wealth boost to consumption from 3½% to 2½%
- Why 2001 differs from 1987:
 - stock rose over longer time, boosted spending
 - higher share of families own
 - tech woes hit wealth and expected labor income

At the other extreme, some analysts dismiss the stock wealth effect, pointing to the fact that consumption held up well after the 1987 crash. However, 2001 differs from 1987 in three ways. First, stock prices rose over a five-year period, long enough to affect people's perceptions of long-run wealth and their spending. By contrast, stock prices surged and then fell within a one-year period in 1987. Thus, swings in stock prices back then were too short-lived to have much impact on spending. Second, a higher share of people own stocks today. Third, the 1987 crash largely reflected a short-lived swing in sentiment that was not linked to long-run expectations about the economy. By contrast, the rise of high tech had fueled the boom of the late 1990s, and thus, recent high-tech woes have hit both wealth and expected labor income.

This is evident in consumer confidence indexes from the Conference Board's survey of households. Overall confidence was very high in the late 1990s, before falling to more normal levels recently. Some of this drop owes to declining stock wealth. But much of it is linked to people's expectations of whether there will be more versus fewer jobs six months ahead, with a negative reading indicating that people expect there will be fewer jobs. These more pessimistic expectations were borne out in last month's employment report, marked by payroll declines and rising unemployment. Declining wealth and a worsening employment outlook, which stem from doubts about the sustainability of the high-tech boom, have eroded consumer confidence, inducing a sharp slowdown in retail sales growth.

Figure 9
Layoff fears hurt
consumer confidence

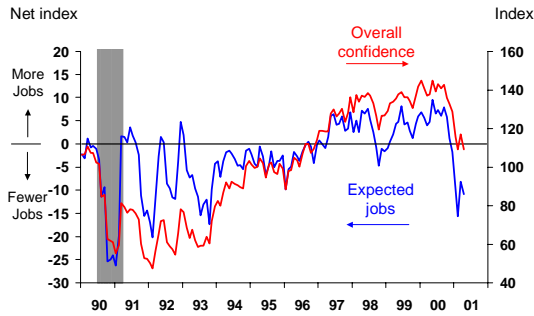
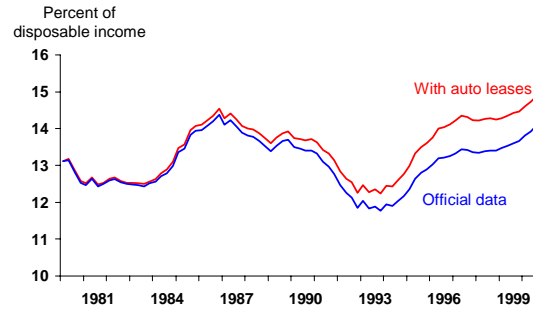


Figure 10
Household debt payments
rising relative to income



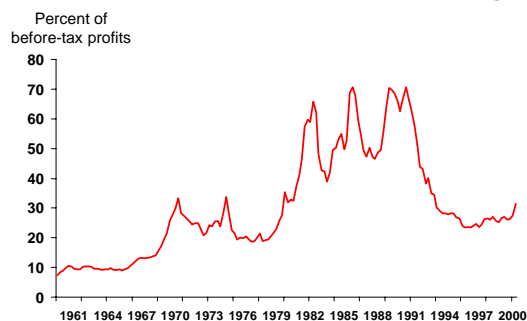
High debt service burdens are another drag on consumption. Payments on mortgage and consumer debt as a share of disposable income have approached the highs reached in the 1980s. However, these Federal Reserve Board estimates ignore auto leases, which have become more popular. Using some crude assumptions, I have tried to estimate the impact of leases. My lease-adjusted figures indicate that debt burdens have risen faster and to new highs. Fortunately, these high debt burdens will likely be cushioned by the recent surge in mortgage refinancings.

Some Good Economic News

A surge in mortgage refinancings is not the only piece of good economic news. There are several positive economic factors that I believe will help the economy avoid recession.

One important piece of good news is that the debt-service burden on non-financial corporations is not high, as indicated by the ratio of net interest payments to profits. The run-up of leverage in the 1980s had saddled companies with heavy debt payments a decade ago. This led many firms to restrain investment spending to pay down debt, slowing economic growth in the early 1990s. In contrast, overall debt burdens are much lower today, meaning that firms have relatively more borrowing capacity to fund investment in the face of a near-term slowing in cash flow. Some companies, however, are having difficulties, as reflected in rising defaults on junk bonds, particularly among telecom and health care firms. Nevertheless, overall corporate debt burdens seem manageable.

Figure 11
Good news:
corporate debt burdens are not high



Another positive factor is that our banks are healthy and able to provide financing during a period of slow growth. As Jeff Gunther pointed out in his February presentation to this board, banks are better capitalized and far fewer banks are deemed to pose problems than a decade ago. Another positive is that the Fed has eased quickly and aggressively, which has limited further downward pressure on asset values and has sparked a surge in mortgage and bond refinancing activity. Also bolstering future household finances are likely tax cuts, which should help cushion the drag from declining stock wealth over the medium- to long-run. Another positive is that car sales recovered from their collapse of late 1999, with auto inventories returning toward more normal levels. Nevertheless, car makers have had to offer very large incentives, which they may not be able to maintain. Finally, the worst of the energy price increases seem past us and inflation is under control.

Figure 12

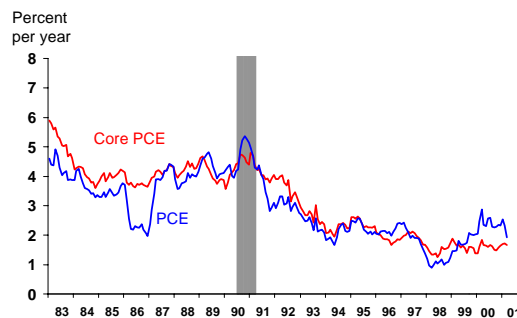
More good news

- Banks are healthy
- The Fed eases quickly and aggressively
- Tax cuts coming
- Car sales recover, inventory back to normal
- Oil prices stabilize, inflation under control

Despite a fluky inflation number from the latest GDP report, which likely reflects seasonal adjustment problems, year-over-year inflation rates have flattened out. Inflation, as tracked by the broadest measure of consumer prices, the PCE index—the blue line in Figure 13—fell in 1998 before turning up in 2000, largely reflecting swings in energy prices. Most recently, broad consumer inflation appears to be abating as the worst of energy price increases have been put behind us. Especially encouraging is that core consumer inflation, which excludes food and energy prices, has remained very tame, as shown by the red line.

Figure 13

Energy prices stabilize, core inflation remains low: consumer inflation abates



From a long-term perspective, it is remarkable that U.S. inflation rates are slower than those when the expansion began. In addition, a future inflation gauge for the U.S. has declined so much this year that it has more than reversed increases posted in 1999 and 2000. Future inflation gauges for other major economies also indicate waning price pressures. Together, past and prospective inflation performance give the Fed and other major central banks credibility and substantial room for maneuver. In particular, monetary authorities can lower short-term rates to stave off a recession without rekindling fears of inflation that would push up long-term interest rates and prevent us from stimulating the economy.

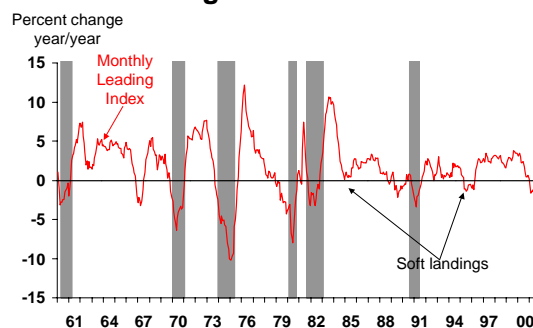
What Should We Watch?

At this point, it is natural to ask how the negative and positive signs about the economy add up. Several economic indicators can help address this question, of which I will review three that I believe are very relevant. These include the monthly index of leading economic indicators, initial claims for unemployment insurance, and the unemployment rate. All of these indicate that the U.S. economy is somewhere between a recession and a soft landing.

The monthly index of leading economic indicators was designed to help forecast economic downturns and recoveries. The year-over-year change in this index is a good, simple gauge, which tends to turn negative during recessions (the shaded areas), but only fall to near-zero growth rates during soft-landings such as those of 1984-85 and 1995. After bouncing within the soft-landing range in mid-2000, the index posted declines that lie somewhere between the sharper declines of recessions and the milder readings posted in prior soft-landings. A new weekly leading indicator index has been somewhat weaker than the monthly index of late, but it is much noisier and more prone to sending false signals.

Figure 14

Leading indicators between a soft landing and a recession



Because the growth slowdown will likely affect consumer spending and confidence more through income than wealth effects, it is worthwhile to closely monitor labor indicators. Weekly initial claims for unemployment are timely and useful, tending to rise sharply in recessions and to a lesser degree in soft-landings. About 50 weeks after hitting their pre-recession bottom, initial claims rise so much during recessions, that if the pace continued, 7 percent more of the labor force would file for claims over the course of a year. Since most of the unemployed find work within a few months, the unemployment rate typically rises by a smaller 2-3 percentage points in recessions. During the soft-landings of 1984 and 1995, the rise in claims was more

modest, with little change in the unemployment rate. Since the spring of 2000, claims have risen at a pace between the averages of previous recessions and soft-landings, though recent readings have been a bit more worrisome.

Figure 15

Recent rise in initial claims between the averages of recessions & soft landings

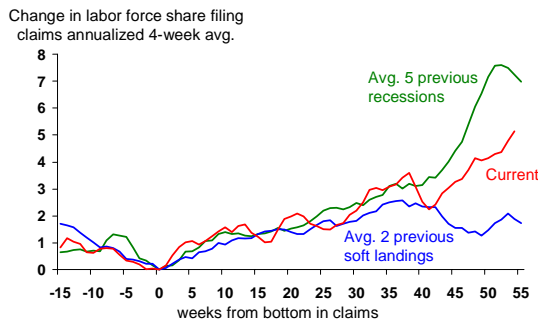
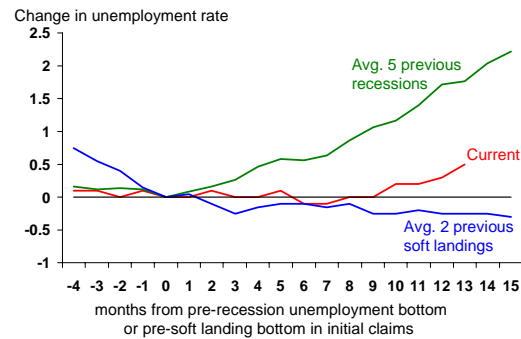


Figure 16

Unemployment rate changes also between ranges of recessions & soft landings



Monthly readings on the unemployment rate are a closely watched indicator partly because they are a bit easier to interpret than initial claims. Typically the unemployment rate rises by around 2½ percentage points during recessions. In contrast, during previous soft-landings unemployment tends to dip slightly and then cease heading lower. The reason is that in prior soft-landings, monetary restraint typically slows growth down from a rapid to a more sustainable pace, and during that interim, firms continue to hire. As with the rise in initial claims, the magnitude of the rise in the civilian unemployment rate since last spring is also between the averages posted during earlier recessions and soft-landings (*Figure 16*).

Although the ambiguity of these three economic indicators can seem unsettling, in some respects it is actually good news. After being hit with profit warnings that have reduced the outlook for investment, which had fueled the expansion of the 1990s, the economy appears to have thus far avoided recession. Nevertheless, various indicators are worth monitoring because the economy is still vulnerable to slipping into a recession.

Conclusion: The Economic Outlook

Despite the tech slowdown, other sectors of the economy seem resilient enough that a period of slow growth in the short-run is more likely than a recession. In terms of asset and debt vulnerabilities, the data indicate that it is consumers, not businesses, who are over-extended. Nevertheless, because households are still enjoying large stock market gains since the mid-1990s, the recent correction will likely only temper rather than torpedo consumer spending over the medium-term. Moreover, other factors will likely restore solid growth in the medium-run. These include steps to ease monetary and fiscal policy. In addition, inflation appears under control, giving policymakers room for maneuver.

Most private sector fundamentals are also positive. These include that banks are healthy, the overall corporate debt burden is low, and the auto inventory correction is already over. Furthermore, any over-hang in high-tech equipment is unlikely to last long because this capital has a short economic life. Another positive, but longer-term fundamental, is that the information revolution has sparked a large rise in our capital stock and revolutionized many business practices, which, despite the current slowdown of investment, will likely bolster productivity and innovation for some time. From my perspective, all the information we have suggests that economic growth will remain sluggish in the near term and will likely speed up to a solid pace as the positive long-run fundamentals of the U.S. economy predominate once again.