

The U.S. economy: Are analysts missing the point?

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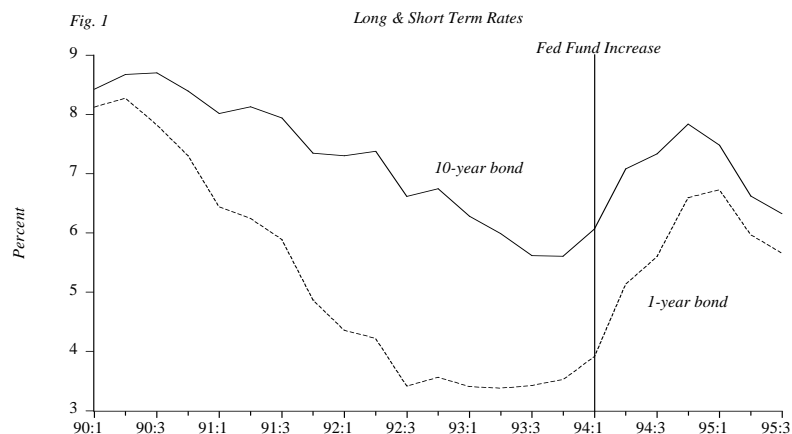
I. Generalizations

It's that time of year again. In early 1994 the projections were of an overheating economy and rising inflation. Surprisingly, even after all the rate increases by the Fed during 1994, 1995 also started off with bad feelings about inflation for the year. 1996 differs in that bad feelings about inflation are packaged together with views of a weakening economy - a stagflation scenario! Why else, according to some pundits, should the price of gold have broken the magical US\$ 410 per ounce "resistance"?

Long ago, economic growth enjoyed a good name. Now it causes shivers in bondland because growth automatically spells inflation. And misguided notions of monetary policy actions have it that the Federal Reserve has to restrain growth lest price pressures boil over.

This idea is central to the way the market views and interprets FOMC actions. And they are plainly wrong. In the first place, the level of interest rates (fed funds) is a poor indicator of the stance of monetary policy and to characterize fed funds increases as monetary tightening and vice-versa, is quite inappropriate. Second, interpretations of FOMC actions fails to distinguish the relationship between inflation and economic growth in the short run from that which might exist in the long run.

As to the first point, the conventional association between fed funds rate rises with monetary tightening ignores developments in the real economy that offer a nonmonetary explanation for Federal Reserve actions. To illustrate, during 1993 the pace of economic activity picked up. By the end of the year, long-term interest rates began to rise. A shift in expectations toward higher sustained growth emerged, and the dollar value of commercial and industrial loans began to increase rapidly. As 1994 unfolded, economic growth and loan demand continued to build. The increased demand for resources led to continue upward pressure in both short term and long term interest rates (see figure 1).



How do events relating to market interest rate movements relate to the decisions of the FOMC, and in what way are they informative about monetary policy?

The Fed supplies money (bank reserves) to fund bank intermediation activities. To reduce uncertainties (volatility), in the short run reserves are supplied in such a way as to keep the relevant price - the fed funds rate - near a constant *target* level. When market loan demand expands, interest rates rise and so does the demand for bank reserves. Maintaining a constant interbank lending rate requires that the Fed accommodate the higher reserve demand. However, if this pattern is sustained, it is likely to result in a more rapid expansion of the money supply than is consistent with the Fed.'s objectives. To maintain a *neutral policy stance*, the federal funds rate at which the FOMC is willing to supply reserves must increase, so the price of reserves supplied by the Fed will rise along with market interest rates.

Recall that in 1994 market rates did in fact begin rising prior to any FOMC increase in its target fed funds rate. The yield on 10-year securities bottomed out in October 1993, four months before the first increase in the target fed rate of February 4. It is interesting to note that around that time, few market participants expected any significant imminent change in policy¹.

This is not to say that market interest rates, especially short term rates, are completely unaffected by changes in the interbank lending rate brought about by FOMC policy, nor are all monetary policy actions equivalent. Careful thought about the economic developments of the past several years, as well as about the nature of monetary policy (both points to be elaborated later), supports a key conclusion: most, if not all, of the seven increases in the fed fund rate associated with FOMC decisions between February 1994 and January 1995 are inappropriately characterized as restrictive monetary policy actions. On the contrary, they can be thought of as defensive moves required by the higher real rates associated with growing confidence in the economy and the resulting strength in private spending. The *goal* of such actions is not to raise the level of interest rates, but to maintain the desired rate of monetary growth in the face of rates that are rising for reasons unrelated to FOMC policy per se.

As to the second point, regarding the short and long run relationship between growth and inflation, the important thing to retain is that the core responsibility of any nation's monetary authority is to avoid the disruptive influences of a fluctuating value of money. In the U.S. the rationale for this responsibility is often expressed as follows: to foster maximum sustainable economic growth, the Fed must provide an environment of low inflation.

It is a confusing expression to the extent that many interpret it as implying that low inflation requires slower growth. This confusion is responsible for much of the misinterpretation about the U.S. economy, especially by bond market participants, as will be seen below.

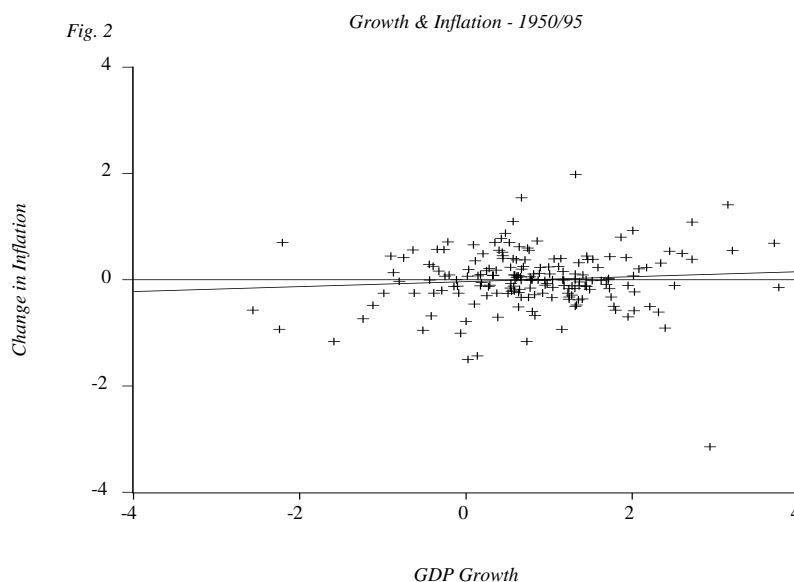
The confusion springs from failing to distinguish between the short run and the long run. It is long run price stability that fosters the conditions for achieving maximum sustainable economic growth. This does not rule out a positive short run relationship between inflation and the pace of economic activity. Figure 2 shows that over a long span of time it is hard to detect any correlation between

¹ The consensus outlook according to the October 1993 issue of Blue Chip financial Forecasts held that "...interest rates are expected to drift sideways over the next six months... and the Fed policy is expected to remain on hold until next spring". Although 30-year yields had risen some 35 basis points from mid-October to mid-November, the consensus in December 1993 held that "...The Fed will hike its fed funds rate by 25 basis points in March or April ... no additional tightening of policy by the Fed is expected until autumn. Short term rates are expected to rise by only 50 to 75 basis points over the course of the year".

changes in inflation and economic activity. This does not preclude that over specific periods one could identify a positive (or negative) relationship. On average, changes in inflation that are higher than normal will be offset by those that are lower than normal. In this sense, the short run correlation between growth and inflation is not informative about the long run impact of the average inflation rate on economic growth, standards of living and economic well being.

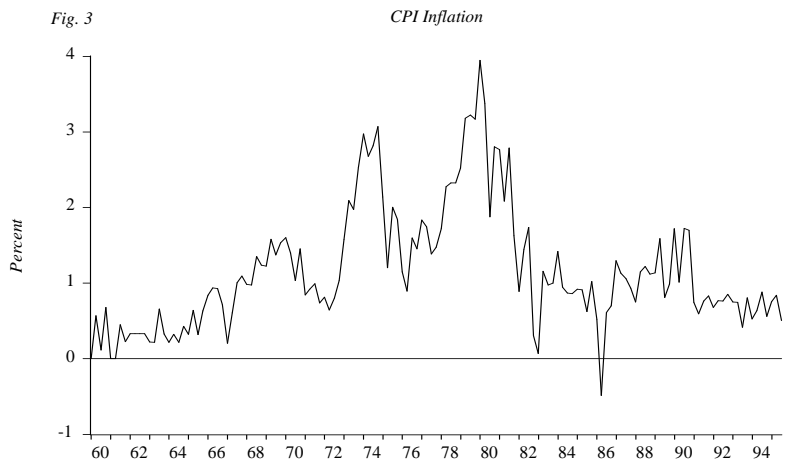
But it is exactly the long run relationship that should be the primary concern of the Federal Reserve. Ultimately, it is how policy decisions impact the price level trend, or average inflation rate, that affects the functioning of the economy. Consequently, the long run path of prices, and not short run deviations from the path, would seem to be the appropriate focal point of monetary policy.

If this contention is valid, why is it that many market participants, including some members of the FOMC itself appear overly concerned about the inflation consequences of an “overheating” economy and “unsustainable” rates of output growth?

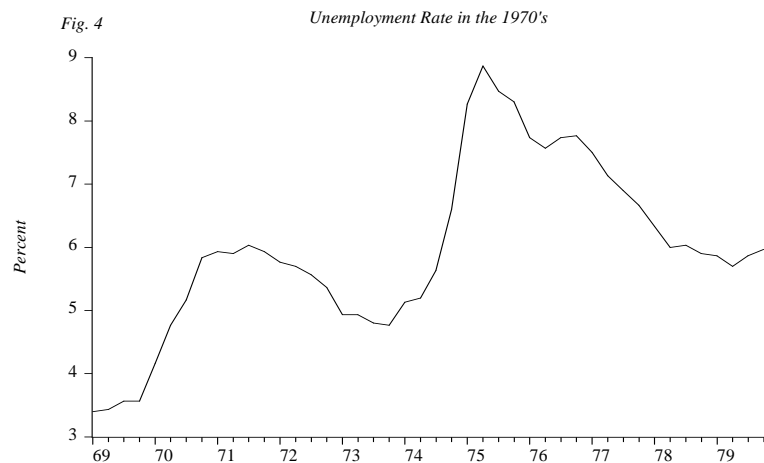


To understand these concerns, we have to remember the full-employment act of 1946. Because of that act, (modified by the HH Act of 1978) the FOMC has never operated under a clear mandate for price stability alone. If it had done so, short run fluctuations in the rate of inflation would matter little. Because these short run fluctuations would net to zero over time, they would have no real consequence for the long run purchasing power of money and would also have minimal consequences for the operation of monetary policy.

This fact has had a strong impact on market participant's beliefs about the willingness of the Federal Reserve to pursue policies compatible with long term price stability. Also, people's views on inflation could still be influenced by the rising inflation trend and large inflation swings of the 1960's and especially the 1970's (see figure 3).



The persistence of inflation was a dominant factor in shaping peoples expectations. When concern over unemployment is also factored in as a determinant of FOMC actions (see figure 4), the impression is that countervailing actions by the Fed would never be sufficient to fully abate the rise in inflation.



This gave rise to what has become known as “the price puzzle” meaning that an increase in the fed funds rate (interpreted as a tightening of policy) would be followed by an increase in inflation!

My view is that the Volker years constitute a watershed in the Fed.’s antiinflation stance. I want to show that following the disinflation that accompanied the recession of 1980/82 (see figure 3 above), the nature of monetary policy changed in subtle and unannounced ways. Also, the resulting significant changes in the behavior of both the real economy - represented by GDP growth - and inflation help shed light on present misconceptions about the economy with important implications for the financial and capital markets.

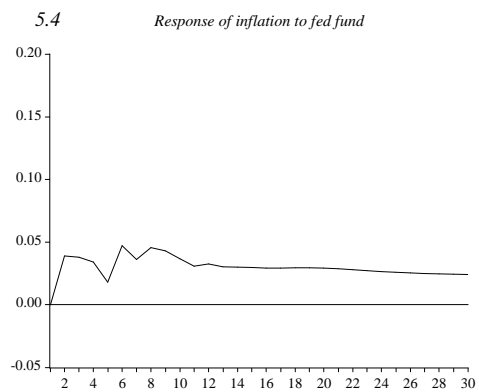
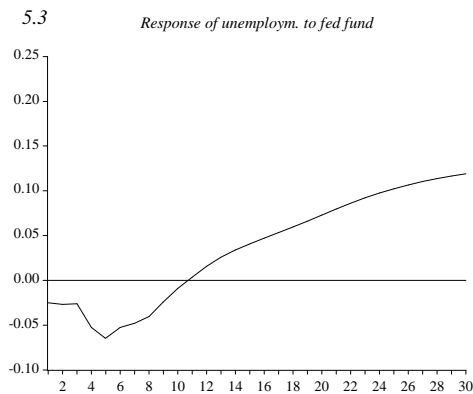
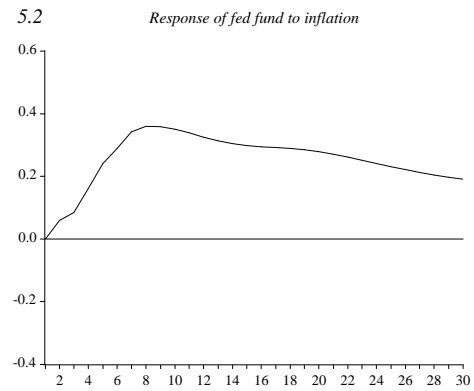
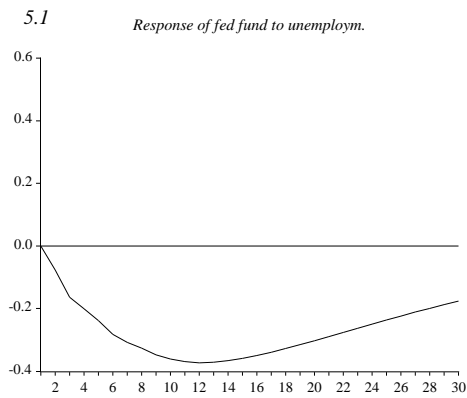
To give some meaning to the hypothesis (of a change in policy regime after 1982), the figures below represent the response of the fed funds to inflation and unemployment and the response of inflation and unemployment to innovations in the fed funds rate. The figures relate to two distinct periods, 01/1959 - 09/1979 and 11/1982 - 12/1995. The period 10/1979 to 10/1982 is excluded

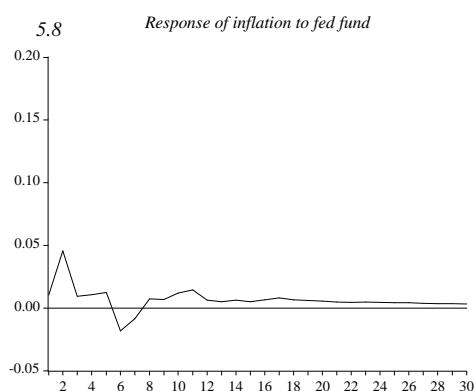
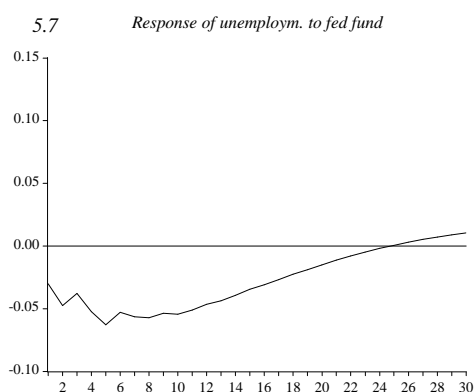
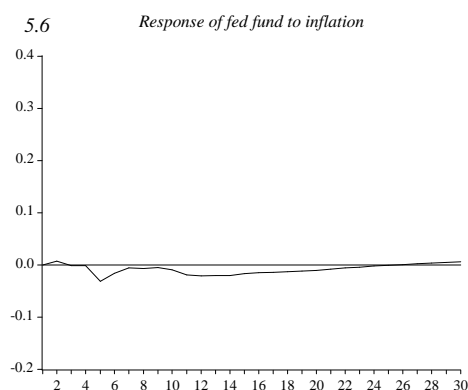
both to separate the analysis from the “watershed” years and because during that time the FOMC targeted monetary aggregates and not interest rates (fed funds).

The figures showing responses of the different variables (fed funds unemployment and inflation) to shocks (or innovations) in the same variables are derived from Vector Autoregressions (Vars). Care must be taken in interpreting the results because making economic inferences from estimated Vars is controversial. In a nutshell, Vars provide evidence on *correlations* in the data, but these correlations may be consistent with a number of economic theories.

The interpretations discussed below rely on a comparison of the figures between the two periods. Figures 5.1 to 5.4 represent, respectively, responses of the fed funds to inflation and unemployment and the responses of unemployment and inflation to the fed funds for 1959/1979, while figures 5.5 to 5.8 provide the same representations for 1983/95.

Response to one S.D. innovations - 1959/79





Comparing figure 5.6 with figure 5.2, the message is that the Fed no longer “leans against the wind” with respect to inflation. This is somewhat surprising given a supposedly (my hypothesis) higher concern (or premium) over price stability in the 1980’s.

One plausible explanation for the result that reconciles the (apparently contradictory) muted response of the federal funds rate to inflation after 1982 with a postulated increase in the Fed.’s resolve to fight inflation is evidence that the behavior of inflation changed after the 80/82 recession. Inflation after 1982 exhibits substantially less persistence than in the previous years (see figure 3) so that increases in inflation in one month are viewed as temporary. In other words, inflation is much less autocorrelated so that lagged values of inflation provide little information about future inflation. As a result, unexpected movements (or innovations) in inflation no longer require a monetary policy response (which sits well with our initial argument that the fed funds can be a poor indicator of monetary policy)

A comparison of figure 5.6 with figure 5.1, indicates that the response of the fed funds to weakness in the economy (represented by the unemployment rate) is damped in the second period, consistent with the hypothesis that the Fed has become more concerned with inflation (relative to unemployment) despite the “overhang” of the full-employment act.

The above observations are indicative of a move towards less discretion in the actions of the Fed, consistent with the (unstated) adoption of a more rule-like behavior by the monetary authority. An examination of figures 5.8 and 5.4 indicates that the “price-puzzle” - the positive reaction of

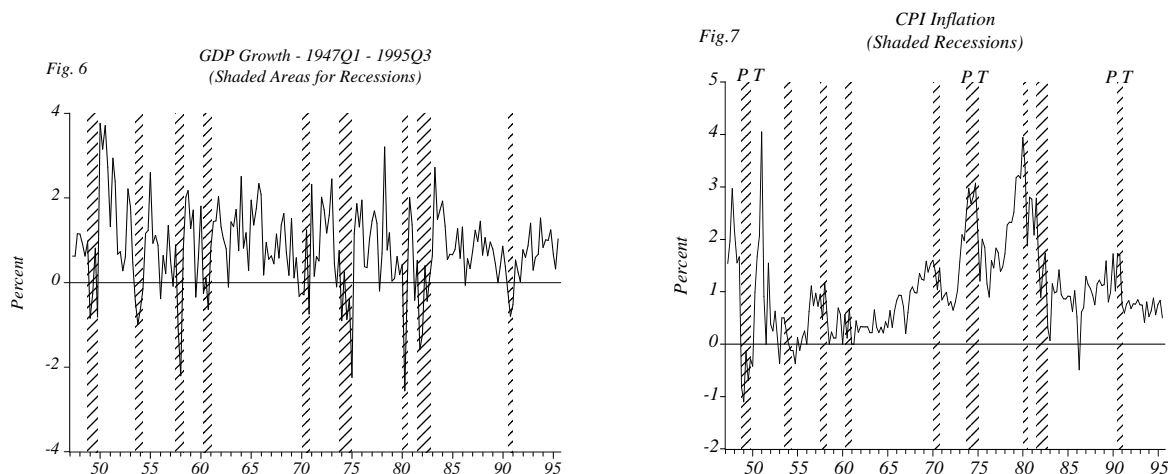
inflation to an innovation in the fed funds rate - is still present but is much less persistent than during 1959/79.

The response of unemployment to the fed funds rate (figures 5.7 and 5.3) shows a different pattern of behavior between the two periods. During 1959/79, the long run impact of a positive innovation to the fed funds rate was an increase in unemployment. In the 1983/95 period, this response is negative. This latter pattern is consistent with a more stable real economy i.e., one in which fluctuations in GDP is much less pronounced.

The main conclusion of this part of the analysis is to highlight how correlations between important macroeconomic variables (that reflect behavior) can change when the policy regime (institutions or the “environment”) changes. The practical import of this conclusion is that we cannot analyze the economy assuming that past relationships continue to hold.

II. Misconceptions

Has the economy become more stable after 1982? Figures 6 and 7 provide clear visual evidence that both GDP growth and inflation have become more stable over the last 13 years.



Unfortunately, this fact seems to have gone largely unnoticed. With regards to inflation, the reason might be that although the Federal Reserve has consistently demonstrated continuing progress towards price stability as its main objective, an exact numerical path is not specified. Thus, market participants have no precisely defined benchmark against which to monitor the progress of disinflation. Lingering doubts about the Fed.'s inflation resolve remain as evidenced by the following quote from The WSJ of March 2, 1994 where a trader says "...and you won't get some stability until the Fed does what it has to do". From this, it is not surprising that a "price-puzzle" effect remains in the data (remember from footnote 1 that prior to the FOMC hike in the fed funds rate on February 4, there were no expectations of significant policy moves. But as soon as the Fed moves, some come to expect that inflation will go up!).

With regards to growth, the discussion completely misses the point. For example, in the summer 1992 issue of Challenge Magazine, Robert Brusca, chief economist at The Nikko Securities Co., wrote a long piece entitled Recessions or Recovery?. This is a good example of the often

committed mistake of gauging the present (and forecasting future developments) using old barometers. He writes: "... by all *historical* standards there should be a strong recovery (following the 1990/91 recession). But the economy is now so uncertain, we could be in for a triple-dip recession rather than a recovery..." and there follows several pages of comparative statistics on the behavior of all kinds of economic variables following a recession, with the conclusion being that since the economy had not yet shown the strong rebound that *historically* follows a recession, his view was that the recession had not yet ended, "appearing to be the longest since the Great Depression" (at about the time the article was published, the official date for the end of the recession was put at March 1991).

In the Fall 1992 issue of The Federal Reserve Bank of Minneapolis Quarterly Review, David Runkle (a senior economist in the research department) wrote: "... the current recovery is the weakest in the post war period in all measures of economic activity. This means that the current recovery is most appropriately viewed as a *continuation of a long period of below average growth*".

More interestingly, Paul Krugman in his *Age of Diminished Expectations* (1994, page 108) writes: "... *economists are still puzzled by the suddenness of the slump that developed in 1990, in particular by an abrupt decline in consumer confidence²... one answer is that during the early stages of the slump the Fed.'s mind was on other things. In the late 1980's, there was considerable agitation by conservative economists and their congressional allies for a U.S. policy aimed not simply at holding the line on inflation but at achieving complete price stability. The Fed wasn't prepared to launch another all-out war on inflation, but it was willing to contemplate some rise in unemployment... one Fed economist remarked to me at about that time that: 'we can't go out and create a recession, but we can try to take advantage of any little recessions that come along'*."

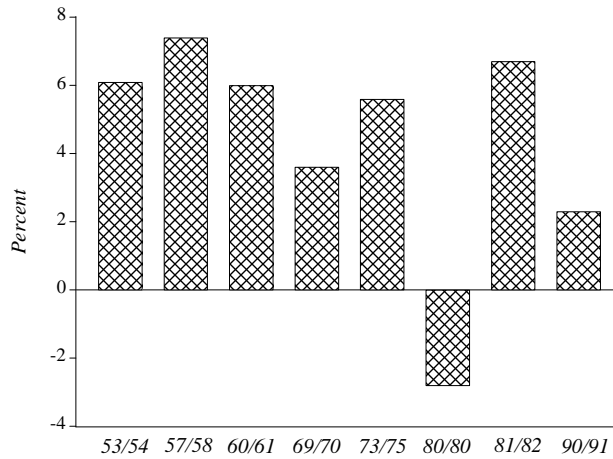
Krugman's observations (and Hall's analysis) are consistent with the arguments put forth in the first part of this analysis that:

- a) the Fed.'s policy stance regarding inflation changed in the early 1980's (and, in addition, show that it was willing to reaffirm this commitment), and
- b) that it was less interested in fine-tuning the economy (by, for example, offsetting higher unemployment).

Figure 8 confirms the view that the rebound from the 1990/91 recession was weak compared to previous ones (especially, as is usual, if the 80/80 recession is considered part of the 81/82 recession).

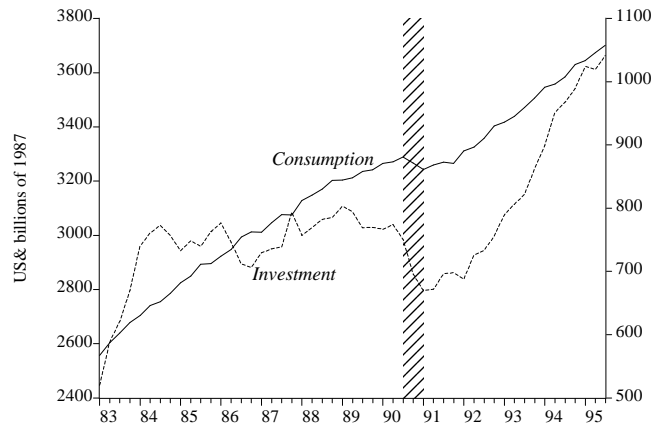
² In the May 1993 issue of *The American Economic Review*, Robert Hall from Stanford University persuasively argues for a consumption decline cause for the 1990/91 recession concluding, "...there seems to have been a cascading of negative responses during that time, perhaps set off by Iraq's invasion of Kuwait and the resulting oil price spike in August 1990. Consumers responded to the negative forces as they would to a *permanent* decrease in their resources... in spite of low interest rates, firms cut all forms of investment, again as they would if there had been some *permanent* adverse shock (see figure 9)...The Federal Reserve reacted cautiously to the collapse of 1990. Short term interest rates fell by only a little over 100 basis points between July 1990 and January 1991.. The Fed appears to have viewed the decline in real activity as an opportunity to move to a much more aggressive anti-inflation policy. And, indeed inflation has fallen dramatically since the recession".

Fig. 8 GDP growth in the first year following a recession



But this is as should be expected if the economy has become more stable. In this situation, both booms and busts are more contained, i.e. the economy is less volatile.

Fig. 9 Consumption & Investment (Shaded 1990/91 recession)

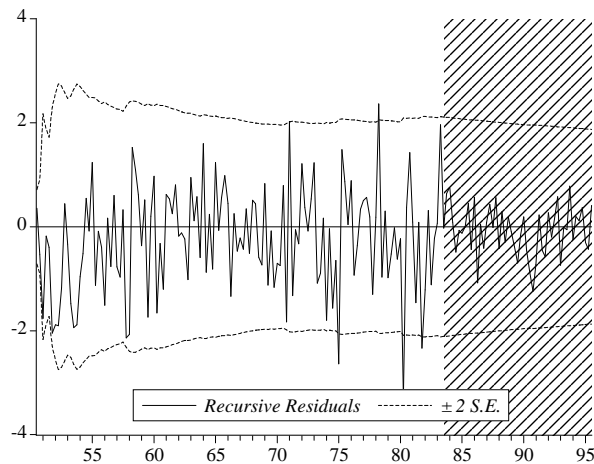


It appears that the changes in policy that occurred were positive since the outcome was increased economic stability. What were the costs? Businessmen frequently complain (analogously to the inflation fears of their bond market counterparts) that the Fed has in effect capped economic growth at an unreasonably low level. This view conforms to Runkle's observation of "a long period of below average growth".

Tests on the data do not confirm this perception. Since 1950, average growth has been very close to 3% per year, and there is no indication that it has declined in the last 12 years. Figure 10 summarizes the tests. The recursive residuals (forecast errors) of a first order autoregressive process for GDP growth show that some parameter instability (as would be expected) can be detected during the oil shocks of the 1970's and the large adjustments of 1980/82, but what strikes most is the reduced growth volatility (and smaller forecast errors) after 1983.

In summary, post 1982 policy seems to have achieved that most elusive outcome of maintaining expected returns (mean growth) while sharply curtailing risk (volatility).

Fig. 10 Recursive Estimation of GDP Growth - 1950/95



III. Implications for financial and capital markets.

In July 1995, The Economist was kind to remind us that since the beginning of this century, "in only six occasions the stock market had posted returns in the first half of the year equivalent to returns obtained so far in 1995...and in all six occasions the market had given back a substantial part of those returns during the second half of the year". Technicals were probably indicating that the market should be getting "tired" (and would likely "correct" before resuming it's long term "trend"). Figures 11 and 12 tell us an interesting story.

Fig.11 The Dow Index

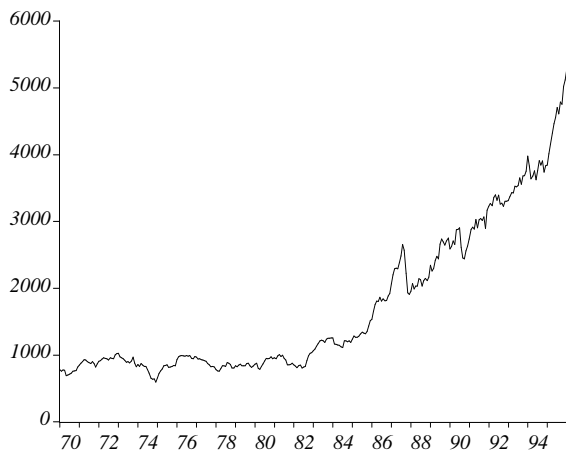
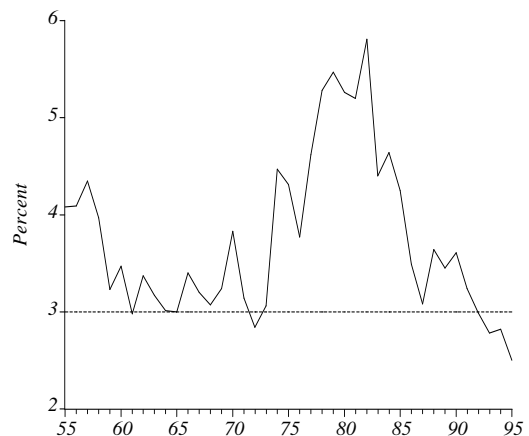


Fig. 12 Dividend Yield - S&P



After continuing gains through the 1950's and most of the 1960's, the stock market all but collapsed in the 1970's. From 1968 to 1980, returns averaged only 2.5% per year (compared to the long run average of about 10% per year from 1926 to 1994). From the late 1960's to the early 1980's, the major influence on the securities markets was the sharp and *unanticipated* upward ratcheting of inflation in the U.S. economy. But, weren't common stocks supposed to be good inflation hedges? Profit (adjusted for inflation) and dividend based explanations for this not being so are not convincing, especially given that throughout this period dividends went up by about as much as the CPI.

More likely, market participants suffered a rude awakening, coming to the realization that inflation is not a benign phenomenon. When prices rise by 10% or 15%, all prices do not rise by the same amount. Rather, relative prices - including the relationship between input and output prices - are far more variable at high rates of inflation (which is itself more volatile). Thus, more volatile levels of real output and higher inflation rates, as well as greater volatility of interest rates, increase uncertainty throughout the economy. Figure 12 shows that equities, having become riskier, required a significant increase in dividend yields as compensation.

I have argued that after 1982, the environment became less risky. The basic principle is that in such circumstances behavior also changes. The outstanding feature of the 1980's and 1990's in this context has been the so-called "restructuring" of enterprise. One interpretation is that the nature of diversification changed. While in the 1960's and 1970's diversification was done from within (large number of divisions in different lines of business - or conglomeration - for example), the less risky (more stable) environment of the 1980's and 1990's turned that strategy obsolete. Break-ups (to increase value), focus on core activities and "cash-is-king" management style became the norm.

The increase in value following a reduction in business risk (associated with greater economic stability) helps explain the fall in dividend yield after 1982. But, the conventional wisdom is that *historically* investors have never received *above average* rates of return (over long periods) when dividend yields have been under 3% (as they have over the past three years). So, one would think, unless dividend (or economic) growth rates are far more rapid during the next several years than has been the case, investors should not anticipate generous returns from stocks.

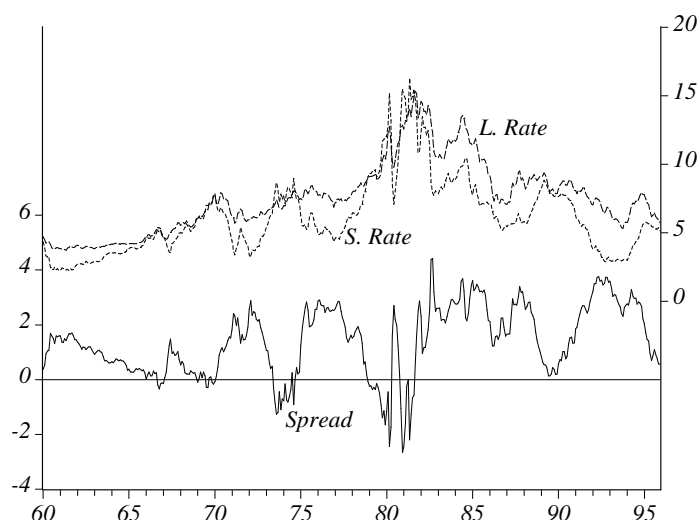
In the previous section, it was established that average growth has not changed, so the gains in market value of the last few years are more likely a reflection of an one-off adjustment (the so called "correction") to lower risk, with returns expected to resume their normal level in the future.

On a practical level, what this tells us is that one should seek better reasons to short the market other than some vague notion that it has gone up "too much" . It may not have!

Within the framework of this analysis, figure 13 can also tell an interesting story (not forgetting that graphs, be they of the "technical" variety or otherwise, are no more than a view of the past).

Sound theory tells us that long term interest rates should reflect investors collective forecast of where short term interest rates are headed in the future i.e., the spread between long and short rates should predict the future direction of interest rates. With the hindsight provided by our "mirror", we observe that bonds were inappropriately priced 30-35 years ago. If in the early 1960's investors had known that inflation was soon to become a major problem, bonds would certainly have been priced very differently. Fortunately investors, like any optimizing agent, learn but it is interesting to observe that while during the 1960's and 1970's the spread would move in anticipation of a change in the same direction of short term rates, this is not true after 1982.

Fig. 13 Long Rate, Short Rate & Spread



The large positive spread during 1983/84, indicates that the market expected short term rates to rise during 1984/85. The market was wrong. Short-term rates started falling in mid-1984 and continued falling until 1987.

When short-term rates turn out to be lower than investors anticipated, their expectations for future short-term rates tend to be revised downward. Since long-term bonds then look more attractive, their prices are bid up and yields fall, restoring the balance between long and short-term rates. In 1990, the spread again started to widen but short-term rates kept on falling³, providing another drawn-out bond rally.

My contention is that these “mistakes”, contrary to the early 1960’s, are related to undue (as it turned out) inflation fears. The wounds inflicted on bondholders during the 1970’s were not to be easily forgotten, but it is comforting to observe that the spread began falling long before short rates began to move up in late 1993 - an indication that “equilibrium” rates were perceived to be much lower than previously thought. As a consequence, another bond rally ensued.

Is a continuation of the rally into 1996 a likely outcome? My view is that most of the adjustment has been made with bonds being more sensitive to negative shocks for the remainder of this year. These negative shocks are likely to materialize in the form of higher than expected growth rates that, according to conventional wisdom (which seems more conventional than wisdom), will bring inflation fears to the fore.

³ In the Fourth District (Cleveland Fed) Economists Roundtable on October 1991 it came out that: “...the slight improvement in inflation expectations since June does not yet appear to be reflected in long-term bond yields. The 30 year Treasury bond yield has hovered narrowly around 8% in recent months, which economists view as including a premium for the risk the Fed will subordinate its long term goal of price stability to that of sustaining the economic recovery. Financial market participants apparently want more evidence that inflation measures are indeed improving”.