

Commentary on 'Causes of Changing Financial Market Volatility'

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I found Bob Shiller's paper to be very stimulating, and although I do not share some of his views on what drives stock market behavior, I am in agreement with his main conclusions. Although the title of Shiller's paper is the "Causes of Changing Financial Market Volatility," its focus is actually somewhat narrower in that it spends most of its time discussing volatility in the stock market and whether current proposals to reduce this volatility make sense. I start my discussion by focusing on the narrower topic of stock market volatility and what Shiller has to say about it, but I will have some things to say about a more general issue that this conference is likely to address: what should be the role for monetary policymakers in dealing with financial market volatility both in the stock market and in other financial markets?

Stock market volatility and current proposals to reduce it

The public, and as a consequence politicians, often view traumatic events as unique and so are prone to blame these events on unique institutional changes that are correlated with the traumatic event. Thus it should be no surprise that many politicians and "experts" blame the Black Monday Crash of October 19, 1987 on the recent development of futures markets in stock index futures, index arbitrage and portfolio insurance. Shiller provides an important service by pointing out that the recent volatility in the stock market is by no means

unique. As Shiller's Chart 1 shows, volatility in the stock market during 1987 is not at all unusual by historical standards. Indeed, it is not even clear that we are facing an **uptrend** in stock market volatility. Once it is recognized that recent stock market volatility is not unique, it becomes harder to blame this volatility on recent financial market innovations.

Shiller's Charts 2 and 3, as well as a recent paper by Schwert (1987), make it clear that explaining stock market volatility is no easy task. The linkage between volatility in the stock market with that in other financial markets or with other economic variables is weak. Without a clear-cut understanding of the sources of stock market volatility, designing appropriate policies to shrink volatility is an extremely difficult task.

One view of financial market volatility with a large number of adherents is a particular variant of the efficient markets hypothesis, which, as stated by Shiller, "asserts that prices efficiently incorporate all public information about fundamentals." In this view of the world, large changes in stock prices reflect large shifts in investors' rational expectations about future values of the fundamental economic variables that affect the valuation of common stocks. With this particular efficient markets perspective, reforming markets so that they exhibit reduced volatility is a bad idea, because it only keeps the markets from reflecting the true volatility of underlying values.

As those who are familiar with Bob Shiller's work know, Bob is quite hostile to the efficient markets hypothesis and has been quoted in the press as saying that it is one of the worst ideas that economists have ever developed. My own view is that this position is far too extreme. First it should be pointed out that other characterizations of the efficient markets hypothesis are more limited than the one that Shiller describes. The characterization of efficient markets that I subscribe to is the following: an efficient market is one in which **unexploited** profit opportunities are eliminated so that expectations are optimal forecasts (the best guess of the future) using all available information.¹ This idea has been an extremely useful one in economics and helps explain many patterns that we see in the data.

¹ This is the characterization of efficient markets that I describe in my textbook, *The Economics of Money, Banking and Financial Markets*, Mishkin (1986).

One possible lesson from the crash is that factors other than market fundamentals might have an important impact on stock prices. Shiller cites his survey evidence to support the position that no news event about fundamentals precipitated the crash. Although I am inclined to agree with this conclusion because the timing of the crash does not seem to be well aligned with a major news event about fundamentals, I must say that I am more cautious about Shiller's survey evidence than he seems to be. For example, he found that about 90 percent of investors who bought or sold on the day of the crash reported *after the crash* that they thought the market was overpriced right before the crash. Does this mean, as Shiller seems to think, that investors actually thought the market was overpriced before the crash? I am skeptical. Everyone always likes to think of himself or herself as smarter than the rest, and in hindsight, we usually think that we were smarter than we actually were. In spite of my skepticism about the survey results, the stock market crash has shifted my priors away from thinking that the market is always driven by market fundamentals.

Shiller cites additional evidence against the efficient markets hypothesis, but we must be somewhat careful in interpreting the evidence. There does seem to be a strong case that the stock market is more volatile than it should be with an efficient markets model in which there is *an additional assumption* that the rate at which future payment streams are discounted is constant. However, models have been developed (Cecchetti, Lam and Mark in 1988, for example), which suggest that an economy with risk averse agents may display high volatility and forecastability of long-period returns consistent with what we find in the data because of time variation in the rate at which payment streams are discounted. One important piece of evidence that Shiller does not mention which suggests that something other than market fundamentals drives stock prices is found in French and Roll (1986). They find that closings of the New York Stock Exchange on Wednesdays in the second half of 1968 because of the paperwork backlog reduced stock price volatility. Since these closings of the exchange can be reasonably classified as unrelated to the amount of new information arising in the economy, the fact that volatility dropped when these markets were closed suggests that trading and price changes by themselves and not just market fundamentals play a role in stock market volatility.

What conclusion about market efficiency should we draw from the literature described above and the occurrence of the stock market crash itself? First, as even Shiller seems to accept in his paper, the occurrence of large movements in stock prices, even if not driven entirely by fundamentals, does not indicate that there are unexploited profit opportunities in the stock market. Thus a stock market crash of the type we saw in 1987 does not provide evidence against the primary principle of the efficient markets hypothesis: that market expectations will be optimal forecasts using all available information. The Black Monday crash is not the death knell of efficient markets theory. On the other hand, the stock market crash and other evidence make economists such as myself less enamored with the view that market prices reflect only market fundamentals. Thus, I am in agreement with Shiller that in evaluating proposals for reform of financial markets, it is worth examining alternative views of financial market behavior in which market fundamentals are not the whole story.

What I found striking about Shiller's analysis of current proposals to deal with high stock price volatility is that, despite his and-efficient market views, he comes to very similar conclusions to those held by proponents of the efficient markets hypothesis in which prices reflect only fundamentals. Indeed, Shiller's analysis and conclusions on the value of these proposals are remarkably consistent with those found in Frank Edwards⁷ paper which will be presented later in the conference. Shiller points out that many of the current proposals are as likely to raise stock price volatility as to reduce it. Reducing the ability of certain investors to engage in market transactions by raising margin requirements, through trading halts, or by eliminating certain market activities such as index arbitrage or even futures trading in stock indexes, may mean that prices will undergo larger rather than smaller swings. The investors frozen out may be exactly the ones that would limit destabilizing speculation. For example, it appears that during the crash the biggest sellers were institutions who are less affected by margin requirements. Furthermore, making financial futures markets less available by increased margin requirements, taxes, or outright elimination will limit the ability of investors to hedge individual investments. This, too, could increase price volatility. Indeed, foreign markets that had little futures trading seemed to suffer as large stock price declines as in the U.S., and ironically, a study

of the crash by the London Stock Exchange concluded that it would have been better off if there had been increased index arbitrage. Finally, Shiller points out that most of the current proposals may make markets less efficient, that is, less able to respond to genuine information. This would produce a definite loss of economic welfare.

I strongly agree with Shiller's conclusions mentioned above. To put a more general perspective on evaluating the current proposals to reform financial markets, I think it is best to think of two types of reforms to reduce market volatility: ones that are designed to make financial markets more **efficient**—i.e., be more liquid, respond more quickly to new information, and reveal more information about trading—and ones that are designed to make markets less efficient. Most of the current proposals are ones that fall into the later category. As Shiller, and Edwards later point out, making a market less efficient may increase volatility rather than reduce it. In addition, making a market less efficient by slowing down its ability to change prices, by keeping out certain investors, or by closing it altogether, means that information will not be as effectively transmitted to the economy. Thus, even if making a market less efficient does reduce price volatility, this still may be a very bad idea because useful information will be unable to surface in the marketplace. The overall conclusion from evaluating proposals with **this framework** is unlikely to support making financial markets less efficient and proposals for reform that have received the most attention recently may thus be way off base.

Is there a role for the Federal Reserve in dealing with financial market volatility?

Since it seems that many of the recent proposals are likely to do more harm than good, we might think that there is no constructive role for policymakers to deal with financial market volatility. I will argue that this is not the case. The Federal Reserve does have an **important** role to play to help deal with market volatility, but what should it be?

Political pressure to reduce financial market volatility is often an important factor that impinges on monetary policymakers. Often in the past, members of Congress have complained about volatile interest rates, especially when they are rising, and have put pressure on the

