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How the Fed Responds to Stock Market Moves

Federal Reserve Board Chairman Alan Greenspan famously coined the term “irrational exuberance” back in December 1996. His warning about the economic risks associated with soaring asset prices set off a widespread debate over whether America’s central bank should deliberately prick what appeared to be an emerging stock market bubble. Indeed, price-earnings ratios skyrocketed until the bubble eventually burst in the spring of 2000.

Still, there are other broad questions besides whether the central bank should target asset prices that appear to move away from fundamental values. For instance, shifts in the stock market clearly influence the direction of the macroeconomy. Does the Federal Reserve react to stock market movements in setting monetary policy? And if the answer is yes, is the Fed’s policy response of the appropriate magnitude? These are the questions that motivate **Roberto Rigobon** and **Brian Sack** in **Measuring The Reaction of Monetary Policy to the Stock Market** (NBER Working Paper No. 8350).

The stock market influences the real economy of goods and services through two main channels. The first

is the so-called wealth effect. The total financial wealth of American households stood at a staggering \$35.7 trillion at the end of 2000, and stocks accounted for \$11.6 trillion of that sum. Consumers might open their wallets a bit more when stock prices are rising smartly, but take fewer trips to the mall if falling stock prices are cut-

Specifically, they find that an unexpected 5 percent increase in the Standard & Poor’s 500 index hikes by just over half the probability of a 25 basis point tightening at the next Federal Open Market Committee Meeting. The same calculation works for a monetary easing. In other words, if the probability of a monetary easing

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ting into household wealth. A bull or bear stock market also affects the cost of financing for business. Last year, U.S. non-financial corporations raised some \$118 billion in equity offerings and more than \$100 billion in venture capital funds. This year, the comparable figures are much lower.

Of course, teasing out monetary policy responses to the stock market is difficult, especially since the stock market reacts to changes in monetary policy even as that policy responds to shifts in the stock market. But the authors are able to establish a relationship between monetary policy and stock prices

were 30 percent under existing economic conditions, an unexpected 5 percent decline in stock prices would increase to 80 percent the probability of a cut in the Fed’s benchmark short-term interest rate. “This reaction is roughly of the magnitude that would be expected from estimates of the impact of stock market movements on aggregate demand,” say the authors. “Thus, it appears that the Federal Reserve systematically responds to stock price movements only to the extent warranted by their impact on the macroeconomy.”

— Chris Farrell

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Does Globalization Make the World More Unequal?

The world economy has become more unequal over the last two centuries. That inequality is characterized by widening economic gaps between nations, but not necessarily within nations. During this same period, the world economy has become more integrated globally. This leads some economists to suggest a relationship between global economic integration and economic inequality.

In **Does Globalization Make the World More Unequal?** (NBER Working Paper No. 8228), authors **Peter Lindert** and **Jeffrey Williamson** find that increasing globalization has probably mitigated the effects of inequality between nations that participate in global markets. The nations that gained the most from globalization are those poor countries that changed their policies to exploit it, while the ones that gained the least did not, or were too isolated to effectively change economic and political policy.

In analyzing economic data from 1820 to the present, the authors reach five conclusions. First, the dramatic widening of income gaps between nations probably has been reduced by globalization of commodity and factor markets, at least for countries that inte-

grated into the world economy. Second, within labor-abundant countries before 1914, opening up to international trade and factor movements lowered inequality. Third, within labor-scarce countries prior to 1914 opening up to international trade and factor movements raised inequality, a powerful effect where immigration was massive. Fourth, all effects considered, more globalization has meant less world inequality. Fifth, world incomes

the authors consider whether a corresponding huge world economy with only negligible barriers to trade, migration, and capital movements would make for a more unequal world economy. They conclude that such an integrated world economy would be less unequal than today's barrier-filled, partly globalized world economy.

The authors acknowledge the fear that many have that such a globalized world would have vast regions with

“The nations that gained the most from globalization are those poor countries that changed their policies to exploit it, while the ones that gained the least did not, or were too isolated to effectively change economic and political policy... An integrated world economy would be less unequal than today's barrier-filled, partly globalized world economy.”

would still be unequal under a scenario of complete global integration, just as they are in any large integrated national economy, such as those of the United States or Japan. But, they would be less unequal in such an economy than they would be in one that is fully segmented.

Citing huge integrated economies such as those found in the United States, Japan, and the European Union,

inferior education and chaotic legal institutions and would be more unequal than societies found in economies such as the United States or the European Union. However, the authors conclude that the source of that inequality would be poor government and non-democracy in the lagging countries, not the effects of globalization.

— Les Picker

Lessons from the Canada/U.S. Free Trade Agreement

There is good news and bad news in regard to the Canada/U.S. Free Trade Agreement (FTA). The good news is that the deal, especially controversial in Canada, has raised productivity in Canadian industry since it was implemented on January 1, 1989, benefiting both consumers and stakeholders in efficient plants. The bad news is that there were also substantial short-run adjustment costs for workers who lost their jobs and for stakeholders in plants that were

closed because of new import competition or the opportunity to produce more cheaply in the south.

“One cannot understand current debates about freer trade without understanding this conflict” between the costs and gains that flow from trade liberalization, notes **Daniel Trefler** in **The Long and Short of the Canada-U.S. Free Trade Agreement** (NBER Working Paper No. 8293). “This paper,” he writes, “does not provide the silver bullet that makes the case either for or

against free trade.” The central tenet of international economics is that free trade improves economic welfare. “Yet the fact of the matter is that we have one heck of time communicating this to the larger public, a public gripped by Free Trade Fatigue.” The FTA, he writes, provides a unique window on the effects of trade liberalization because it was an unusually clean trade policy exercise, not bundled into a larger package of national economic measures or market reforms.

His paper looks at the impact of the FTA on a large number of performance indicators in the Canadian manufacturing sector from 1989 to 1996. In the one-third of industries that experienced the largest tariff cuts in that period, ranging between 5 and 33 percent and averaging 10 percent, employment shrunk by 15 percent, output fell 11 percent, and the number of plants declined 8 percent. These industries include the makers of garments, footwear, upholstered furniture, coffins and caskets, fur goods, and adhesives. For manufacturing as a whole, the comparable numbers are 5, 3, and 4 percent, respectively, Trefler finds. "These numbers capture the large adjustment costs associated with reallocating resources out of protected, inefficient, low-end manufacturing," he notes.

Since 1996, manufacturing employment and output have largely rebounded in Canada. This suggests that some of the lost jobs and output were reallocated to high-end manufacturing. On the positive side, the tariff cuts boosted labor productivity (how much output is produced per hour of work) by a compounded annual rate of 2.1

percent for the most affected industries and by 0.6 percent for manufacturing as a whole, Trefler calculates. The tariff cuts raised "total factor productivity," a measure that takes account of capital input as well as labor input, by a compounded annual rate of 1 percent for the most affected industries and by 0.2 percent for manufacturing as a whole. Trefler figures this is attributable to a

"The tariff cuts boosted labor productivity (how much output is produced per hour of work) by a compounded annual rate of 2.1 percent for the most affected industries and by 0.6 percent for manufacturing as a whole."

mix of plant turnover (closings, openings, takeovers) and rising technical efficiency within plants. It is not because of plants being bigger, or a shift in market share toward firms with already high productivity. In low-end manufactures, productivity rose sharply.

Surprisingly, Trefler writes, the tariff cuts raised annual earnings slightly. Production workers' wages rose by 0.8 percent per year in the most affected industries and by 0.3 percent per year for manufacturing as a whole. The tar-

iff cuts did not effect earnings of higher-paid non-production workers or weekly hours of production workers. Thus, the FTA reduced inequality in incomes, albeit minimally.

Between 1989 and 1996, U.S. exports to Canada of products of the most affected industries increased 70 percent. The tariff cuts, reducing the barriers to goods from the United

States, account for three quarters of that increase. Also, the tariff cuts explain about a third of the increased share of imports from the United States in total Canadian imports from all countries, from 85 percent to 90 percent. Trefler concludes, "Most of the effects of the FTA tariff cuts are smaller than one would imagine given the heat generated by the debate."

— David R. Francis

Do Lending Booms Lead to Financial Crises?

Lending booms have been used to explain many banking crises, including Chile's in 1982, Mexico's in 1994, and Thailand's in 1997. In each case, reliance on foreign capital led to financial disturbances that combined banking crises with a balance-of-payments collapse. The experience of lending booms had led some academics and practitioners to advocate the use of controls on short-term capital inflows or on private credit growth. Even the International Monetary Fund has been moved by recent experience to acknowledge the benefits of targeted capital controls.

But are lending booms really that bad? According to **Pierre-Olivier**

Gourinchas, Rodrigo Valdés, and **Oscar Landerretche,** writing in **Lending Booms: Latin America and the World** (NBER Working Paper No. 8249), the answer is a qualified no, with Latin America standing out as the exception.

A lending boom is defined as a period when the ratio of private credit to private gross domestic product deviates from its historical trend. During a boom, credit to the private sector increases rapidly. The danger is that as lending increases, the quality of funded projects declines, and the banking sector becomes more vulnerable. However, Gourinchas, Valdés, and Landerretche show that the presumption that lending booms generically lead to banking

crises is wrong. While a lending boom may precede most banking crises, banking crises do not follow most lending booms. Financial development typically occurs in stages, with periods of intense financial deepening and increases in the level of financial intermediation by banks. Large increases in lending may represent a permanent capital deepening rather than just a transitory boom.

The authors use two measures of lending booms, a relative measure that compares the size of additional lending to the size of the banking sector and an absolute measure against the size of the economy. Their study is based on data for 91 countries, over the period 1960-

96. The number of lending booms identified depends on the size of the threshold used in measuring deviation from the norm. Using a relative deviation of 24 percent or an absolute deviation of 5 percent, there are 60 and 65 cases respectively. Using relatively high thresholds of 42 percent and 8 percent, there are 23 and 33 cases respectively.

Argentina, for example, experienced two lending booms (from 1979-82 and 1992-5) with the credit/GDP ratio increasing by 100 percent in the first episode and by 70 percent in the second episode. Chile experienced a long lending boom between 1975 and 1984, where the ratio increased by 1,200 percent. Mexico experienced a lending boom from 1988 to 1994, with the credit/GDP ratio increasing by 350 percent.

The researchers find that lending booms are associated with: an investment boom and to a lesser extent a consumption boom; declines in trend output growth over the episode of over 1 percent; a large increase in domestic interest rates; a large increase in the current account deficit and a counterpart in the form of capital inflows; a real appreciation of the domestic currency; some worsening of the fiscal situation; a decline in foreign reserves; and a shortening of the maturity of the external debt.

However, the authors find no significant increase in banking and balance-of-payment vulnerability. Nor do they find any evidence that lending booms—which last an average of 6 ½ years on the relative measure and 5 ½ years in the absolute cases—tend to come to an abrupt halt.

To analyze whether boom episodes are related to financial crises – and par-

however, the researchers find that lending booms do make Latin American economies considerably more volatile and vulnerable to banking and balance-of-payments crisis. Latin America has experienced a sharp increase in lending booms during the 1990s.

The researchers show that capital inflows are more relevant before the lending booms in Latin America than in

“Lending booms do make Latin American economies considerably more volatile and vulnerable to banking and balance-of-payments crisis. The probability that a banking crisis and a balance of payments/currency crisis will follow a lending boom is twice as high in Latin America than in the rest of the world.”

ticularly whether they signal future banking troubles – the researchers compare the probability of having a banking crisis before and after a boom with the probability of experiencing a crisis during more tranquil periods. They find that the probability of a banking crisis after a lending boom is relatively low. Although the probability of a banking crisis up to two years after a lending boom is somewhat higher than during tranquil periods, the difference is not statistically significant.

Comparing Latin America’s experience with that of the rest of the world,

the rest of the world; this fits with the fact that a number of Latin American countries experienced capital account liberalization during the sample period. Latin American lending booms have been built around financial deregulation, capital account liberalization, large capital inflows, and failed exchange rate-based stabilization policy. The probability that a banking crisis and a balance of payments/currency crisis will follow a lending boom is twice as high in Latin America than in the rest of the world.

— Andrew Balls

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