International Monetary Cooperation: Lessons Learned from the Plaza Accord After Thirty Years
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A Rules-Based Cooperatively Managed International Monetary System for the Future

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For nearly two decades following the Plaza Accord of 1985 economic performance and stability improved in major parts of the world—a period known as the Great Moderation or simply NICE (for noninflationary consistently expansionary)—as monetary policy tended to be more focused and rules based. In contrast, during much of the past decade, monetary policy deviated from a rules-based approach and economic performance and stability deteriorated, remaining poor today. As Paul Volcker put it, "The absence of an official, rules-based, cooperatively managed monetary system has not been a great success."[1]

This chapter draws on lessons from the Plaza Accord and the three decades of economic policy and performance that followed to propose a new approach to international monetary policy. The experience of the past 30 years and basic economic reasoning suggest that a rules-based reform in each country will deliver performance akin to a rules-based international monetary system and "can better reconcile reasonably free and open markets with independent national policies [and] stability," the sensible goal called for by Volcker.[2]

I start with a review of key lessons from the Plaza Accord that are most relevant for the future of the international monetary system. Next I review the economic principles that indicate that such a rules-based policy will lead to

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1. Paul A. Volcker, Remarks at the Bretton Woods Committee Annual Meeting, Washington, June 17, 2014, www.brettonwoods.org.

2. Ibid.

good global economic performance. I then provide evidence consistent with those principles, showing that adhering to more rules-based policy has been associated with good performance while deviating from rules-based policy has been associated with poor economic performance. Building on this experience and the principles, I then describe the reform proposal and its implementation.

Key Lessons from the Plaza Accord

In my view two key lessons from the Plaza Accord are most relevant for thinking about a new approach to the international monetary system. The first relates to the effectiveness of exchange market intervention. The second relates to the impact of the agreement on the strategy of domestic monetary policy in different countries.[3]

Impact of Exchange Market Interventions

The first key lesson from the Plaza Accord, as analyzed in empirical studies of the period, is that sterilized exchange market interventions have been largely ineffective in moving the exchange rate on a sustained basis.[4] To be sure, the dollar was very strong at the time of the September 22 meeting of the G-5 and the announcement at the Plaza Hotel in New York, and it depreciated for the next two years: By 1987 the dollar had largely reversed the appreciation experienced during 1981–85.[5] So a casual observer of these trends would see a strong effect of both the Plaza and the Louvre Accords. Moreover, the dollar depreciated immediately on the Monday after the Sunday Plaza meeting. Against the yen, for example, it depreciated from 240 yen/dollar to 232 yen/dollar over the weekend.

However, as Feldstein (1994) and others emphasize, the decline in the dollar had started several months before the Plaza Accord. It had reached 260 yen/dollar in February 1985 and was down to 240 yen/dollar on the Friday before the meeting at the Plaza Hotel. In their recent comprehensive history of foreign exchange market interventions in the United States, Bordo, Humpage, and Schwartz (2015, 301) "find no support for the view that intervention influences exchange rates in a manner that might force the dollar lower, as under the Plaza Accord, or maintain target zones as under the Louvre Accord.... most

3. A detailed review of the meetings and events surrounding the Plaza Accord and the Louvre Accord is beyond the scope of this chapter. Frankel (1994) provides an excellent review, including of important events like the September 1986 meeting between Secretary Baker and Finance Minister Miyazawa of Japan.

4. By "sterilized" I mean that either the monetary base or the policy interest rate is held steady as the central bank offsets its purchases or sales of foreign currency-denominated assets with sales or purchases of domestic assets.

5. That this reversal had gone far enough was the reason for the Louvre Accord of February 22, 1987.

of the movements in exchange rates over the Plaza and the Louvre period seem attributable to policy changes, not intervention."

In an earlier study, Obstfeld (1990) found that currency interventions could reveal policymakers' intentions to change macroeconomic policy and thus affect expectations of such a change in policy, which in turn could affect actual exchange rates. However, Bordo, Humpage, and Schwartz (2015) report that the interventions during this period had very little systematic effect on actual exchange rate changes, through changes in expectations or other channels. Their study of 129 separate interventions against the yen and the mark during the Plaza-Louvre period using different criteria finds that the impact of the interventions was insignificantly different from random.

Alan Greenspan summed up the empirical evidence well at a Federal Open Market Committee (FOMC) meeting in October 2000: "There is no evidence, nor does anyone here [at the FOMC] believe that there is any evidence to confirm that sterilized intervention does anything" (FOMC transcript, October 3, 2000, quoted in Bordo, Humpage, and Schwartz 2015, 332).

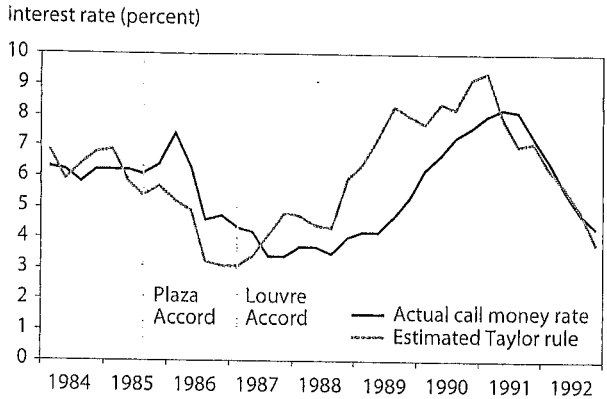
It is possible, of course, to move exchange markets temporarily even with sterilized intervention, but the impacts are uncertain. As I report in Taylor (2007a, 276), based on my experience observing every intervention by the Japanese in real time during 2002–03, "If the Japanese intervene in the markets by buying a huge amount of dollars with yen, they can usually increase the price of the dollar relative to the yen. But the impacts of such interventions are temporary and their size is hard to predict because the volume of trading in the market is many times larger than even the largest interventions." Nevertheless, I believe that these temporary effects can lead policymakers to intervene in the markets, because it is harder to detect the offsetting effects, as fundamentals soon overtake the intervention.[6]

Impact on National Monetary Policies

A second key lesson from the Plaza Accord concerns the impacts of such international agreements on monetary policy. There were differential effects on participants in the Plaza Accord, with monetary policy affected in some countries and not in others. Compare, for example, monetary policy in Japan with that of the United States and other participants. Research reported by the International Monetary Fund (IMF 2011) shows that monetary policy was excessively restrictive in Japan in 1985 and 1986 and too expansionary in 1987–90. Such a swing toward overly expansionary policy could have been a factor in the boom and subsequent collapse in Japan in the 1990s.

6. Not all Japanese intervention during 2003 was sterilized, in the sense that the monetary base increased during the period as part of quantitative easing. In fact, I and other officials viewed the sustained interventions during the year as a means of increasing money growth in Japan and thereby confronting deflationary pressures.

Figure 12.1 Estimated Taylor rule rate and actual call money rate in Japan, 1984–92



Source: IMF (2011), based on research by Leigh (2010).

The IMF research suggests that the Plaza Accord, at least as implemented in Japan, played a role in this swing. Figure 12.1 shows that the interest rate was too high relative to the rules-based policy in late 1985 and throughout 1986 (see also Jinushi, Kuroki, and Miyao 2000). It also shows the swing, with the policy rate set well below the rule from 1987 through 1990.

The move toward excessively restrictive monetary policy starts at the time of the Plaza meeting. Indeed, as figure 12.1 shows, the Bank of Japan increased its policy rate significantly immediately after the Plaza meeting—the opposite course of action indicated by inflation and output. Then, after a year and a half, starting around the time of the Louvre Accord, Japanese monetary policy swung in the other direction, toward excessive expansion. Figure 12.1 is remarkably clear about this move.[7] According to IMF (2011) calculations, the policy interest rate swung from up to 2¼ percentage points too high between the Plaza and the Louvre Accord to up to 3½ percentage points too low during the time between the Louvre Accord and 1990 "relative to an implicit Taylor rule based on the output and inflation outlook" (IMF 2011, 53).

Evidence of an effect of the Plaza and Louvre Accords on Japanese monetary policy can also be found in official statements. The Plaza and Louvre communiqués included specific commitments about Japanese monetary policy actions regarding the exchange rate or the interest rate. In the Plaza Accord statement, the government of Japan committed to "flexible management of monetary policy with due attention to the yen rate." In the February 22 Louvre Accord statement, "The Bank of Japan announced that it will reduce its discount rate by one half percent on February 23." Thus the deviations from

7. The policy rule estimates of Green, Papell, and Prodan in chapter 8 yield similar results to figure 12.1 for the period after the Plaza.

the rules-based policy, as defined here, were clearly due to the way Japan implemented the Plaza Accord and later the Louvre Accord.

The Plaza and Louvre communiqués included no similar statements about monetary policy by the Federal Reserve, the Deutsche Bank, the Bank of England, or the Bank of France. For the United States the communiqué included many supply-side or structural reforms, including the commitment to "implement revenue-neutral tax reform which will encourage savings, create new work incentives, and increase the efficiency of the economy, thereby fostering noninflationary growth," a commitment that was indeed fulfilled in the 1986 tax reforms.

Paul Volcker's comments on the Plaza Accord are particularly informative. They are an important part of the record and the lessons learned. According to Volcker (1994), the Plaza Accord had no implications for US monetary policy, either explicit or implicit. He was willing to go along with the agreement, he said, because he felt that Federal Reserve policy would not be tightened soon anyway. "In fact, it was the absence of any need or desire to tighten that provided a 'green light' for the Plaza Agreement" (Volcker 1994, 150).

To summarize, two types of international cooperation underlay the Plaza Accord. For some participants—certainly the United States but apparently also France, Germany, and the United Kingdom—international cooperation did not affect the monetary authorities' strategy. The meetings confirmed that these central banks would continue to pursue the strategies in place. The Plaza Accord statement simply said the Fed would provide "a financial environment conducive to sustainable growth and continued progress toward price stability." The Louvre statement simply said that the Fed's "monetary policy will be consistent with economic expansion at a sustainable noninflationary pace." Neither the Plaza nor the Louvre Accord statements included any mention of exchange rate actions for the Fed or any mention of deviations from the policy that the Fed had been putting in place under Volcker. Nevertheless, the dollar depreciated across the board—as much against the mark as against the yen—suggesting that the decline was part of a general reversal of the dollar appreciation experienced during 1981–85 and related to the monetary policy strategy that Volcker and his colleagues at the Fed had put in place.

This does not mean that the discussions at these or subsequent meetings were without merit. As I argue below, it is beneficial for a central bank simply to describe, clarify, and commit to a monetary strategy, including at these meetings and publicly through the communiqués issued after the meetings. Doing so enables other central banks to formulate and stick to their strategies; the information exchanged reduces uncertainty and helps create stability in global markets. Moreover, discussions among top economic and finance officials can relate to a host of other important issues, including tax policy, budget policy, and international trade policy, as they did in the case of the Plaza Accord.

In many respects, as later empirical research in Clarida, Gali, and Gertler (2002) and others showed, the monetary strategies of the American and European participants, which started around the time of the Plaza Accord, were maintained, and these strategies helped create two NICE decades following the Plaza Accord, even if they were not so NICE for Japan. Indeed, there was another form of NICE, a nearly international cooperative equilibrium, thanks to these policies that would also last for two decades, as I discuss below.

Global Benefits of Rules-Based Monetary Policy

Economic research going back to the time of the Plaza Accord shows that simple rules-based monetary policy results in good global economic performance (see Carlozzi and Taylor 1985 and Taylor 1985, for example). Global stability increases when each central bank adopts a rules-based monetary policy that predictably reacts to economic conditions (including possibly exchange market conditions) and that is optimal for its own country's price and output stability. Moreover, there is little additional gain from central banks jointly optimizing their policies; in practice such joint actions can lead to unintended suboptimal behavior (that is, deviations from the policy that is domestically optimal), as the example of Japan following the Plaza Accord illustrates. The research shows that the Nash equilibrium—in which each country chooses its monetary strategy taking other countries' strategies as given—is nearly optimal or nearly an internationally cooperative equilibrium.

In the models used in this research, capital is mobile, which is largely appropriate for the modern global economy, and rigidities, including sticky prices and wages, exist. There are cross-country linkages: The price of foreign imports affects domestic prices, and the real exchange rate affects output. Shocks from abroad can hit anywhere. Monetary policymakers face a macroeconomic tradeoff between price stability and output stability, and they have the task of finding a policy strategy in which they adjust their monetary policy instrument to reach an optimal point on that tradeoff. The strategy must respond to shocks while not creating its own shocks, either domestically or internationally.

The tradeoff is like a frontier. Monetary policy cannot take the economy to infeasible positions off the frontier. But suboptimal monetary policy—as a result of deviating from good policy, reacting to the wrong variables, and so forth—can take the economy to inferior points off the tradeoff. Along the frontier, lower price variability can be achieved only with greater output variability, corresponding to different values of the reaction coefficients. The existence of such a tradeoff is quite general; the modeling framework has been used in many different monetary policy studies going back to the 1970s and continuing today.

The important result for international policy is that such models imply that the central bank's choice of domestic output and price stability along its frontier has little impact on the output and price stability tradeoff in other

countries. The tradeoffs for other countries are virtually the same regardless of which of the optimal policies each country chooses. This is the sense in which there is little to be gained by countries coordinating their choice of policy rules with other countries if all are following policy rules that are optimal domestically.

The converse situation, where monetary policy in one or more countries does not follow an optimal rule, is less clear-cut theoretically, because it requires defining the nature of the deviation. Nevertheless, the tradeoff concept can be used to illustrate how such deviations from an optimal policy rule can lead to a breakdown in the international system.

Suppose a country deviates from its policy rule and moves in the direction of an inefficient policy. Its actions will have two types of impacts on other countries. First, the tradeoff in other countries shifts in an unfavorable direction, perhaps as a result of more volatile capital flows, exchange rates, commodity prices, and export demand. Second, less efficient monetary policy in one country brings about less efficient monetary policy in other countries. For example, if the policy change in one country brings about an excessively easy policy with very low interest rates, then policymakers in other countries—concerned about exchange rate appreciation—may deviate from their policy rule by setting interest rates that are too low.

The historical experience following the Plaza Accord has validated many of these theoretical predictions. As central banks in the United States and Europe moved toward rules-based monetary policies in the 1980s and 1990s, economic performance improved, especially compared with the instability of the 1970s. Clarida, Gali, and Gertler (2002) provided early evidence for this shift in policy. When central banks in many emerging market countries started moving toward more rule-like policies with their inflation-targeting approach, economic performance also improved, as De Gregorio (2014) shows.

During the past decade, policy changed. I refer here not to the lender-of-last-resort actions taken by the Fed and other central banks during the panic of the autumn of 2008, which were largely appropriate and effective in my view, but rather to the departures from rules-based policy before and after the panic. Empirical research by Taylor (2007b), Ahrend (2010), and Kahn (2010) shows that a deviation from rules-based policy in the United States and other countries started about a decade ago—well before the financial crisis. Hofmann and Bogdanova (2012) show that a "global great deviation" is continuing, especially when unconventional central bank interventions and large-scale balance sheet operations are included. Nikolsko-Rzhevskyy, Papell, and Prodan (2014) uncover these changes in policy using modern time-series techniques. Associated with the change has been deterioration in economic performance, including the Great Recession, the slow recovery, large negative international spillovers, and an increase in the volatility of capital flows and exchange rates. Policymakers in emerging-market countries, including Agustín Carstens (2015), the governor of the Bank of Mexico, have noted the adverse spillovers,

and many have had to resort to unusual policy actions. Policymakers in developed economies, including Japan and Europe, have reacted to the adverse exchange rate effects of monetary policies. International economists have raised concerns about currency wars.[8]

While there is general agreement about the first shift in policy, in the early 1980s, around the time of the Plaza Accord, disagreement remains about the second and its timing. An alternative view is that monetary policies were appropriate during the past decade, even if they were not rule-like, and that the recent deterioration in economic performance was not the result of monetary policy deviating from a rules-based approach. Mervyn King, the former governor of the Bank of England, argues that the policy tradeoff in many countries shifted in an unfavorable direction because financial stability during the NICE period eventually bred instability, as investors became complacent: "Relative to a Taylor frontier that reflects only aggregate demand and cost shocks, the addition of financial instability shocks generates what I call the Minsky-Taylor frontier."[9]

There is also disagreement about international spillovers and related problems with the international monetary system. Bernanke argues that during 2009–13 it was appropriate for countries around the world to deviate from the policies that worked during the NICE period.[10]

Empirical Evidence on Global Effects

Five types of evidence can inform this shift in policy and its effects:

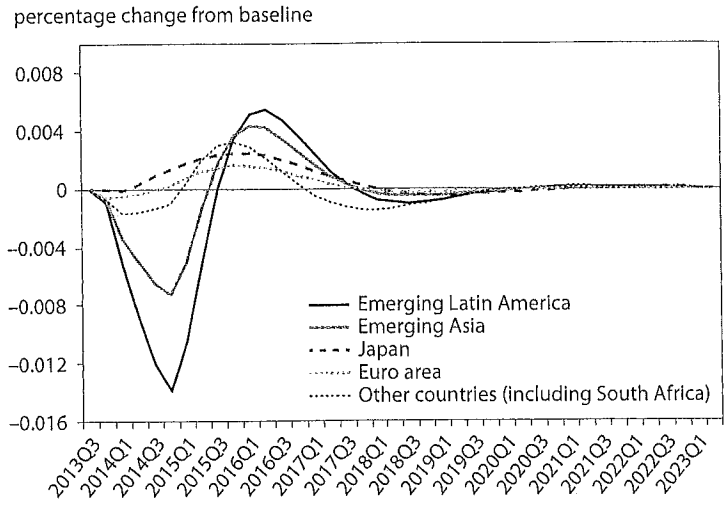
- econometric models of spillover effects of policy deviations
- regressions showing policy contagion and the multiplier effects of such contagion
- the spread of unconventional monetary policy as weapons in currency wars
- the impact of policy deviations on other policies that detract from economic performance
- direct evidence that global economic instability has increased.

8. See C. Fred Bergsten, "Currency Wars, the Economy of the United States and Reform of the International Monetary System," Stavros Niarchos Foundation Lecture, Peterson Institute for International Economics, Washington, May 16, 2013.

9. Mervyn King, "Twenty Years of Inflation Targeting," Stamp Memorial Lecture, London School of Economics, October 9, 2012.

10. Ben Bernanke, "Monetary Policy and the Global Economy," speech at the Department of Economics and Suntory and Toyota International Centres for Economics and Related Disciplines (STICERD), London School of Economics, London, March 25, 2013.

Figure 12.2 Estimated impact on output of a temporary negative shock to US interest rate rule of 0.2 percentage points: Results from the IMF's GPM6 model for 2013–23



GPM6 = Global Projection Model with 6 Regions; IMF = International Monetary Fund

Note: Figure shows the impact of a deviation from a monetary policy rule in the United States on real output for Japan; the euro area; emerging Latin America (Brazil, Chile, Colombia, Mexico, and Peru); and emerging Asia (China, Hong Kong, India, Indonesia, Korea, Malaysia, the Philippines, Singapore, Taiwan, and Thailand).

Source: Simulations of the IMF's GPM6 model provided by Roberto Garcia-Saltos.

Evidence from Econometric Models on Spillovers of Monetary Policy Deviations

The IMF's main multicountry monetary model, the Global Projection Model with 6 Regions (GPM6; described in Carabenciov et al. 2013), includes the United States, other developed countries, and emerging-market countries in Latin American and Asia. Simulations of models in Volker Wieland's model database (Wieland et al. 2012) show that the IMF model is not special. Other estimated multicountry models, including the Federal Reserve's SIGMA model vintage 2008 and the New Area Wide Model (NAWM) of the European Central Bank (ECB) vintage 2008, show impacts in the same general range.

Figure 12.2 shows the impact of a deviation from the policy rule in the GPM6 model, which initially causes the US interest rate to fall by about 0.2 percentage points. The dynamics of the policy rule then lead to a gradual rise in the interest rate back to its starting point in about five quarters. According to the GPM6 model, there is a negative effect on output in the emerging-market economies of Latin American and Asia. In these simulations the interest rate change in the United States is quite small (only 20 basis points) so the impact on output in both the United States and the other countries is also small. It is

best therefore to consider the foreign effects as a percentage of the US effects. Thus, for each percentage point monetary policy–induced increase in output in the United States, output falls by 0.25 percentage points in the Latin American countries and by 0.13 percentage points in the Asian countries. As described by the authors of the IMF's GPM6 model, this effect occurs because "the exchange rate channel is stronger than the direct output gap effect" (Carabenciov et al. (2013). The impact on output in other developed economies is not negative, but it is small. Japan's output, for example, increases by only about 1/20th of the US increase in the GPM6 model.

These simulations contradict the view that deviations from the rules-based policy are beneficial abroad; they do not support an enrich-thy-neighbor view. Bernanke argues that "the benefits of monetary accommodation in the advanced economies are not created in any significant way by changes in exchange rates; they come instead from the support for domestic aggregate demand in each country or region. Moreover, because stronger growth in each economy confers beneficial spillovers to trading partners, these policies are not 'beggar-thy-neighbor' but rather are positive-sum, 'enrich-thy-neighbor' actions."[11]

Evidence of Monetary Policy Contagion and Multiplier Effects

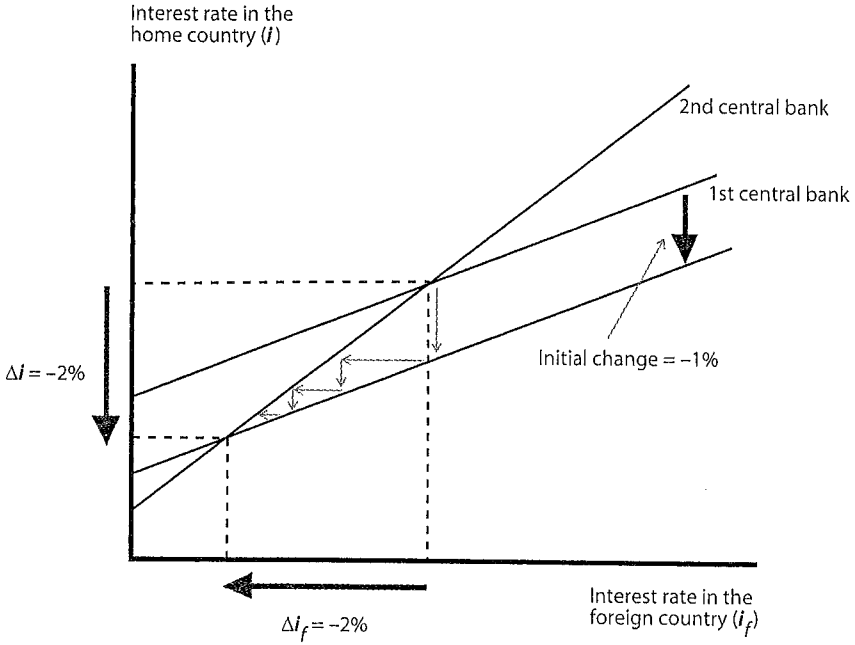
Given these simulations it is not surprising that policy deviations at one central bank put pressures on other central banks to deviate. A reduction in policy interest rates abroad causes the exchange rate to appreciate, and even with offsetting effects thanks to economic expansion abroad, the overall spill-over effect may well be negative. For the emerging-market countries in Latin America and Asia, the exchange rate effect dominates. Central banks tend to resist large appreciations of their currency; one way to do so is to reduce their own policy rate relative to what it would be otherwise. Doing so reduces the difference between the foreign interest rate and the domestic interest rate and thus mitigates the appreciation of their exchange rate.

There is considerable empirical evidence of this impact of foreign interest rates on central bank decisions (see Taylor 2013). The best evidence comes from central bankers themselves, many of whom readily admit to these reactions in conversations.

The Norges Bank provides a great deal of detail about its decisions and the rationale for them. In 2010, for example, it explicitly reported that it lowered its policy interest rate because interest rates were lower abroad. The actual policy rate, at about 2 percent, was much lower than the rate implied by its domestic monetary policy rule, which called for a policy rate of about 4 percent. This deviation was due almost entirely to the very low interest rate abroad, according

11. Ben Bernanke, "Monetary Policy and the Global Economy," speech at the Department of Economics and Suntory and Toyota International Centres for Economics and Related Disciplines (STICERD), London School of Economics, London, March 25, 2013.

Figure 12.3 Illustration of the international monetary policy deviation multiplier



Source: Author's illustration.

to the Norges Bank. It reported that a policy rule with external interest rates included came much closer to describing the actual decisions than the policy rules without external interest rates.

Regressions or estimates of policy rules provide considerable evidence of the international spread of central bank policies. The work of Gray (2013), Carstens (2015), and Edwards (2015) is definitive. The usual approach is to estimate policy rate reaction functions in which the US federal funds rate or other measures of foreign interest rates are entered on the right-hand side as deviations from their respective policy rules. The usual finding is that the reaction coefficient on the foreign rate is positive, large, and significant. There is also evidence reported in Taylor (2009) that the Federal Reserve's interest rate policy is affected by interest rate decisions abroad.

In addition, this type of deviation from interest rate policy rules can create large international multiplier effects. The multiplier can be illustrated in the case of two countries. Assume that the size of the deviation depends on interest rate settings at the central bank in the other country. In figure 12.3 the first central bank has a response coefficient of 0.5 on the second central bank's policy interest rate, and the second central bank has a response coefficient of 1 on the first central bank's interest rate. Suppose the first central bank cuts its interest rate by 1 percentage point below its normal policy rule setting.

Figure 12.4 Yen-dollar exchange rate, 2006–15

Source: Federal Reserve Economic Data (FRED) at Federal Reserve Bank of St. Louis.

The second central bank will also reduce its policy rate by 1 percentage point, causing the first central bank to cut its interest rate by another 0.5 percentage point, leading to another cut at the second central bank, and so on. The end result is a 2 percentage point rate cut, or a multiplier of 2. What may have appeared as a currency competition becomes an interest rate competition.

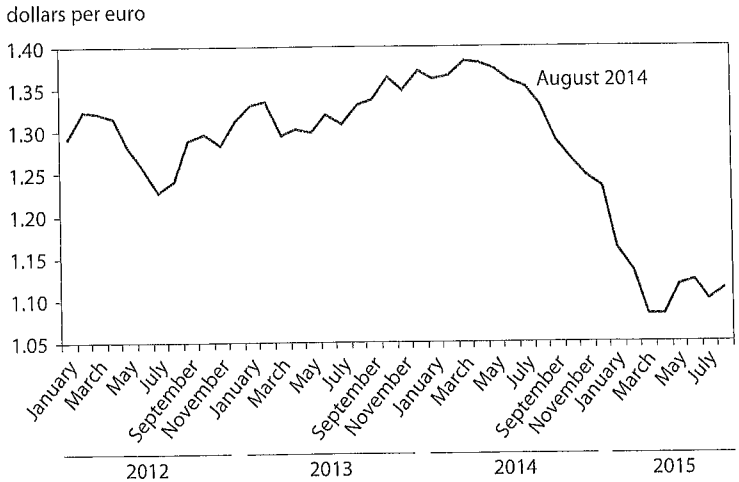
International Transmission of Quantitative Easing and the Threat of Currency Wars

Just as interest rate policy deviations can be transmitted globally, so can quantitative easing. Consider the possible impact of quantitative easing in the United States on exchange rates, focusing on the Japanese yen. Following the financial crisis and the start of the US recovery in 2008–12, the yen significantly appreciated against the dollar, while the Fed repeatedly extended its large-scale asset purchases along with its zero interest rate policy, with little or no response from the Bank of Japan (figure 12.4).

The adverse economic effects of the currency appreciation in Japan became a key issue in the 2012 election. When the Abe government came into power, it urged the Bank of Japan to implement its own massive quantitative easing. With a new governor, the Bank of Japan did just that. As a result of this change in policy, the yen fully reversed its course and has now depreciated to levels before the panic of 2008. In this way the quantitative easing policy of one central bank appeared to beget quantitative easing by another central bank.

The moves of the ECB toward quantitative easing in the past year seem to have had a similar motivation and were likely influenced by the impacts

Figure 12.5 Euro-dollar exchange rate, 2012–15



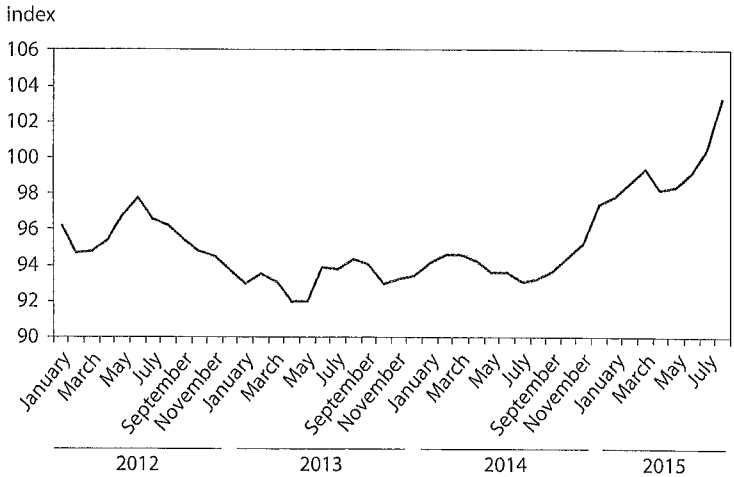
Source: Federal Reserve Economic Data (FRED) at Federal Reserve Bank of St. Louis.

of quantitative easing in Japan. An appreciating euro was, in the view of the ECB, a cause of the weak European economy. The response was to initiate another large round of quantitative easing. At the Jackson Hole conference in August 2014, Mario Draghi spoke about his concerns about the strong euro and hinted at quantitative easing, which then followed. This shift in policy was followed by a weaker euro and a stronger dollar (figure 12.5).

These exchange rate effects in Europe were accompanied—with remarkably close timing—by widespread depreciations of currencies in emerging markets. Figure 12.6 plots the dollar index against a large group of economies (Argentina, Brazil, Chile, China, Colombia, Hong Kong, India, Indonesia, Israel, Korea, Malaysia, Mexico, the Philippines, Russia, Saudi Arabia, Singapore, Taiwan, Thailand, and Venezuela). The taper tantrum of May–June 2013, in which the Fed first indicated it was going to wind down quantitative easing, is often cited as the beginning of the recent turbulence in capital flows and exchange rates, but August 2014 was a turning point for currency markets.

With these currency developments in the background, the actions of China to start to let the yuan move with other currencies and away from the dollar in August 2015 are understandable. There is also econometric evidence that quantitative easing has an impact on monetary policy decisions abroad. Chen et al. (2012, 230) find that "the announcement of QE [quantitative easing] measures in one economy contributed to easier global liquidity conditions."

Figure 12.6 Dollar index, 2012–15



Note: Dollar index is the exchange rate of the dollar against the following trading partners: Argentina, Brazil, Chile, China, Colombia, Hong Kong, India, Indonesia, Israel, Korea, Malaysia, Mexico, the Philippines, Russia, Saudi Arabia, Singapore, Taiwan, Thailand, and Venezuela.

Source: Federal Reserve Economic Data (FRED) at Federal Reserve Bank of St. Louis.

Impact of Policy Deviations on Other Policies

Concerned about the ramification of deviating from their normal monetary policy, many central banks have looked for other ways to deal with the impacts of policy deviations abroad. They include imposing capital controls, using macroprudential tools, and intervening in currency markets.

Controls on capital flows—what IMF staff call *capital flow management*—are usually aimed at containing the demand for local currency and its appreciation, but they are also used to mitigate risky borrowing and volatile capital flows. Capital controls create market distortions and may lead to instability, as borrowers and lenders try to circumvent them and policymakers seek even more controls to prevent the circumventions. Capital controls are one reason why the output and price stability frontier shifts adversely, as discussed above. Capital controls also conflict with the goal of a more integrated global economy and higher long-term economic growth. Despite these drawbacks, the unusual spillovers of recent years have led even the IMF to suggest that capital controls might be used as a defense.

Currency intervention is another way countries try to prevent unwanted changes in a currency, as either an alternative or a supplement to deviations of interest rates from normal policy. Many emerging-market countries have used currency intervention widely in recent years. Although it can temporarily prevent appreciation, it can have adverse side effects. If not accompanied by capital controls, interventions require a change in monetary policy (nonsterilization) to be effective. Currency intervention also leads to an accumulation

of international reserves, which must be invested somewhere. If low policy interest rates are set in the United States (as in 2003–05), the resulting gross outflow of loans is accompanied by a gross inflow of funds from central banks into dollar-denominated assets, such as US Treasury or mortgage-backed securities, which affects the prices and yields of these securities.

Macroprudential policies are another impact of policies from abroad. They are most obvious in small open economies that are closely tied to the dollar. Both Singapore and Hong Kong have had near zero short-term interest rates in recent years because the Fed has had zero rates. Their pegged exchange rate regimes and open capital markets have left no alternative. In order to contain inflationary pressures, they have had no choice but to resort to discretionary interventions in housing or durable goods markets, such as lowering required loan-to-value ratios in housing or requiring larger down payments for automobile purchases.

These policies are also becoming more popular in inflation-targeting countries with flexible exchange rates as advanced countries have deviated from rules-based policy. Discouraged from leaving interest rates at appropriate levels because of exchange rate concerns caused by the unusual policies abroad, such countries turn to such market-specific measures.

Macroprudential actions are inherently discretionary. They expand the mission of central banks and bring them closer to politically sensitive areas. They also run the risk of becoming permanent even after unconventional policies abroad are removed. A regulatory regime aimed at containing risk taking is entirely appropriate, but such a regime entails getting the levels right, not manipulating them as a substitute for overall monetary policy.

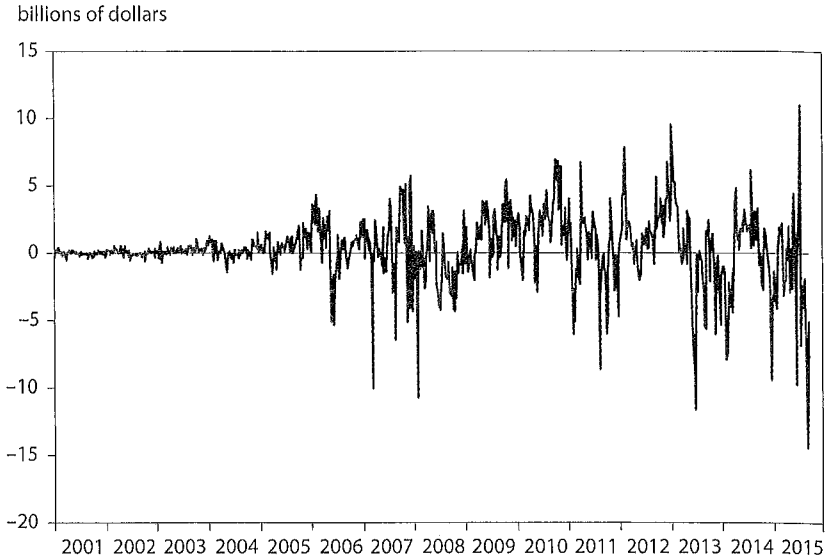
Capital Flows and Exchange Rate Volatility

The flows of capital in and out of emerging markets as well as the recent swings in exchange rates seem related in time to changes in monetary policy. Regarding the volatility of capital flows, Rey (2014, 310) writes that "our VAR [vector auto-regression] analysis suggests that one important determinant of the global financial cycle is monetary policy in the center country, which affects leverage of global banks, credit flows and credit growth in the international financial system." Figure 12.7 shows a marked increase in the volatility of capital flows to emerging markets since the recent deviation from rules-based policy began.

More work needs to be done on the correlation between the documented deviations from rules-based monetary policy and the volatility of capital flows; additional tests of causation are also important. This empirical task is made more difficult by the lack of comparable data going back to the 1980s and 1990s and the staggered timing of countries adhering to and deviating from rules-based policy.

Exchange rate movements have also become more volatile. Figure 12.8 shows the 12-month percentage change in the value of the US dollar against

Figure 12.7 Weekly capital (debt and equity) flows in emerging markets, January 2001–September 2015



Source: Data from Emerging Portfolio Fund Research, provided to the author by the Bank of Mexico and used in Carstens (2015).

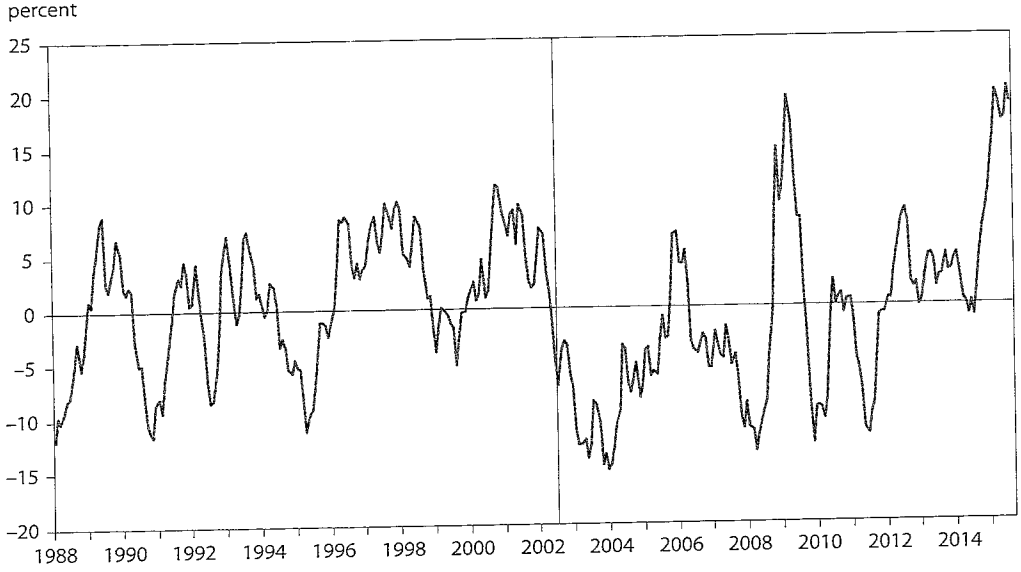
an index of "major" currencies, as defined by the Federal Reserve for the period from the end of the Plaza-Louvre Accords (January 1988) through August 2015. A marker at June 2002 indicates the approximate date of the shift away from rules-based policy.

The data show an increase in volatility in the second period. The standard deviation during the post–Plaza-Louvre period is 5.7 percent (8.3 percent in recent years). The max-min spreads also increase, from +/−12 percent in the first period to +20/−15 percent in the second. The most recent 12-month percent changes are about as large as during the global financial crisis

A New Approach

The foundation of a rules-based international monetary system is simply a rules-based monetary policy in each country. An established body of research shows that the move toward rules-based monetary policy in the 1980s led to improved national and international performance in the 1980s and 1990s. The economic evidence also indicates that the recent spread and amplification of deviations from rules-based monetary policy in the global economy are drivers of current instabilities in the international monetary system, although more research is needed. Research shows that each country following a rules-based monetary policy that is consistent with achieving national economic stability—and expecting other countries to do same—would move the world toward an

Figure 12.8 Change in the value of the dollar against an index of major currencies, January 1988–August 2015



Note: Figure shows percentage changes in the value of the dollar against an index of the euro, yen, pound, Swiss franc, Canadian dollar, Australian dollar, and Swedish krona over a 12-month period.

Source: Federal Reserve Economic Data (FRED) at Federal Reserve Bank of St. Louis.

international cooperative equilibrium. The more countries that follow such an approach in practice, the closer actual global conditions will be to the assumptions that underlies this research.

Lessons from the Plaza Accord indicate that the process of each country reporting on its monetary policy strategy and agreeing to commit to that strategy can be an important means of building this foundation. They also indicate that it is essential that the process not impinge on other countries' domestically optimal monetary strategies or focus on sterilized currency intervention as an instrument. In keeping with the expansion of the global economy since the Plaza Accord, emerging-market countries should be part of the process. The issue is one for the G-20 and beyond, perhaps the Bank for International Settlements (BIS), not just the G-5 or the G-7. A clear commitment by the Federal Reserve—still the world's most significant central bank, with responsibility for the world's most significant currency—to move in this rules-based direction would help start the process. The staff of the IMF or the BIS could be asked to help monitor and keep track of the strategies.

The barriers to implementing an international understanding and agreement along these lines may be surprisingly low. Of course, some form of renormalization of monetary policy, or at least intent to renormalize, is needed. After that come goals and strategies for the instruments of policy to achieve the goals. The major central banks now have explicit inflation goals, and many policymakers use policy rules that describe strategies for the policy instruments. Explicit statements about policy rules or strategies to achieve these goals are thus feasible. Such policy rules would describe the nature of adjustments of the policy instruments in response to economic conditions. That there is wide agreement that some form of international reform is needed would help move implementation along.

Such a process poses no threat to either the national or international independence of central banks. It would be the job of each central bank to formulate and describe its strategy. Participants in the process or parties to the agreement would not have a say in the strategies of central banks in other countries or currency unions. The strategies could be changed or deviated from if the world changed or there was an emergency. A procedure for describing the change in strategy and the reasons for it would presumably be part of the agreement.

Many have called for reforms of the international monetary system, reflecting concerns about instabilities, international policy spillovers, volatile capital flows, risks of crises, or simply less than stellar economic performance. The BIS has been researching the issues; Jaime Caruana, the general manager of the BIS, has made the practical case (Caruana 2012). The approach suggested here may not be the be-all and end-all of such a reform, but it is supported by experience from the Plaza Accord and extensive research over the years. It also has the key prerequisites of a good, feasible reform: Each country can choose its own independent strategy, avoid interfering with the principles of free and open markets, and contribute to the common good of global stability and growth.

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