

The Mirage of Floating Exchange Rates†

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During the past few years, many countries have suffered severe currency and banking crises, producing a staggering toll on their economies, particularly in emerging-market countries. In many cases, the cost of restructuring the banking sector has been in excess of 20 per cent of GDP, and output declines in the wake of crisis have been as large as 14 per cent. An increasingly popular view blames fixed exchange rates, specifically “soft pegs,” for these financial meltdowns. Not surprisingly, adherents to that view advise emerging markets to join the ranks of the United States and other industrial countries that have chosen to allow their currency to float freely. (See, for example, Goldstein 1999.)

At first glance, the world—with the notable exception of Europe—does seem to be marching steadily towards floating exchange rate arrangements. According to the International Monetary Fund (IMF), 97 per cent of its member countries in 1970 were classified as having a pegged exchange rate; by 1980, that share had declined to 39 per cent, and in 1999, it was down to only 11 per cent.¹ Yet, this much-used IMF classification takes at face value that countries actually do what they say they do. Even a cursory perusal of the Asian crisis countries’ exchange rates prior to the 1997 crisis would suggest that their exchange rates looked very much like pegs to the U.S. dollar for extended periods of time. Only Thailand, however, was explicitly classified as a peg; the Philippines was listed as having a freely floating

1. Obstfeld and Rogoff (1995) make this point, as well.

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exchange rate, while the others were lumped under the catch-all label of managed floating.

In this paper, I summarize some of the key findings of Calvo and Reinhart (2000), who analyze the behaviour of exchange rates, foreign exchange reserves, the monetary aggregates, and interest rates across the spectrum of exchange rate arrangements to assess whether the “official labels” provide an adequate representation of actual country practice. To illustrate some of the main points, I present evidence for a few regimes that are drawn from the analysis of a much larger population of exchange rate arrangements. The data span monthly observations for 36 countries during the January 1970 to April 1999 period.

Some of the key findings are: (i) Countries that say they allow their exchange rate to float mostly do not. There seems to be an epidemic case of “fear of floating.” Relative to more committed floaters, such as the United States, Australia, and Japan, observed exchange rate variability is quite low. The low variability of the nominal exchange rate is not owing to the absence of real or nominal shocks in these economies. Indeed, relative to the United States and Japan, most of these countries are subject to larger and more frequent shocks to their terms of trade—hardly surprising, given the high primary commodity content of their exports, in many cases. (ii) The low relative exchange rate variability is the deliberate result of policy actions to stabilize the exchange rate. Reserve volatility (contrary to what we should expect in the context of a floating exchange rate or relative to what we observe in the more committed floaters) is very high. (iii) Interest rate volatility (both real and nominal) is significantly higher—and in a different league altogether—from that of the true(r) floaters. The high volatility in both real and nominal interest rates appears to have had two main explanations. It suggests that countries are not relying exclusively on foreign exchange market intervention to smooth fluctuations in the exchange rates—interest rate defences are commonplace. The high variability of interest rates also suggests that there are chronic credibility problems. (iv) Since countries that are classified as having a managed float mostly resemble non-credible pegs, the so-called “demise of fixed exchange rates” is a myth. Instead, the fear of floating is pervasive, even among some of the developed countries.² Our finding, that most of the episodes that come under the heading of floating exchange rates look more like non-credible pegs, may help explain why earlier studies, which relied on the official classifications of regimes, failed to detect important differences in GDP growth rates and inflation, across peg and the floating regimes (see Ghosh et al. 1997).

2. See Calvo and Reinhart (2000) for a fuller discussion of why there is fear of floating.

Section 1 provides a brief review of what economic theory predicts for the behaviour of exchange rates, foreign exchange reserves, the monetary aggregates, and interest rates across the spectrum of exchange rate arrangements. Section 2 confronts these theoretical priors with the actual data, while section 3 discusses some of the reasons for “fear of floating.”

1 Basic Concepts

Let i and i^* denote the domestic and foreign nominal interest rate, respectively, while E is the nominal exchange rate. The expected devaluation rate and default risk premiums are given by ε and ρ , respectively, and R denotes the level of foreign exchange reserves. The variance of any variable, x , is denoted by $Var(x)$.

Now let us first consider a floating exchange rate regime with a money-supply rule, under which shocks to money demand, expectations about the exchange rate, or default risk are not accommodated. Under such circumstances, one should expect to see in the data that: $Var(E) > 0$; $Var(i) > 0$, to the extent that there are shocks to the demand for money; and $Var(R) = 0$, since there is no central bank intervention. If, as in the United States, there is no explicit targeting of monetary aggregates, the exchange rate floats, and interest rates are smoothed, then shocks to money demand are accommodated, but shocks to exchange rate expectations or the default risk premiums are not. In this case, $Var(E) > 0$, $Var(i) = 0$, $Var(R) = 0$, since money supply adjusts through open market operations rather than through purchases and sales of foreign exchange reserves.

At the other extreme, if a country has a fully credible peg (which is defined to include the confidence that there would be no default), the interest-rate-parity condition is simply $i = i^*$. In that case, we should expect: $Var(E) = 0$; $Var(i) = Var(i^*)$ because of full credibility; and $Var(R) > 0$, since money-demand shocks are accommodated. Non-credible pegs, which include likelihood of default and are much more common, break down the one-to-one relationship between i and i^* . As before, $Var(E) = 0$ and $Var(R) > 0$, but now the interest-rate-parity condition is given by:

$$i = i^* + \varepsilon + \rho, \quad (1)$$

$$Var(i) = Var(i^*) + Var(\varepsilon) + Var(\rho) + \text{covariance terms}. \quad (2)$$

Hence, lack of credibility implies that $Var(i) > Var(i^*)$.

However, as noted earlier, countries frequently depart from their stated exchange rate arrangements. Pegs or quasi-pegs are not always made explicit. One increasingly common form of “peg-in-disguise” or “Fear of

Floating I” (Table 1) is when the exchange rate is stabilized through open market operations, rather than through purchases and sales of foreign exchange. Examples of this type of arrangement include Peru since August 1990 and Mexico since December 1994. Assuming imperfect credibility (since the arrangement is not made explicit), the implications are identical to that of the non-credible peg (i.e., $Var(E) = 0$, $Var(i) = Var(i^*) + Var(\epsilon) + Var(\rho) +$ covariance terms) except $Var(R) = 0$. If, despite having an announced float, the attempt to stabilize the exchange rate is less well disguised (as is the case of South Korea from 1999 to the present), the predictions from theory are hardly distinguishable from a non-credible peg. This case is depicted in Table 1 in the row designated by “Fear of Floating II.”

Table 1
Predicted behaviour under
alternative exchange rate arrangements

Exchange rate arrangement	Var(E)	Var(i)	Var(R)
Float/money-supply rule	high	?	0
Float/interest rate smoothing	high	low	0
Credible peg	0	Var(i^*)	?
Non-credible peg	0	high	high
Non-credible quasi-peg in disguise (Fear of Floating I)	low	high	low
Non-credible quasi-peg in less of a disguise (Fear of Floating II)	low	high	high

Having reviewed the theoretical priors of what to expect from the behaviour of exchange rates, international reserves, and interest rates across exchange rate regimes (which are summarized in Table 1), we proceed to confront these priors with the actual data.

2 The Evidence

Our data are monthly for 36 countries in Africa, Asia, Europe, and the western hemisphere from January 1970 to April 1999. Selected examples are presented here, and the full range of episodes are given in Calvo and Reinhart (2000). Countries are grouped into four types of exchange rate arrangements according to IMF classification: peg, limited flexibility, managed floating, and freely floating. Limited flexibility has almost exclusively been used to classify European countries (prior to the monetary union) with exchange rate arrangements vis-à-vis one another (i.e., the Snake, the Exchange Rate Mechanism, etc.).

Despite occasional bouts of foreign exchange market intervention, sometimes even in coordinated fashion, the United States dollar (US\$) floated about as freely against the German deutschemark (DM), and now the euro and the Japanese yen (¥), as any currency is allowed to float. For this reason, we compare countries that have regimes that are classified as freely floating or managed floating against this “G-3” benchmark. Given well-defined priors for the behaviour of exchange rates, foreign exchange reserves, the monetary aggregates, and interest rates across the spectrum of exchange rate arrangements, we proceed by examining these variables one at a time. In what follows, we analyze monthly percentage changes.

Table 2 presents evidence of the frequency distribution of monthly exchange rate changes (in percentages). For the United States, for example, there is about a 59 per cent probability that the monthly US\$/DM exchange rate change falls within a relatively narrow ± 2.5 per cent band. By contrast, for Bolivia, Canada, and India (all declared floaters during that period), that probability is in the 94 to 96 per cent range.³ An alternative way of stating the same facts is that there is only about a 5 per cent probability in those countries that an exchange rate change will exceed 2.5 per cent on any given month (versus more than 40 per cent for the US\$/DM). The absence of moderate-to-large monthly fluctuations in the exchange rate is equally absent among the so-called “managed float” episodes (Table 3). For Egypt and Bolivia, the probability of a monthly exchange rate change greater than 2.5 per cent is nil. Even for self-proclaimed flexible rate advocates, such as Chile and Singapore, the frequency distribution of their monthly exchange rate fluctuations relative to the U.S. dollar does not vaguely resemble that of the US\$/DM or US\$/¥, with a significantly higher proportion of observations falling within a narrow band. By this metric, post-crisis Mexico approximates a float more closely than any of the others, including Canada.

As discussed in the previous section, however, exchange rates tell only part of the story. We cannot glean from exchange rates alone what would have been the extent of exchange rate fluctuations in the absence of policy interventions; that is, we do not observe the counterfactual. To assess the extent of policy intervention to smooth out exchange rate fluctuations, we examine the behaviour of foreign exchange reserves. As Table 1 highlights, the variance of reserves should be zero in a pure float. In reality, reserves may also change, owing to changes in valuation. Table 4 reports excerpts from the frequency distribution of monthly reserve changes (in U.S. dollars). With the exception of the United States, most countries in Table 4 hold the lion’s share of their foreign exchange reserve holdings in dollar-

3. These patterns are representative of a broader set of countries (see Calvo and Reinhart 2000).

Table 2
Exchange rate volatility in recent or
current “floating” exchange rate regimes

Country	Period	Probability that monthly percentage change falls within	
		±1 per cent band	±2.5 per cent band
United States \$/DM	February 1973–April 1999	26.8	58.7
Japan	February 1973–April 1999	33.8	61.2
Bolivia	September 1985–December 1997	72.8	95.9
Canada	June 1970–April 1999	68.2	93.6
India	March 1993–April 1999	82.2	93.2
Mexico	December 1994–April 1999	34.6	63.5

Table 3
Exchange rate volatility in recent or
current “managed” exchange rate regimes

Country	Period	Probability that monthly percentage change falls within	
		±1 per cent band	±2.5 per cent band
United States \$/DM	February 1973–April 1999	26.8	58.7
Japan	February 1973–April 1999	33.8	61.2
Bolivia	January 1998–April 1999	100.0	100.0
Chile	October 1982–April 1999	45.5	83.8
Egypt	February 1991–December 1998	95.7	98.9
Pakistan	January 1982–April 1999	77.8	92.8
Singapore	January 1988–April 1999	61.5	89.6

denominated assets; hence, valuation changes are not an issue. As Table 4 highlights, there is about a 74 per cent probability that Japan’s monthly changes in foreign exchange reserves fall in a narrow ± 2.5 per cent band. In the case of Mexico, there is only about a 28 per cent probability that changes are that small, while in the case of Bolivia, that probability is even lower. Indeed, for all other countries, large swings in foreign exchange reserves appear commonplace, consistent with a higher extent of intervention in the foreign exchange market—even relative to what is to be expected a priori from a freely floating exchange rate regime.

Policy intervention to smooth exchange rate fluctuations does not appear limited to transactions in foreign exchange markets. While interest rates in

Table 4
Foreign exchange reserve volatility in
recent or current “floating” exchange rate regimes

Country	Period	Probability that monthly percentage change falls within	
		±1 per cent band	±2.5 per cent band
United States	February 1973–April 1999	28.6	62.2
Japan	February 1973–April 1999	44.8	74.3
Bolivia	September 1985–December 1997	8.1	19.6
Canada	June 1970–April 1999	15.9	36.6
India	March 1993–April 1999	21.6	50.0
Mexico	December 1994–April 1999	13.2	28.3

Notes: Reserves are in U.S. dollars. Since the United States holds its reserves in foreign currencies, much of the fluctuations in these simply reflects valuation changes arising from fluctuations in the dollar.

the United States and Japan are predominantly set with domestic policy objectives in mind, interest rate policy in most of these other countries accords a much higher weight to the stabilization of the exchange rate. It would be difficult to justify the very high relative volatility of nominal and real interest rates in these countries on the basis of changes in domestic “policy fundamentals,” as Table 5 makes plain. The probability that interest rate changes will be confined to a narrow ± 50 -basis-point band for the United States is about 82 per cent—even including the historically turbulent inflation stabilization period of the early 1980s. For Japan, that probability is even higher. By contrast, during Mexico’s “floating exchange rate” regime, there is only a 9.4 per cent probability that interest rate changes will be less than or equal to fifty basis points. Such stability in interest rates seems to elude most emerging markets—even those with capital controls, such as India. Indeed, major interest rate changes (by G-3 standards) appear to be the rule. While the probability that interest rates change by 500 basis points (5 per cent) on any given month is about zero for the United States and Japan, that probability is close to 30 per cent for Mexico. A recent example of Mexico’s use of high interest rates as a means of limiting exchange rate pressures (despite a slowing economy and an adverse terms-of-trade shock) comes from the aftermath of the Russian crisis in August 1998. Nor is Mexico unique in this regard among emerging markets. Such interest volatility is not the by-product of adhering to strict monetary targets in the face of large and frequent money-demand shocks. In effect, most of these countries do not have explicit or implicit money-supply rules. It is a

Table 5
Nominal interest rate volatility in recent
or current “floating” exchange rate regimes

Country	Period	Probability that the monthly change in nominal interest rate falls within	
		±0.25 per cent band (25 basis points)	±0.5 per cent band (50 basis points)
United States	February 1973–April 1999	59.7	80.7
Japan	February 1973–April 1999	67.9	86.4
Bolivia	September 1985–December 1997	16.3	25.9
Canada	June 1970–April 1999	36.1	61.8
India	March 1993–April 1999	6.4	15.9
Mexico	December 1994–April 1999	5.7	9.4

combination of trying to stabilize the exchange rate (without giving the explicit signal that foreign exchange market intervention yields) and lack of credibility.⁴

3 “Fear of Floating”

Going beyond superficial classifications and taking the wealth of evidence at hand, if results are any guide to the future, promises and statements by countries to move in the direction of a floating exchange rate may be devoid of real consequences. There appears to be a widespread “fear of floating” that is closely linked with credibility problems.

The root causes of the marked reluctance by emerging markets to float their exchange rates are multiple. When circumstances are favourable (i.e., there are capital inflows, positive terms-of-trade shocks, etc.), many emerging-market countries are reluctant to allow the nominal (and real) exchange rate to appreciate. This probably stems from fears of the “Dutch disease” type problems—loss of competitiveness and serious setbacks to export diversification. When circumstances are adverse, the case against allowing large depreciations becomes possibly even more compelling. The fear of a collapse in the exchange rate comes from pervasive liability dollarization, since in most emerging markets the debt of both the government and the private sector is largely denominated in hard foreign currency. For this and other reasons, devaluations in developing countries have a history of being associated with recessions, not export-led booms. Furthermore, the

4. The results for real interest rates paint a similar picture; they are available from the author.

authorities may resist large devaluations because of their inflationary consequences and the credibility problems these may feed.

If “fear of floating” continues to be the serious policy issue it has been in the past, and if, as the stylized facts on interest rates suggest, lack of credibility remains a serious obstacle, the only way to simultaneously avoid the “floating and credibility problems” may be full dollarization. A corner solution indeed!

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Discussion*

Mark Kruger

Economists have traditionally relied on two tests to identify a country's exchange rate regime. One is "the believe me test," where I tell the IMF which type of exchange rate regime I have and you believe me. The other test is "the duck test," where if it looks like a duck and if it quacks like a duck, it must be a duck. However, Calvo and Reinhart caution us that in order to be a duck, it actually has to float like a duck.

The authors have written a thoughtful paper that challenges the conventional wisdom that countries are moving to the poles of either freely floating or firmly fixed exchange rates. They conclude that many emerging-market countries that claim to have floating exchange rates actually behave as if they are operating under soft pegs. The authors offer a theoretical framework to show that in the context of destabilizing devaluations, countries are afraid to actually let their currencies float. I would agree and add that other countries appear to be afraid to allow their currencies to *appreciate* out of concern for a loss of competitiveness.

I would like to comment on three aspects of the paper. First, what does a floating exchange rate really look like? Second, does a floating exchange rate act as a stabilizer for shocks? And finally, what are the policy implications for a country when devaluations are contractionary?

* This commentary discusses the paper presented at the conference: "Fear of Floating," by Guillermo A. Calvo and Carmen M. Reinhart.

What Does a Floating Exchange Rate Really Look Like?

To determine the extent to which the exchange rate actually floats, the authors compare one-month changes of the exchange rate across different regimes. While they find that the volatilities for countries that claim to be fixed and countries that claim to be freely floating are significantly different, the differences across other regimes are blurred.

This raises the question of whether the one-month change is the appropriate metric by which to measure the exchange rate regime. In theory, just because an exchange rate is free to change does not mean that it will, in fact, do so. In practice, the data for Canada show that the exchange rate has a very low volatility. Yet this doesn't prevent the dollar from exhibiting significant movement over time.

However, just because the exchange rate is floating does not mean that it is disregarded. In Canada, the exchange rate and interest rates are seen as jointly determining monetary conditions. The Bank of Canada can change monetary conditions, but the market determines how the change will be reflected in the interest rates and the exchange rate (see Freedman 1996, 73). From this perspective, the exchange rate is seen as a tool for keeping inflation on target.

Indeed, it must be emphasized that without a nominal anchor, a floating exchange rate cannot be credible and could be a licence to inflate. In Canada, the inflation targets underpin expectations that the Bank will not allow depreciations to feed into inflation. It is for this reason that emerging-market countries like Mexico and Brazil chose money or inflation targets when they floated their exchange rates.

In Canada, it is because the exchange rate is free to respond to monetary policy's maintenance of low inflation that we say it floats. Moreover, it is only possible for monetary policy to be transmitted through the exchange rate when the authorities have no ulterior exchange rate objectives.

As the authors show, some countries may have an objective for the exchange rate that may not be consistent with what they report to the IMF as the nature of their exchange rate regime. However, the existence of an exchange rate objective cannot simply be deduced from the data either. The role of the exchange rate in the conduct of monetary policy requires careful case-by-case analysis.

From the high volatility of interest rates, the authors conclude that some countries use high interest rates as a means of limiting exchange rate pressures. It is argued that these countries have an objective for the exchange

rate, with the authorities preferring to stabilize the exchange rate rather than interest rates.

In conducting monetary policy under floating exchange rates, there are times when disorderly markets make it difficult to achieve the desired level of monetary conditions (see Freedman 1996, 77). A loss of confidence in the currency can generate extrapolative expectations and snowballing movements. To stabilize the market, the central bank might have to encourage (or validate) a rise in interest rates that was larger than needed to simply offset the economic impact of a depreciation. As expectations of a further weakening of the exchange rate dissipate, interest rates could decline to levels consistent with desired monetary conditions. Thus, in these situations, it may appear that the central bank is targeting the exchange rate. However, concern about the level of the exchange rate is a short-term tactic that should be seen as part of an overall strategy for attaining the desired level of monetary conditions.¹

Given the effect of disorderly markets on the conduct of monetary policy under floating rates, the authors may want to consider isolating and eliminating “crisis periods” from their sample.²

Is the Exchange Rate a Natural Stabilizer?

The authors present data that show that commodity prices in local currency are more volatile than the exchange rate. The implication is that “fear of floating” leads to exchange rate stabilization and the inability of the exchange rate to perform its role as a shock absorber.

To achieve macroeconomic balance in an economy that produces commodities, the effect on GDP of a commodity price increase (decrease) should be offset by the effect of an appreciation (depreciation) of the exchange rate. However, there is no reason to expect the volatility of commodity prices and the exchange rate to be the same.

1. There are also circumstances when confidence could be enhanced by floating. This appears to be what happened in Brazil in early 1999. When the *real* was floated and depreciated significantly, spreads on Brazilian debt tightened and the stock market rallied, reflecting the perception that fundamentals had improved.

2. In “normal” times, volatile interest rates could be consistent with the low degree of monetization of emerging-market countries and a relatively low coefficient on interest rates in their IS curves. In such cases, large interest rate changes, relative to industrial countries, may be needed to elicit the desired response of aggregate demand.

At the Bank of Canada, IS curves have been estimated that include foreign GDP growth and the growth of real commodity prices as well as interest rates and exchange rates.³ The estimated effect of a 10 per cent increase in the price of commodities would ultimately be a 0.7 per cent increase in the growth of real GDP. In addition, our exchange rate model predicts that the same commodity price increase would lead to an appreciation of the Canadian dollar of 4.8 per cent.⁴ According to our IS-curve estimates, an appreciation of this magnitude would reduce the growth rate of GDP by 0.7 per cent, fully offsetting the effect of the commodity price increase.

The Policy Implication of Contractionary Devaluations

Commentators on Latin America have noted that if the monetary authority lacks credibility, the prospect of future inflation will make it difficult to find lenders willing to negotiate debt contracts in domestic currency. This will give rise to liability dollarization. If the country has a sufficiently large stock of dollar-denominated liabilities, then devaluations can be contractionary, since the rate at which debt grows, in local currency terms, would outstrip the country's ability to generate foreign exchange with which to service the debt.

If a country has reached this point, then an explosive dynamic is put into motion, which can threaten current account sustainability. Consider a negative terms-of-trade shock that affects the country's key export under floating rates. This would reduce the current account balance. While a devaluation would generate some foreign exchange, by assumption, this would be insufficient to offset the increase in debt service costs. Thus, the current account balance declines again. If the country has a significant amount of short-term liabilities, then the current account could be subject to a third negative shock if its risk premium rises.

If a country has reached the point where devaluations are contractionary, the economy would have the following characteristics: its tradable sector would be relatively small, or import and export demand would be relatively insensitive to changes in the exchange rate and the level of debt would be high.

It is clear that such a currency mismatch makes this type of national balance sheet very fragile, and it provides a rationale for the authorities to resist devaluations. However, as long as the authorities persist in exchange rate

3. See Duguay (1994) and Clinton (2000).

4. The exchange rate model used here is described in Amano and van Norden (1993). The parameter estimate is taken from a regression run over the period 1973Q1 to 2000Q2.

stabilization, incentives to accumulate dollar liabilities will remain, thus exacerbating the problem. Such a state of affairs is not sustainable.

One option for dealing with this problem would be full dollarization. This would rid the highly indebted country of the dangerous currency mismatch. However, other problems would remain. A negative terms-of-trade shock, in the first instance, would reduce the current account balance. Under fixed rates, the cost-of-debt service would not increase. However, a real depreciation would still be needed to restore macroeconomic balance. This would happen through a fall in domestic wages and prices and would require that output be kept below potential. The fall in output would further reduce the debt-servicing capacity of the country by increasing the ratio of the current account to GDP. The current account could be reduced in a third instance if the reduction in output affected aggregate supply such that the capacity to produce exportables was reduced. Finally, as in the floating-rate case, risk premiums could rise if the market believed that adjustment would take a sufficiently long time.⁵

Thus, it appears that when devaluations are contractionary, the sustainability of the current account is put at risk under both floating and dollarization. The policy implication is that, for such countries, the level of debt is unsustainably high and needs to be reduced.

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5. If we assume that the tradable goods sector is small or that it lacks dynamism, it is reasonable to assume that macroeconomic balance will only be achieved slowly.

General Discussion

Commenting on the Calvo-Reinhart paper, Paul Masson considered their classification of monetary policy and exchange rate regimes rudimentary and thought it would be more useful to undertake a deeper examination of country experiences. In this way, he felt, they might be able to come up with a more insightful classification system.

Carmen Reinhart responded by stressing that she and Calvo were not reclassifying regimes but rather describing country practices. She agreed with Masson, however, that there is a whole gamut of gradations in exchange rate arrangements.

Michael Devereux noted that the choice of the bilateral exchange rate is important and he also stressed that many devaluations appear contractionary because the analysis fails to consider the original shock (e.g., a cessation of capital inflows) that leads to both a drop in demand and a depreciation of the currency. The paper assumes full pass-through of exchange rate changes into domestic prices, but is this always the case? Finally, he remarked that the title of the paper should be changed from the “Fear of Floating” to the “Fear of Sinking.”

Reinhart agreed that the choice of the bilateral rate is important, but disagreed that they were ignoring the original shock.

David Laidler argued that a fixed exchange rate virtually defines a monetary policy regime, as does a crawling peg. A floating exchange rate, however, does not define a regime and, consequently, it is foolish to compare floating rates with fixed ones. Laidler stated that it is time to make a more profound and complete comparison of monetary regimes.

Linda Goldberg concurred with Laidler, but Reinhart disagreed, because she felt it was difficult to make such distinctions.

Paul Masson said that the IMF has, in fact, developed a new classification that specifically asks countries to clarify the monetary policy that underlies their flexible exchange rate regime.

With respect to the Bailliu, Lafrance, and Perrault paper, Michael Bordo offered an alternative explanation for their threshold effects that links floating exchange rates to growth via open capital markets and financial development. Historically, countries interested in attracting foreign investment tied their currency to that of a rich economy. Currently, most industrialized countries have a floating regime. Thus, an emerging-market country can either peg to an industrialized country, in which case it must absorb the shocks resulting from being on a peg, or it can float if it obtains the necessary level of financial development credibility. Jeannine Bailliu agreed, but added that they were careful not to draw too many causal links, since they did not address the endogeneity issue.

Nicholas Rowe divided the world into sensible countries and basket cases (i.e., those with unreasonably high rates of inflation). Sensible countries will either choose a fixed exchange rate or a flexible exchange rate with a nominal anchor. For the basket cases, flexible regimes are dangerously unmanageable. Rowe thought that the Bailliu, Lafrance, and Perrault results are biased to the detriment of flexible exchange rate regimes, because the study does not distinguish between the two types of countries on flexible exchange rates.

Bailliu and Reinhart agreed that such a distinction would be useful. The sample of emerging-market countries with sensible flexible exchange rate regimes, however, is relatively small.

In response to Rowe's comments, Robert Lafrance stated that the distinction is really between high-inflation and low-inflation countries. Making such a distinction could be done, but he noted that including the rate of inflation as an explanatory variable in the regression did not significantly alter the results.

Charles Freedman questioned the Calvo and Reinhart data, which indicate that New Zealand has intervened when, in fact, it has not. He pointed out that other factors can lead to reserve changes.

On the issue of commodity prices and a flexible exchange rate, Freedman noted that empirical research for Canada indicates that a 15 per cent decline in commodity prices is matched by roughly a 5 per cent depreciation in the real exchange rate. Thus, the Canadian flexible exchange rate acts as a shock absorber, not by protecting commodity producers primarily, but by expanding other exports.

He also remarked that movements in a flexible exchange rate have an impact on the real economy and on inflation. A monetary policy response to such movements may be warranted, depending on the source of the exchange rate change. Finally, while central banks may not have a target for the level of a flexible exchange rate, they may wish to avoid rapid and potentially destabilizing movements by adjusting monetary policy. Reinhart agreed with Freedman's observations.

Chris Ragan asked Reinhart to what extent they were able to distinguish between the fear of floating and the fear of exchange-rate-induced inflation. He also asked whether they had observed a higher degree of fear among floating regimes that do not have a credible nominal anchor.

Reinhart responded that this indeed appeared to be the case, since fear of floating is more concentrated in the emerging markets, most of which have had chronically high rates of inflation.

