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 percent of GDP, and output declines in the wake of crisis have been as large as 14 percent. 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 e.g. Morris Goldstein, 1999).

At first glance, the world (with the notable exception of Europe) does seem to be marching steadily toward floating exchange-rate arrangements. According to the International Monetary Fund (IMF), 97 percent of its member countries in 1970 were classified as having a pegged exchange rate; by 1980, that share had declined to 39 percent, and in 1999, it was down to only 11 percent.[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 exchange rate, while the others were lumped under the catch-all label of managed floating.

In this note, I summarize some of the key findings of Guillermo Calvo and Reinhart (2000), who analyze the behavior 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 39 countries during the January 1970–April 1999 period.

Some of key findings are the following: (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 one should expect in the context of a floating exchange rate or relative to what is observed 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 defenses 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 noncredible pegs, the

[1] Maurice Obstfeld and Kenneth Rogoff (1995) make this point as well.

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 noncredible 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 Atish Ghosh et al., 1997).

I. 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 premia 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 $\mathrm{Var}(x)$.

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: $\mathrm{Var}(E) > 0$; $\mathrm{Var}(i) > 0$, to the extent that there are shocks to the demand for money; and $\mathrm{Var}(R) = 0$, as 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 premia are not. In this case, $\mathrm{Var}(E) > 0$, $\mathrm{Var}(i) = 0$, and $\mathrm{Var}(R) = 0$, as 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, one should expect: $\mathrm{Var}(E) = 0$; $\mathrm{Var}(i) = \mathrm{Var}(i^*)$ because of full credibility; and $\mathrm{Var}(R) > 0$, as money demand shocks are

TABLE 1—PREDICTED BEHAVIOR 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^*)	?
Noncredible peg	0	high	high
Noncredible quasi-peg in disguise (Fear of Floating I)	low	high	low
Noncredible quasi-peg in less of a disguise (Fear of Floating II)	low	high	high

accommodated. Noncredible pegs, which include likelihood of default and are much more common, break down the one-to-one relationship between i and i^*. As before, $\mathrm{Var}(E) = 0$ and $\mathrm{Var}(R) > 0$, but now the interest rate parity condition is given by

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

(2)

$$\mathrm{Var}(i) = \mathrm{Var}(i^*) + \mathrm{Var}(\varepsilon)$$

$$+ \mathrm{Var}(\rho) + \text{covariance terms.}$$

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

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 noncredible peg [i.e., $\mathrm{Var}(E) = 0$, $\mathrm{Var}(i) = \mathrm{Var}(i^*) + \mathrm{Var}(\varepsilon) + \mathrm{Var}(\rho) +$ covariance terms] except $\mathrm{Var}(R) = 0$. If, despite having an announced float, the attempt to stabilize the exchange rate is less well disguised (as is the

case of South Korea in 1999 up to the present), then the predictions from theory are hardly distinguishable from a noncredible peg. This case is depicted in Table 1 under the row "Fear of Floating II."

Having reviewed the theoretical priors of what to expect from the behavior 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.

II. The Evidence

Our data are monthly for 36 countries in Africa, Asia, Europe, and the Western Hemisphere during the January 1970–April 1999 period. 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, or 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 behavior 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 (as percentages). For the United States, for example, there is about a 59-percent probability that the monthly US $/DM exchange rate change falls within a relatively narrow ±2.5-percent band. By contrast, for Bolivia, Canada,

TABLE 2—EXCHANGE-RATE VOLATILITY IN RECENT OR CURRENT "FLOATING" EXCHANGE-RATE REGIMES

Country	Period	Volatility probability[a]	
		±1 percent	±2.5 percent
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

[a] Entries in these columns report the probabilities that the monthly percentage change in nominal exchange rate falls within a ±1-percent band and within a ±2.5-percent band.

and India (all declared floaters during that period), that probability is in the 94–96-percent range.[3] An alternative way of stating the same facts is that there is only about a 5-percent probability in those countries that an exchange-rate change will exceed 2.5 percent on any given month (vs. more than 40 percent 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 percent 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 do not vaguely resemble that of the US $/DM or US $/¥, with a significantly higher proportion of observations falling within a narrow band.[4] By this metric, post-crisis Mexico approximates a float more closely than do any of the others—including Canada.

As discussed in the previous section, however, exchange rates tell only part of the

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

[4] The results for real interest rates paint a similar picture; these are available from the author upon request.

TABLE 3—EXCHANGE-RATE VOLATILITY IN RECENT OR
CURRENT "MANAGED" EXCHANGE-RATE REGIMES:
COMPARISON TO JAPAN AND THE UNITED STATES

| Country | Period | Volatility probability[a] | |
		±1 percent	±2.5 percent
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

[a] Entries in these columns report the probabilities that the monthly percentage change in nominal exchange rate falls within a ±1-percent band and within a ±2.5-percent band.

TABLE 4—FOREIGN-EXCHANGE RESERVE VOLATILITY
IN RECENT OR CURRENT "FLOATING"
EXCHANGE-RATE REGIMES

| Country | Period | Volatility probability[a] | |
		±1 percent	±2.5 percent
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 fluctuation in these simply reflects valuation changes arising from fluctuations in the dollar.

[a] Entries in these columns report the probabilities that the monthly percentage change in foreign-exchange reserves falls within a ±1-percent band and within a ±2.5-percent band.

story. One cannot glean from exchange rates alone what would have been the extent of exchange-rate fluctuations in the absence of policy interventions; that is, the counterfactual is not observed. To assess the extent of policy intervention to smooth out exchange-rate fluctuations, I examine the behavior 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-denominated assets; hence, valuation changes are not an issue. As Table 4 highlights, there is about a 74-percent probability that Japan's monthly changes in foreign-exchange reserves falls in a narrow ±2.5-percent band. In the case of Mexico, there is only a 25-percent 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 to be com-

monplace, 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 to be limited to transactions in foreign-exchange markets. While interest rates in the United States and Japan are predominantly set with domestic policy objectives in mind, interest-rate policy in most of the other countries considered here accord 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 percent, even including the historically turbulent inflation stabilization period of the early 1980's. For Japan, that probability is even higher. By contrast, during Mexico's "floating exchange rate" regime, there is only

TABLE 5—NOMINAL INTEREST-RATE VOLATILITY
IN RECENT OR CURRENT "FLOATING"
EXCHANGE-RATE REGIMES

Country	Period	Volatility probability[a]	
		±0.25 percent (25 basis points)	±0.5 percent (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

[a] Entries in these columns report the probabilities that the monthly percentage change in nominal interest rate falls within ±0.25 percent and within ±0.5 percent.

a 9-percent probability that interest-rate changes will be less than or equal to 50 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 percent) on any given month is about zero for the United States and Japan, that probability is close to 30 percent for Mexico. A recent example of Mexico's use of high interest rates as a means to 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. Mexico is not 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 combination of trying to stabilize the exchange rate (without giving the explicit signal that foreign-exchange market intervention yields) and lack of credibility.

III. "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 favorable (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, as in most emerging markets the debt of both the government and the private sector are 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 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, then the only way to avoid the "floating and credibility problems" simultaneously may be full dollarization. A corner solution indeed!

REFERENCES

Calvo, Guillermo A. and Reinhart, Carmen M. "Fear of Floating." Mimeo, University of Maryland, January 2000.

Ghosh, Atish; Gulde, Anne-Marie; Ostry, Jonathan and Wolf, Holger. "Does the Nominal Exchange Rate Regime Matter?" National Bureau of Economic Research (Cambridge, MA) Working Paper No. 5874, January 1997.

Goldstein, Morris. *Safeguarding prosperity in a global financial system: The future international financial architecture report of an independent task force.* Washington, DC: Institute for International Economics for the Council on Foreign Relations, 1999.

Obstfeld, Maurice and Rogoff, Kenneth. "The Mirage of Fixed Exchange Rates." *Journal of Economic Perspectives*, Fall 1995, *9*(4), pp. 73–96.

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1. Wei Sun, Gil Kim. 2018. Assessing the effects of exchange rate depreciation on the US economy. *Journal of Economic Studies* **45**:6, 1242-1271. [Crossref]

2. Julien Mercille, Enda Murphy. 2018. Market, Non-Market and Anti-Market Processes in Neoliberalism. *Critical Sociology* **57**, 089692051853839. [Crossref]

3. James Staveley-O'Carroll, Olena M. Staveley-O'Carroll. 2018. Exchange Rate Targeting in the Presence of Foreign Debt Obligations. *Journal of Macroeconomics* . [Crossref]

4. Olivier Habimana. 2017. Do flexible exchange rates facilitate external adjustment? A dynamic approach with time-varying and asymmetric volatility. *International Economics and Economic Policy* **14**:4, 625-642. [Crossref]

5. Mevlüt Tatlıyer. The 2008–2009 Financial Crisis in Historical Context 3-17. [Crossref]

6. Jordi Galí, Tommaso Monacelli. 2016. Understanding the Gains from Wage Flexibility: The Exchange Rate Connection. *American Economic Review* **106**:12, 3829-3868. [Abstract] [View PDF article] [PDF with links]

7. Md. Akhtaruzzaman, Abul Shamsuddin. 2016. Australian financial firms' exposures to the level, slope, and curvature of the interest rate term structure. *Applied Economics* 1-20. [Crossref]

8. . References 183-187. [Crossref]

9. Gil Kim, Lian An, Yoonbai Kim. 2015. Exchange Rate, Capital Flow and Output: Developed versus Developing Economies. *Atlantic Economic Journal* **43**:2, 195. [Crossref]

10. Carlos Castillo. 2014. Inflation targeting and exchange rate volatility smoothing: A two-target, two-instrument approach. *Economic Modelling* **43**, 330-345. [Crossref]

11. Kang Chen, Chang Yee Kwan. 2014. How are Exchange Rates Managed? Evidence of an Anchor-Based Heuristic. *The World Economy* n/a-n/a. [Crossref]

12. Biswajit Mohanty, N.R. Bhanumurthy. 2014. Exchange Rate Regimes and Inflation: Evidence from India. *International Economic Journal* **28**:2, 311-332. [Crossref]

13. Lian An, Gil Kim, Xiaomei Ren. 2014. Is Devaluation Expansionary or Contractionary: Evidence Based on Vector Autoregression with Sign Restrictions. *Journal of Asian Economics* . [Crossref]

14. Mohammad Tarequl H. Chowdhury, Prasad Sankar Bhattacharya, Debdulal Mallick, Mehmet Ali Ulubaşoğlu. 2014. An empirical inquiry into the role of sectoral diversification in exchange rate regime choice. *European Economic Review* **67**, 210-227. [Crossref]

15. Luís Ricardo Maertens Odria, Gabriel Rodríguez. 2013. Inflation expectations formation in the presence of policy shifts and structural breaks: An experimental analysis. *The Journal of Socio-Economics* **44**, 59-67. [Crossref]

16. Luís Ricardo Maertens Odria, Paul Castillo, Gabriel Rodriguez. 2012. Does the exchange rate pass-through into prices change when inflation targeting is adopted? The Peruvian case study between 1994 and 2007. *Journal of Macroeconomics* **34**:4, 1154-1166. [Crossref]

17. Jeffrey A. Frankel. Choosing an Exchange Rate Regime 767-784. [Crossref]

18. Jay Squalli. 2011. Is the dollar peg suitable for the largest economies of the Gulf Cooperation Council?. *Journal of International Financial Markets, Institutions and Money* **21**:4, 496-512. [Crossref]

19. Imad Moosa. 2011. On the U.S.-Chinese trade dispute. *Journal of Post Keynesian Economics* **34**:1, 85-112. [Crossref]

20. Mohamed Abdelaziz Eissa, Georgios Chortareas, Andrea Cipollini. 2011. Switching to floating exchange rates, devaluations, and stock returns in MENA Countries. *International Review of Financial Analysis* . [Crossref]

21. Virginie Coudert, Cécile Couharde, Valérie Mignon. 2011. Exchange rate volatility across financial crises. *Journal of Banking & Finance* . [Crossref]

22. Mahmoud Sami Nabi, Ndiamé Diop. Capital Mobility and the Optimal Monetary Policy Rule: A Tunisian Case Study 72-99. [Crossref]

23. Jeffrey Frankel,, Daniel Xie. 2010. Estimation of De Facto Flexibility Parameter and Basket Weights in Evolving Exchange Rate Regimes. *American Economic Review* **100**:2, 568-572. [Citation] [View PDF article] [PDF with links]

24. Rehim Kilic. 2010. A conditional variance tale from an emerging economy's freely floating exchange rate. *Applied Economics* 1-16. [Crossref]

25. Jeffrey Frankel. Monetary Policy in Emerging Markets 1439-1520. [Crossref]

26. Ronald McKinnon, Gunther Schnabl. 2009. The Case for Stabilizing China's Exchange Rate: Setting the Stage for Fiscal Expansion. *China & World Economy* **17**:1, 1-32. [Crossref]

27. PETER WILSON, HENRY NG SHANG REN. 2008. THE CHOICE OF EXCHANGE RATE REGIME AND THE VOLATILITY OF EXCHANGE RATES BEFORE AND AFTER THE ASIAN CRISIS: A COUNTERFACTUAL ANALYSIS. *Australian Economic Papers* **47**:1, 92-114. [Crossref]

28. International Monetary Fund. 2008. Constraintson the Design and Implementation of Monetary Policy in Oil Economies: The Case of Venezuela. *IMF Working Papers* **08**:142, 1. [Crossref]

29. Joseph Dennis Alba, Donghyun Park. 2007. An Empirical Examination of East Asia´s Pre-Crisis Pegged Exchange Rates. *Asean Economic Bulletin* **24**:3, 357-371. [Crossref]

30. Jesús Rodríguez López, Hugo Rodríguez Mendizábal. 2007. The Optimal Degree of Exchange Rate Flexibility: a Target Zone Approach. *Review of International Economics* **15**:4, 803-822. [Crossref]

31. Javier Reyes. 2007. Exchange Rate Passthrough Effects and Inflation Targeting in Emerging Economies: What is the Relationship?. *Review of International Economics* **15**:3, 538-559. [Crossref]

32. Francisco Ledesma-Rodríguez, Manuel Navarro-Ibáñez, Jorge Pérez-Rodríguez, Simón Sosvilla-Rivero. 2007. Implicit bands in the Spanish peseta/Deutschmark exchange rate, 1965-1998. *Applied Financial Economics* **17**:11, 921-932. [Crossref]

33. Michael Kumhof, Shujing Li, Isabel Yan. 2007. Balance of payments crises under inflation targeting#. *Journal of International Economics* **72**:1, 242-264. [Crossref]

34. Shujing Li, Isabel K. Yan, Michael Kumhof. 2007. Balance of Payments Crises Under Inflation Targeting. *IMF Working Papers* **07**:84, 1. [Crossref]

35. Oya Pınar Ardıç, Faruk Selçuk. 2006. The dynamics of a newly floating exchange rate: the Turkish case. *Applied Economics* **38**:8, 931-941. [Crossref]

36. Helder Ferreira de Mendonça, Manoel Carlos de Castro Pires. 2006. Liberalização da conta de capitais e inflação: a experiência brasileira no período pós-real. *Estudos Econômicos (São Paulo)* **36**:1, 149-179. [Crossref]

37. Jesús Rodríguez-López, Hugo Rodriguez Mendizabal. 2006. How Tight Should One's Hands be Tied? Fear of Floating and the Credibility of Exchange Rate Regimes. *Topics in Macroeconomics* **6**:1, 1-25. [Crossref]

38. Francisco J. Ledesma Rodríguez, Manuel Navarro Ibáñez, Jorge V. Pérez Rodríguez, Simón Sosvilla Rivero. 2005. Regímenes cambiarios de iure y de facto. El caso de la peseta/dólar, 1965–1998. *Revista de Historia Económica / Journal of Iberian and Latin American Economic History* **23**:03, 541-561. [Crossref]

39. Francisco Eduardo Pires de Souza. 2005. Sem medo de flutuar? O regime cambial brasileiro pós-1998. *Estudos Econômicos (São Paulo)* **35**:3, 519-545. [Crossref]

40. Eduardo Levy-Yeyati, Federico Sturzenegger. 2005. Classifying exchange rate regimes: Deeds vs. words. *European Economic Review* **49**:6, 1603-1635. [Crossref]

41. Manoel Carlos de Castro Pires. 2005. Regimes cambiais: um modelo alternativo para o Brasil. *Revista de Economia Política* **25**:2, 101-114. [Crossref]

42. Ronald McKinnon, Gunther Schnabl. 2004. The East Asian Dollar Standard, Fear of Floating, and Original Sin. *Review of Development Economics* **8**:3, 331-360. [Crossref]

43. C Broda. 2004. Terms of trade and exchange rate regimes in developing countries. *Journal of International Economics* **63**:1, 31-58. [Crossref]

44. Anil Hira, James W Dean. 2004. Distributional effects of dollarisation: the Latin American case. *Third World Quarterly* **25**:3, 461-482. [Crossref]

45. Sebastian Edwards. 2003. Financial instability in Latin America. *Journal of International Money and Finance* **22**:7, 1095-1106. [Crossref]

46. Sebastian Edwards, Raul Susmel. 2003. Interest-Rate Volatility in Emerging Markets. *Review of Economics and Statistics* **85**:2, 328-348. [Crossref]

47. Peter Keller, Thomas J. Richardson. 2003. Nominal Anchors in the CIS. *IMF Working Papers* **03**:179, 1. [Crossref]

48. Aasim M. Husain, Ashoka Mody, Nienke Oomes, Robin Brooks, Kenneth Rogoff. 2003. Evolution and Performance of Exchange Rate Regimes. *IMF Working Papers* **03**:243, 1. [Crossref]

49. S Edwards. 2002. Currency crises and contagion: an introduction. *Journal of Development Economics* **69**:2, 307-313. [Crossref]

50. G Kaminsky. 2002. Financial markets in times of stress. *Journal of Development Economics* **69**:2, 451-470. [Crossref]

51. Moon Han Geun. 2002. De Facto Exchange Rate Regime in Korea: Is It Still A Dollar Peg?. *Journal of East Asian Economic Integration* **6**:1, 53-86. [Crossref]

52. M Bleaney. 2002. Exchange rate regimes, inflation and output volatility in developing countries. *Journal of Development Economics* **68**:1, 233-245. [Crossref]

53. Mart Sõrg, Vello Vensel. 2002. Development of the banking system under the Estonian currency board. *International Advances in Economic Research* **8**:1, 35-48. [Crossref]

54. Eduard Hochreiter, Helmut Wagner. 2002. The Road to the Euro: Exchange Rate Arrangements in European Transition Economies. *The ANNALS of the American Academy of Political and Social Science* **579**:1, 168-182. [Crossref]

55. Charles Wyplosz. 2001. A Monetary Union in Asia? Some European Lessons. *Journal of East Asian Economic Integration* **5**:2, 27-77. [Crossref]

56. Helmut Wagner. 2001. Implications of Globalization for Monetary Policy. *IMF Working Papers* **01**:184, 1. [Crossref]