

ECONOMIC COMMENTARY

Federal Reserve Bank of Cleveland

How Important Are U.S. Capital Flows into Mexico?

by William P. Osterberg

In November 1993, the U.S. Congress voted to pass the North American Free Trade Agreement (NAFTA) after months of heated debate about its likely impact on our economy. As a result of the intense focus on this issue, the public has benefited from a greater appreciation of the increased interdependence of the Mexican and U.S. economies. However, both the public debate and detailed analysis of the post-NAFTA economic environment have understated the importance of capital flows from the United States into Mexico.

Most observers agree that Mexico's trade deficit with our nation implies Mexican borrowing. Unfortunately, predictions of the post-NAFTA environment often emphasize the effects of the removal of trade barriers on trade, employment, and output and assume that the necessary borrowing will somehow materialize. Few studies point out that although changes in the trade balance may be supported by capital flows, it is also possible that fluctuations in capital flows and the Mexican policy response to such flows could alter the trade balance and thus affect output and employment.

This *Economic Commentary* details the role of capital flows from the United States to Mexico for the post-NAFTA period. First, I contrast recent data on the bilateral exports and imports of goods and services with data on capital movements. Mexico is an important exception

to the list of countries with which our nation runs a trade deficit: Overall, we borrow from most of the rest of the world. Second, I discuss evidence regarding the causation of capital flows and the implications for the Mexican economy. A key conclusion is that factors external to Mexico have important influences on capital movements. Finally, I discuss some of the possible Mexican policy responses to capital flows and how they might affect trade flows between the two nations. A key decision of the Mexican central bank involves the use of partially sterilized intervention to respond to shifts in capital flows that are caused by outside developments.¹ It appears that forecasts of the post-NAFTA trade flows between Mexico and the United States could easily be confounded by a combination of developments in international capital markets and Mexican policy decisions.

■ Accounting for Recent U.S.–Mexico Trade Flows

Most analyses of U.S.–Mexico trade have focused on merchandise trade (such as agricultural products and machinery), which is clearly much more important to Mexico than to our nation. Since January 1993, the United States has enjoyed merchandise trade surpluses averaging \$232 million per month (see figure 1).² Although Mexico is a strikingly large exception to the list of countries with which we run a merchandise

Predictions of the effects of removing barriers on trade, employment, and output between Mexico and the United States were abundant following passage of the North American Free Trade Agreement in late 1993. Missing from much of the dialogue, however, was emphasis on the importance of capital flows from the United States into Mexico. The Mexican central bank's response to fluctuations in these capital flows could alter the trade balance, with important implications for output and employment.

trade deficit, exports to Mexico accounted for only 6 percent of total U.S. exports in 1993:IVQ and amounted to only 1 percent of U.S. gross domestic product (GDP).³ Mexico's trade dependence on us is far greater: Shipments to the United States were 78 percent of its total exports and 10 percent of its GDP, while imports from the United States were 69 percent of its total imports.⁴

A less recognized fact is that capital flows from the United States into Mexico are significant. Net capital flows are more closely related to the balance on current account (BCA, as shown in figure 2) between the two countries than to the merchandise trade balance. The BCA is a more comprehensive measure of trade, although it is available less frequently.⁵ The U.S. BCA with Mexico became positive in 1991, increased to \$5 billion in 1992, then dropped sharply in 1993. As with the merchandise trade balance, the Mexican-U.S. BCA surplus stands in contrast to the overall U.S. BCA deficit.

The connection between the U.S.-Mexican BCA and bilateral capital flows is indirect, however. Although the Mexican BCA deficit with the United States must be associated with someone acquiring \$5 billion of Mexican assets (a capital inflow into Mexico), the United States is not necessarily the acquirer. More direct evidence is shown in the annual accounting of net flows of private assets from the United States to Mexico (figure 3). In 1993, net U.S. private assets in Mexico increased by almost \$14 billion. Like the BCA, this bilateral statistic stands in contrast with the relation of the United States to the world as a whole. While capital moves from the United States to Mexico, it moves from the world as a whole into the United States.

U.S. capital flows into Mexico are thus not directly related to the fact that the United States runs a BCA surplus with Mexico. However, even if we look at Mexico's BCA deficit and capital accounts with the entire world, we cannot conclude that capital flows are caused by the BCA.

CAPITAL FLOWS IN THE WAKE OF NAFTA

Much analysis of the post-NAFTA environment is influenced by economic studies of NAFTA itself. Although varied in their approaches, such studies generally pay less attention to capital flows than to trade, output, and employment. They often either assume that the capital flows required by trade predictions will somehow materialize, or they predict capital flows based on the experience of other countries. Moreover, a Congressional Budget Office (CBO) assessment notes that "... most of the models ... assume that the respective capital stocks of the United States and Mexico would be unaffected by NAFTA" and that they thus ignore the potential long-term impact of increased capital flows.^a Only one 1993 study made an explicit prediction of capital flows, and it significantly underestimated them.^b

Analyses that ignore the long-run impact of capital inflows on the Mexican capital stock (mainly equipment and factories) probably predict too high a level of interest rates (since the marginal productivity of capital would fall with higher capital) and too low a level of wages. The larger stock of capital would permit higher output and income. The short run, however, is harder to predict, and analyses that assume an eventual increase in the capital stock ignore the short-run interactions between capital flows and the exchange rate. For example, in the long run, the Mexican BCA deficit could be smaller, lowering the value of the peso, while in the short run, in order to facilitate the capital inflows, the peso would be stronger and the BCA deficit larger. Although a stronger peso will help Mexico's fight against inflation, the adjustment of the Mexican export sector to trade liberalization may be made more difficult.^c

a. See "Estimating the Effects of NAFTA: An Assessment of the Economic Models and Other Empirical Studies," Congressional Budget Office, June 1993, p. 31. Although the aggregate capital stock is assumed to be unchanged, a shift between expanding and contracting industries is allowed.

b. This study estimated that net capital flows from all countries into Mexico would average between \$3 billion and \$9 billion per year for 10 years. Though the 1992 Mexican BCA deficit with the United States was \$5 billion, the IMF estimated the overall Mexican BCA deficit at \$22.8 billion. See "A Budgetary and Economic Analysis of the North American Free Trade Agreement," Congressional Budget Office, July 1993. This study concludes that "... the effect of NAFTA on capital flows has not been analyzed as much as its likely economic significance would appear to justify." (p.18)

c. See the comments by Robert Z. Lawrence in Nora Lustig, Barry P. Bosworth, and Robert Z. Lawrence, eds., *North American Free Trade: Assessing the Impact*, Washington, D.C.: The Brookings Institution, 1992.

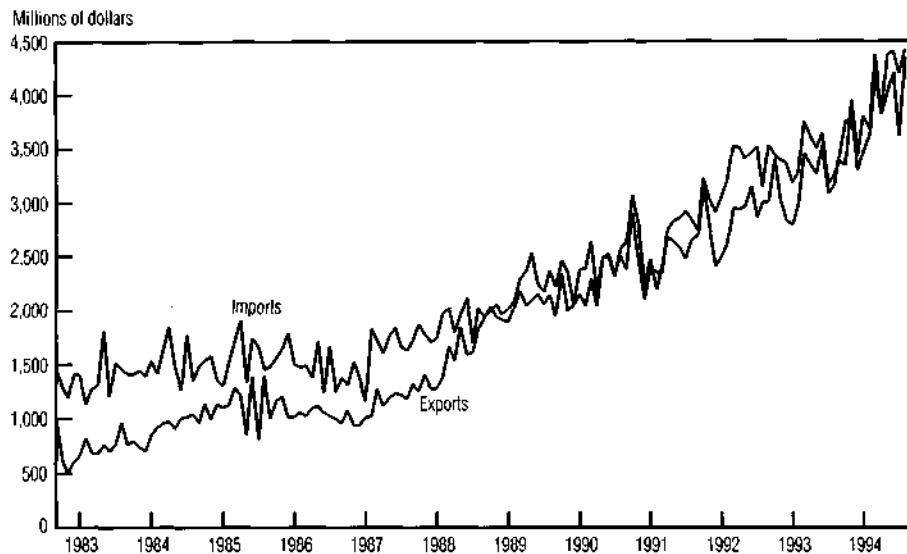
It is just as likely that the BCA—and thus the trade flows—are caused by the capital flows. As a result, developments external to Mexico, such as changes in international capital markets, may initially affect capital flows and force an adjustment in the current account. In fact, the experience of the past few years confirms that capital flows do not simply respond to the BCA (see figure 4). The monthly volume of gross purchases of long-term securities between the United States and Mexico has grown much more sharply than the volume of trade.⁶

The jump in volume in 1990 is widely attributed to an improved investment climate brought about by financial liberalization and income policies enacted in 1988, as well as by the implementation

in 1990 of the Brady Plan for Mexico's external bank debt.⁷ Actual and announced policy changes undoubtedly led the financial markets to anticipate changes in trade flows, but this does not automatically imply that the trade flows had to change before capital flowed into Mexico. A comparison of figures 2 and 4 shows that although the recent swing of the U.S. BCA with Mexico toward a surplus has been accompanied by large volumes of gross capital flows, previous deficits in the BCA of comparable magnitude did not follow this pattern.

We have some reason to believe that capital flows can play an independent and significant role in eventually moving the current account, rather than vice versa.⁸

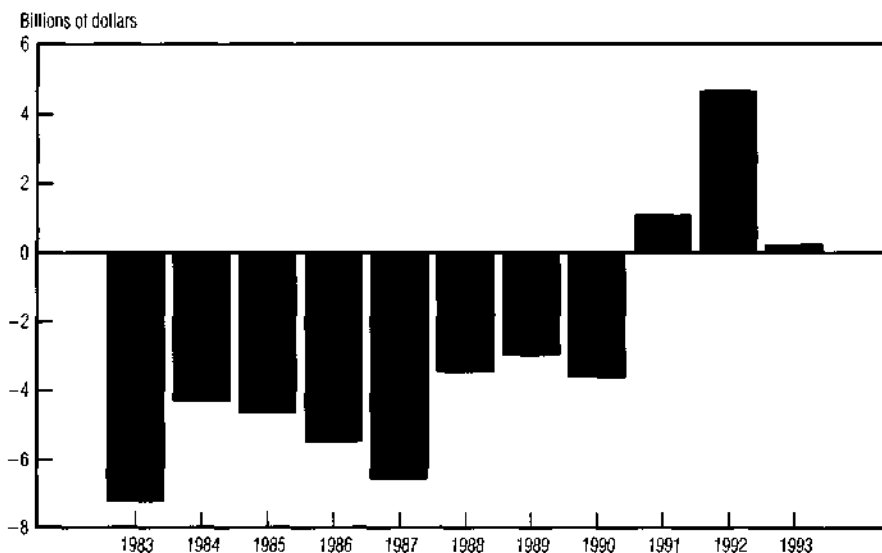
FIGURE 1 U.S. MERCHANDISE TRADE WITH MEXICO



NOTE: All data are monthly.

SOURCE: U.S. Department of Commerce, Bureau of the Census.

FIGURE 2 U.S. BALANCE ON CURRENT ACCOUNT WITH MEXICO



SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis.

One reason is that worldwide developments in capital markets may have changed either the magnitude of expected capital flows or the sensitivity of such flows to changes in interest rates. One research study finds that international capital flows have grown faster than either domestic financial-market activity or the value of world trade.⁹ Some of the explanations for this conclusion include less expensive telecommunications and

data processing, the need to finance larger fiscal and current account deficits, a desire to hedge against higher volatility of asset prices, and securitization. Latin America has been a major destination for capital flows in the early 1990s. Annual capital flows to Latin America from all countries averaged \$8 billion during the late 1980s, but grew to \$24 billion in 1990, \$40 billion in 1991, and \$53 billion in 1992.¹⁰

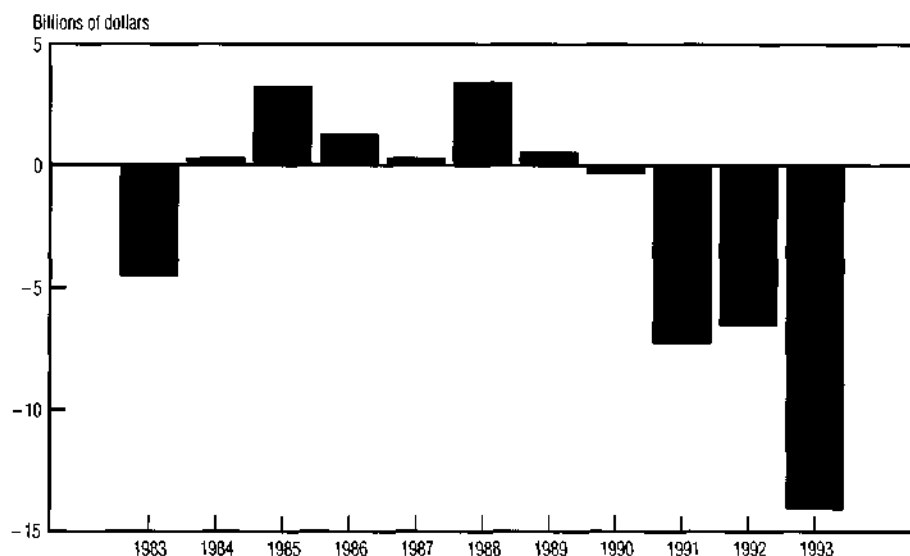
Capital flows also appear to be influenced by external factors. Although much economic analysis assumes that capital flows respond to interest-rate differentials (so that policies leading to increased Mexican interest rates should draw capital into Mexico), there is evidence that this mechanism does a poor job of explaining capital flows into or out of the nation. While Mexican short-term interest rates have been well above U.S. rates since at least 1988, differentials have narrowed on average since 1990, a period of high volumes of capital transactions between the two countries. In a detailed econometric study, three authors found that in addition to interest-rate differentials, some external factors were at work in drawing capital to Latin America: the U.S. recession, the decline in U.S. interest rates, and a sharp swing in the U.S. private capital account.¹¹

Capital Inflows and Foreign Exchange Reserves

The role of the central bank has been largely ignored in discussions of capital inflows. Central bank decisions on capital flows affect the official reserve account, which measures the central bank's net acquisition of official assets versus that of other central banks. Capital inflows to Mexico thus do not necessarily translate into greater BCA deficits, as the Bank of Mexico may choose to absorb some of the inflow into its reserves—in effect, determining how much of the capital inflow is allowed to affect exports and imports. If the central bank intervenes and buys all of the foreign currency pouring into the country, then the foreign exchange reserves of the central bank rise (the official reserve account changes) and the current account is unaffected. Or, if the central bank chooses not to intervene, then the capital inflow is reflected in exports and imports and the current account moves toward a deficit.

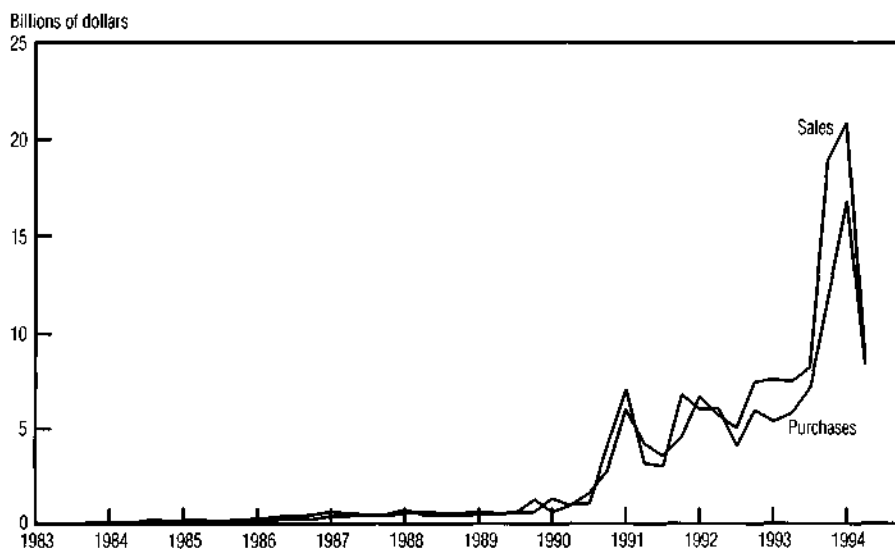
This latter scenario is subject to two different interpretations. Suppose an analyst notices that Mexico is importing more than it is exporting (a current account deficit) and is also borrowing from abroad. One could conclude that Mexico is being forced to borrow to finance its "excess" spending. On the other hand,

FIGURE 3 NET FLOW OF U.S. PRIVATE ASSETS TO MEXICO



SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis.

FIGURE 4 MEXICAN PURCHASES AND SALES OF LONG-TERM SECURITIES



NOTE: All data are quarterly.

SOURCE: U.S. Department of the Treasury, *Treasury Bulletin*, table CM-V-4.

one could view the imports as being a result of capital flowing into the country. For example, suppose the international investment community has become optimistic about the future profitability of a particular Mexican resort and pours money into Mexico. Completion of the project would probably require the importation of equipment and other capital goods and thus a movement of the Mexican capital account toward deficit.

By intervening to purchase some of the foreign currency flowing into the country, the Bank of Mexico prevents the capital inflows from being fully reflected in the current account and thus reduces spending on imports from the United States. Another decision confronts the central bank once it has intervened. In buying up the dollars flowing into the country, the Bank of Mexico increases the money supply (of pesos)

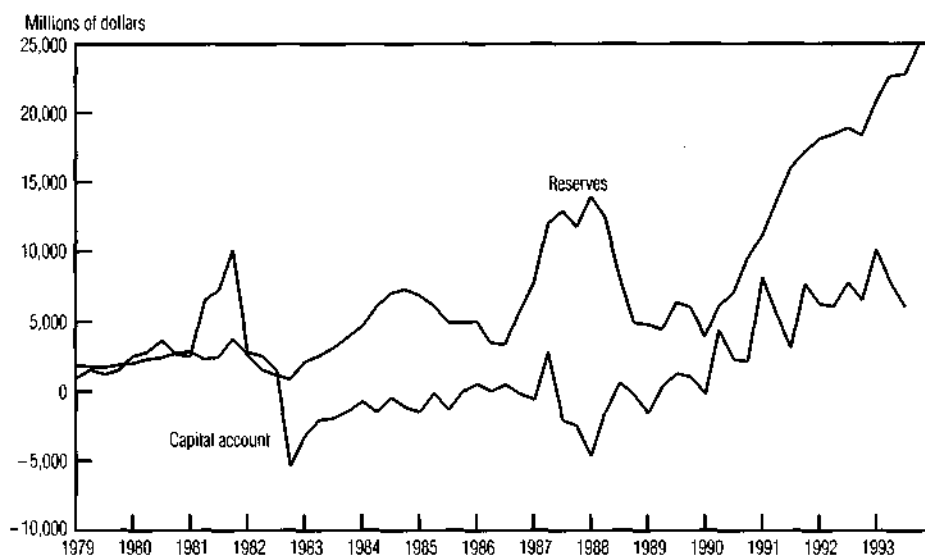
and eventually stokes inflation. It could sterilize the rise in the money supply by selling government securities to remove the pesos from circulation. But although the inflationary impact of more money would then be neutralized, higher interest rates would result from having increased government borrowing. Central bank decisions on intervention in response to capital inflows and then on sterilization of such intervention thus affect the current account, inflation, and interest rates.

■ How Have the Capital Flows Been Used?

It may not matter much that analysts have often ignored capital flows, depending on how such flows have been used. Ideally, in the case of an economy as dependent on international trade as is Mexico, capital inflows would be largely channeled into investments to boost productivity and to lower prices on exports, thus improving the BCA, national economic output, and employment. There is only mixed evidence that this has occurred, however. While the volume of capital goods imports has risen steadily since well before the surge in capital flows, there has been no clear increase in the share of imports accounted for by capital goods. The capital flows have also apparently not led to increased domestic expenditures on capital goods, because the share of gross fixed capital formation to GDP has not risen appreciably since before the 1990 surge in capital flows.¹² Thus, there is only weak evidence that the capital inflows have been used mainly to invest in productivity enhancement.

The Bank of Mexico has played an active role in response to capital inflows, as shown in figure 5. The Mexican capital account has trended higher since 1990 and has been associated with record levels of foreign exchange reserves. This indicates that the central bank has been intervening heavily to prevent capital inflows from being fully reflected in a deterioration in the current account.

FIGURE 5 MEXICO'S CAPITAL ACCOUNT AND FOREIGN EXCHANGE RESERVES



NOTE: All data are quarterly.

SOURCE: International Monetary Fund, International Financial Statistics.

How a Capital Outflow Could Alter the Post-NAFTA Economy

Despite all of the economic reform efforts in Mexico, it is still possible that higher U.S. interest rates, combined with greater sensitivity of capital flows to changes in interest rates, could lead to capital outflows from Mexico. Without any intervention from the central bank, this would lead to an improvement in Mexico's BCA, which implies fewer net imports from the United States and a negative impact on U.S. employment. In this situation, however, the Bank of Mexico might feel compelled to intervene to prevent the sale of Mexican assets from unduly depressing the value of the peso. The foreign exchange reserves would be drawn upon to buy pesos, leading to a contraction of the Mexican money supply, again with negative impacts on the Mexican economy and thus on net imports from the United States. If the Bank of Mexico fully sterilized its intervention in the exchange

markets by buying Mexican securities, the money supply would not fall, but the rates on securities would drop, potentially exacerbating the outflow and making it even more inevitable that Mexico's net imports from the United States would decline.

Conclusion

Analyses of the post-NAFTA economic scene generally focus on trade, employment, and output, with little attention paid to capital flows, which may be important influences in the short run. Because recent capital flows from the United States to Mexico have been larger than would have been expected, more attention needs to be focused on the important roles played by international financial markets and by the Mexican central bank in determining the size of capital flows and their effects on the Mexican economy, and thus on net imports from the United States.

The short-term impact of capital flows has been somewhat mixed. While the

capital inflows have been allowed to partially feed through to the BCA, implying increased net imports from the United States, it is not clear that the resultant inflows have been used mainly to invest in capital goods that would lead to improved Mexican productivity. The foreign exchange reserves of the Mexican central bank are at high levels as a result of intervention in response to the capital inflows. However, it is always possible that higher U.S. interest rates, combined with an increased sensitivity of capital flows to changes in interest rates, would lead to a capital outflow from Mexico. In that case, Mexico's net imports from the United States would drop off through mechanisms seldom explicitly considered in the discussion of NAFTA and its aftermath.

Footnotes

1. Partially sterilized intervention refers to central bank transactions in foreign currencies whose impact is partly felt on the money supply.

2. This figure is measured on a customs value basis (c.v.b.—the value of imports excluding shipping costs) and is equivalent to \$2.78 billion per year. On a cost, insurance, and freight (c.i.f.) basis, the surplus is \$164 million per month, or \$1.96 billion per year.

3. The ratio of U.S. exports to Mexico as a percentage of total U.S. exports is calculated using the International Monetary Fund's (IMF) Direction of Trade Statistics for 1993:IVQ. U.S. exports as a percentage of U.S. GDP is calculated from the IMF's International Financial Statistics (IFS). The product of the two ratios yields an estimate of the ratio between U.S. exports to Mexico and U.S. GDP.

4. See footnote 3. The sources and method of calculating the ratio between Mexican exports to the United States and Mexican GDP are the same as for calculating the ratio between U.S. exports to Mexico and U.S. GDP. Unfortunately, however, the most recent IFS data that can be used to calculate the ratio between Mexican exports and Mexican GDP are for 1992.

5. The BCA measures the trade in goods and services, taking into account all unilateral transfers, including private remittances and government transfers. It thus includes all entries other than asset transactions.

6. The U.S. Treasury Department's monthly data are probably the most frequently available for capital flows. These data are filed by commercial banks and other financial institutions, both U.S. and foreign. These are gross data, referring to the same security possibly being involved in more than one transaction and thus possibly being counted more than once. These data do not correspond to the net movement of funds implied by the BCA. The main exclusions from the Treasury data are intercompany capital transactions between the United States and foreign offices of the same company and capital transactions of the U.S. government.

7. See, for example, *OECD Economic Surveys: Mexico 1991/1992*, Paris: Organisation for Economic Co-operation and Development, 1992, pp. 26-36.


8. Although most studies of NAFTA do not predict capital flows, they implicitly assume that capital flows are sufficient for savings to equal investment. See box on page 2.

9. See Morris Goldstein and Michael Mussa, "The Integration of World Capital Markets," International Monetary Fund, paper prepared for the Conference on "Changing Capital Markets: Implications for Monetary Policy," sponsored by the Federal Reserve Bank of Kansas City, August 1993, p. 39.

10. *Ibid.*

11. See Guillermo A. Calvo, Leonardo Leiderman, and Carmen M. Reinhart, "Capital Inflows and Real Exchange Rate Appreciation in Latin America," IMF Staff Papers, vol. 40, no. 1 (March 1993), pp. 108-51. In practice, there may be a variety of obstacles, such as regulations or taxes, that prevent investors from moving funds to take advantage of differences in interest rates.

12. IFS data show that for Mexico, this ratio rose from an average of 0.186 in 1987-89 to only 0.195 in 1990-92. On the other hand, for Chile, the country to which Mexico's reform effort is most often compared, the ratio rose from 0.210 to 0.233 over the same two periods. By way of contrast, the Bank of Mexico reports that the ratio of private investment to GDP rose from 0.167 to 0.198. See *The Mexican Economy 1994*, Mexico City: Banco de Mexico, 1994, p. 214.



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