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## Program Report

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### International Finance and Macroeconomics

Jeffrey A. Frankel\*

This summary of research by members of the NBER's Program on International Finance and Macroeconomics describes work on particular parts of the world, including the emerging markets, Japan, and Europe, as well as studies of international economic integration and flexible exchange rates that have universal relevance.

### Recent Crises in Emerging Markets

Recurrent crises in emerging markets warrant much thought, and NBER researchers have responded accordingly. Some of their work has been discussed in a series of conferences organized by NBER President Martin Feldstein and in annual meetings of the NBER's InterAmerican Seminar in Economics and the East Asian Seminar in Economics.

The most recent three-year period began with a number of postmortems on the Mexican peso crisis, including discussions of the origins of the crisis in 1994—by Sebastian Edwards, Andrew M. Warner, and Sergio L. Schmukler and me—and analysis of its aftermath in 1995—by Edwards and Miguel Savastano and Anne Krueger and Aaron Tornell.<sup>1</sup>

The return of crises in East Asia in 1997, and their spread to emerging market countries around the world in 1998, likewise raised a number of questions, including what had caused this turmoil.<sup>2</sup> Several explanations

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were considered, including the high and variable volume of flows in modern, liberalized international capital markets.<sup>3</sup>

Another possible explanation is increases in world interest rates, which seem to have been proximate causes in earlier crises, although less relevant in 1997–8.<sup>4</sup> A third possibility is the behavior of foreign investors, and a fourth is the composition of capital inflows.<sup>5</sup> A high level of foreign direct investment seems to be helpful, but a concentration of short-term dollar-denominated debt, especially relative to reserves, is a danger signal. Rodrik and Velasco show that the short-term debt-to-reserves ratio is a robust predictor of financial crises.<sup>6</sup>

Another possible explanation for the crises is attempts to maintain pegged exchange rates.<sup>7</sup> Such attempts in the crisis countries ended when foreign exchange reserves were depleted. The impact on the economy from the resulting devaluation was greater than if the currency peg had been abandoned earlier. Policies to fix exchange rates in Latin America were often the legacy of attempts to stabilize from high inflation rates in the 1980s.<sup>8</sup> In East Asia these policies have been complicated by rapid growth and by movements in the yen-dollar exchange rate.<sup>9</sup>

For some time there has been a division between those who attribute currency crises to traditional fundamentals, including overly expansionary monetary policy and other macroeconomic policy mistakes—for example, Michael D. Bordo and Anna J. Schwartz—and those who attribute it to investor panic and multiple equilibriums, such as Steven Radelet and Jeffrey D. Sachs.<sup>10</sup> These competing theories of balance-of-payments crises have been classified as first-versus second-generation models of speculative attacks. Research by Robert P. Flood and Nancy P. Marion,

Maurice Obstfeld, and Velasco has put the different models into context.<sup>11</sup>

In East Asia, most of the countries had relatively good macroeconomic fundamentals. As a result, diagnoses of crises there emphasize a different sort of fundamentals instead of macroeconomic policies: distortions in the financial structures of emerging economies.<sup>12</sup> Specifically, a third generation of models of currency crises sought to explain "crony capitalism," defined more formally as implicit government guarantees for poorly regulated banks and corporate debtors, which create moral hazard. The pioneering leader of these models, writing before the East Asia crisis began, was Michael P. Dooley.<sup>13</sup> Others who developed the models include Chinn, Dooley, and Sona Shrestha; Craig Burnside; Martin S. Eichenbaum and Sergio Rebelo; and Aizenman.<sup>14</sup>

An important question to address is why the crises were so severe once they occurred, inflicting recession, bankruptcy, and poverty on much of the economy. Chang and Velasco have emphasized the post-devaluation burden of short-term dollar-denominated debt.<sup>15</sup> Banks and firms find that they cannot service their dollar-denominated debt after the devaluation because their revenues are primarily in local currency. James Levinsohn, Steven Berry, and Jed Friedman show that, in part because of debt problems, the poor in Indonesia indeed were hit the hardest.<sup>16</sup>

At the same time, there has been a rethinking of the traditional view that a country that abandons its exchange rate target has the solace of lower interest rates and a related stimulus to growth and employment. Even in looking at Western Europe, Robert J. Gordon challenges the conventional wisdom that those who devalued in 1992–3 were rewarded with noninflationary growth.<sup>17</sup> In the case of East Asia, especially, the crisis victims

suffered from high interest rates and sharp recessions regardless of whether they devalued early, late, or not at all.

Another topic our program addresses is contagion: the tendency for a currency crisis in one emerging-market country to be followed by troubles in others far away. Such situations have now gone beyond correlations that can readily be explained by competition in export markets. For example, the contagion from Russia to Brazil in August 1998 cannot be explained easily by trade links between these two countries, nor by competition in third markets. A number of IFM Program members have been studying contagion.<sup>18</sup>

How can crises be prevented in the future, or at least be made less frequent and less severe? Some researchers have begun to study proposals for restrictions on capital flows. Chile maintained penalties on short-term capital inflows, which appear to have succeeded in changing the composition of its inflows at least. However, Edwards warns that these penalties do not explain Chile's success.<sup>19</sup> Leonardo Bartolini and Drazen point out that liberalization of capital outflows sends a positive signal to investors and can result in increased inflows.<sup>20</sup> Karen K. Lewis also looks at official international restrictions on capital flows.<sup>21</sup>

Some proposals for modification of the international financial architecture call for a reform of multilateral institutions.<sup>22</sup> Work by Feldstein and Ricardo J. Caballero and Arvind Krishnamurthy offers some innovative ideas about the provision of international collateral by developing country borrowers.<sup>23</sup>

## Japan and the European Union

Members of the IFM program have continued to watch the industrialized

world as well as the emerging markets. In the 1990s Japan found itself in a recession trap that was worse than most forecasts, while Europe entered a monetary union that so far has succeeded better than many had forecast.

The banking system played a central role in the decade-long Japanese slump, despite both the Basel capital standards agreement and the Big Bang of 1998 trying to nudge Japanese banks into the modern era. The premium that Japanese banks pay for funds helps to explain their problems.<sup>24</sup>

In January 1999 the European Economic and Monetary Union (EMU) was inaugurated, and the euro, its common currency, was born. NBER researchers analyzed a variety of aspects of the immediate transition to the EMU.<sup>25</sup> Obstfeld, Giovanni Peri, and others also examined the fundamental question for the longer term: is Europe suited to a common currency?<sup>26</sup> Feldstein has suggested that the EMU does not make economic sense and was instead adopted for political reasons.<sup>27</sup>

A number of IFM Program members have considered how the new European Central Bank (ECB) could conduct monetary policy.<sup>28</sup> Lars E. O. Svensson suggests that the ECB could target the price level.<sup>29</sup> Richard Portes and Helene Rey predict that the euro will rival the dollar some day as an international currency.<sup>30</sup> Michael B. Devereux, Charles M. Engel, and Tille consider the implications of trade being invoiced in euros.<sup>31</sup> Casella asks what fiscal policy might be under the European stability pact, and William H. Branson, Jorge Braga de Macedo, and Jurgen von Hagen wonder about prospective policy expansion to the East.<sup>32</sup>

Some of the NBER research on the European economy is presented at the NBER's International Seminar on Macroeconomics (ISOM), which

takes place each summer in a different European country. For the past several years, ISOM has been under the direction of Andrew K. Rose and Charles Wyplosz.

## Global Economic Integration

IFM Program members have continued to investigate the extent, nature, and effects of global integration. One important new approach has been to incorporate in the analysis data on transactions among cities or provinces within the same country with data on transactions between countries. This makes it possible to identify the effects of national borders and national currencies, not just the effects of geographic separation. This approach has been used by John F. Helliwell and Ross McKittrick and Obstfeld.<sup>33</sup>

Some researchers take a historical perspective, looking back over the entire twentieth century. International economists can surprise people by showing that financial integration 100 years ago by many measures was as high as, or even higher than, it is today. For example, early in the century capital flows allowed greater gaps between countries' saving and investment levels than existed in the postwar period.<sup>34</sup> Bordo, Eichengreen, and Jongwoo Kim argue that the increase in financial integration has been greater than international economists allow; Bordo, Eichengreen, and Douglas A. Irwin argue the same for globalization more generally, including integration with respect to trade.<sup>35</sup>

One method of studying international integration with respect to trade is to look at the ability of arbitrage to eliminate geographical differences in prices. Such tests on the general price level are part of the large literature on purchasing power parity.<sup>36</sup> Tests of arbitrage are particularly interesting when they focus

on prices of specific, narrowly defined commodities and examine the role of distance and transport costs between geographic locations.<sup>37</sup> Notwithstanding the much-touted trend of globalization, geographic distance remains a very important factor in trade, as are political barriers such as national borders and national currencies.

## Flexible Exchange Rates

All of the preceding issues bear on the choice of exchange rate regime, particularly fixed versus floating rates, and on whether the question is more difficult in a world of international financial integration.<sup>38</sup> Both regimes have advantages, of course. Fixed rates provide a noninflationary anchor for monetary policy. Pegged regimes are characterized by lower inflation but higher variability of output.<sup>39</sup> Exchange rate stability also purportedly promotes international trade and investment.<sup>40</sup> That point is particularly relevant if the variability that shows up under a floating regime is attributable to gratuitous "noise trading," as Olivier Jeanne and Rose suggest.<sup>41</sup> Floating rates, on the other hand, may allow monetary independence. But how do we trade off these advantages?

Recent currency crises in emerging markets have convinced some observers that a general move toward increased exchange rate flexibility is in order. The success of some countries with currency boards or full monetary union has convinced others that rigid institutional commitments to fixed rates are the solution. A third, newly popular view is that either of the two extremes—free floating or firm fixing—is tenable, but that intermediate regimes including target zones are not. In truth, however, no single regime, whether fixed or floating, can be right for all countries. The choice depends on the

specific characteristics of the country in question.<sup>42</sup>

On what does the choice of regime depend? Traditional theory included such criteria as openness and synchronicity of business cycles. Recent experience has added other criteria, emphasizing initial conditions (such as price-setting behavior, the prevalence of dollar debt, and the adequacy of reserve levels) and factors relevant for the credibility of giving monetary policy an exchange rate anchor (such as the political economy of a hyperinflationary past).<sup>43</sup> All of these characteristics can themselves be influenced by the choice of exchange rate regime. Countries that fix their exchange rates and thereby promote trade are more likely to qualify as an optimum currency area *ex post* than *ex ante*.<sup>44</sup>

Meanwhile, econometricians continue to search for an explanation of the seemingly random movements in the exchange rate. Some have pursued the traditional macroeconomic approach, which looks at determinants such as fiscal policy.<sup>45</sup> Others have pursued the new microstructure approach.<sup>46</sup>

The effects of exchange rate movements on employment have been studied by a number of NBER researchers.<sup>47</sup> Others have asked how firms deal with exchange rate volatility.<sup>48</sup> Firms can hedge away exchange rate risk.<sup>49</sup> But hedging is not free; a risk premium separates the forward rate from the expected future spot rate.<sup>50</sup> The prospect of eliminating the exchange risk premium is one of the attractions of firmly fixed exchange rates.

Increasingly, these central questions of financial integration and exchange rate regimes are relevant for all countries, for emerging markets as much as for the industrialized world.

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