



Editor's Note

Recent academic studies and a wave of emerging market crises have highlighted the importance of firms' and banks' balance sheets in transmitting shocks. The first article in this issue reviews IMF research on *Shocks to Balance Sheets and Emerging Market Crises*. Similarly, as many countries open up their capital accounts and liberalize their financial systems, issues related to the efficiency and prudential regulation of the banking systems have gained renewed prominence in the IMF's work. The second article focuses on *Banking Systems in a Financially Integrated World*. The Country Study analyzes IMF research on *South Africa*, an emerging market that raises interesting issues and faces important policy challenges. Also included are summaries of recent conferences and a call for papers for the Fourth Annual IMF Research Conference.

This issue marks the departure of Eswar Prasad from his service as editor, and of Helen Chin as assistant editor. With his impressive initiative and energy as the founding editor of the *IMF Research Bulletin*, Eswar greatly contributed to disseminating research conducted by the IMF staff. As the *Bulletin's* new editorial team, Archana Kumar and I will seek to maintain continuity and build on our predecessors' excellent work. Suggestions are, as always, welcome.

—Paolo Mauro

Research Summaries

Shocks to Balance Sheets and Emerging Market Crises

R. Gaston Gelos



The financial crises of the 1990s have intensified interest in understanding the role of financial frictions in the propagation of shocks and their impact on investment and output. Recently developed models emphasize that by affecting their net worth or collateral, shocks to balance sheets have significant effects on firms' ability to borrow and banks' ability to lend. IMF researchers have focused on the implications of such balance sheet channels for emerging markets. Two important sources of shocks to balance sheets in emerging markets are large exchange rate swings and fluctuations in real estate values.

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Banking Systems in a Financially Integrated World

Giovanni Dell'Ariccia



Over the last two decades, banks' activities, which in many countries had been traditionally heavily regulated and protected from competition, have been progressively liberalized. Financial sector reforms, mutually reinforced by innovations in information technology and the relaxation of capital controls, have fostered international financial integration and consequently have given banking sector issues an increasingly important role in the activities of the IMF.

Prompted by these developments, IMF researchers have examined a variety of issues related to banking sector liberalization, market structure, and financial reforms.

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Shocks to Balance Sheets and Emerging Market Crises (continued from page 1)

Models of the interaction between macroeconomics and finance—such as Bernanke and Gertler’s (1989) financial accelerator model—have strongly influenced the way economists think about the propagation of shocks, and IMF researchers have sought to incorporate their insights into models of emerging market crises.¹ Building on various existing models, Jeanne and Zettelmeyer (2002) derive a stylized framework to analyze currency crises.² The common theme is that currency and maturity mismatches in private sector balance sheets constrain the capacity of macroeconomic policies to deal with self-fulfilling capital account crises, generating a role for international lending. Christiano, Gust, and Roldós (forthcoming) discuss economic policies during crises in open economy models with collateral constraints: they find that the desirability of interest rate cuts during crises depends on the degree of short-term flexibility in the economy.³ Disyatat (2001) develops a model in which countries with healthy banks are less likely to suffer a contraction following an unexpected depreciation.⁴ Céspedes, Chang, and Velasco (2000, 2002) formalize the trade-offs faced by the monetary and exchange rate policy authorities in the presence of foreign-currency liabilities.⁵ In a dynamic general equilibrium model, Choi and Cook (2002) show that a fixed exchange rate rule stabilizing bank balance sheets is preferable to an interest rate rule targeting inflation.⁶ Catão and Rodríguez (2000) explore credit channel mechanisms in an economy where the nontradables sector is dependent on bank credit.⁷ Allen and others (2002) extensively review sources of balance sheet vulnerabilities and their implications for surveillance and policies.⁸

IMF researchers have pursued theoretical and empirical approaches to understanding the role of currency mismatches. Why do companies in emerging markets borrow in foreign currency? Jeanne (2000) discusses two different but related possibilities. In one explanation, dollar debt is more risky, but good entrepreneurs use it to signal their type. In the other, dollar debt is a commitment device: entrepreneurs can commit to high effort levels by using dollar debt, which reduces the likelihood that they will be bailed out by the government through exchange rate policy.⁹ More recently, Jeanne (2002) argues that monetary policy credibility lies at the heart of the problem: in an environment with high monetary policy variance, borrowing in dollars may minimize the probability of default from a company’s perspective.¹⁰ Using data on Mexican companies, Gelos (2003) finds that a firm’s share of foreign-currency-denominated debt in total debt is positively correlated with its own size and firm-level imports and exports; in contrast to the predictions of the signaling hypothesis, companies with more dollar debt are less profitable on average.¹¹

What incentives do banks have to borrow and lend in foreign currency? Ize and Levy-Yeyati (forthcoming) develop a model of financial intermediation in which currency choice is determined by hedging decisions on both sides of a bank’s balance sheet. Dollarization depends on the relative volatilities of inflation and real depreciation.¹² Similarly, Catão and Terrones (2000) present a banking model where the extent to which banks choose to lend in dollars depends on devaluation risk, foreign interest rates, the availability of tradable collateral, and credit market structure.¹³ Barajas and Morales (2003) investigate empirically the determinants of dollarization in 14 Latin American banking systems.¹⁴ They report that net dollarization (foreign currency deposits minus foreign currency liabilities) is associated with central bank intervention in the foreign exchange market and the market power of borrowers.

The impact of devaluations on companies’ balance sheets and investment has recently begun to be examined systematically. Investigation of balance sheet effects typically requires microeconomic data, and empirical work using such databases has become increasingly widespread among IMF economists.¹⁵ Rodríguez (2002) investigates the effects of the 1997 Thai devaluation on firm-level investment, finding significant balance sheet effects.¹⁶ By contrast, in a paper on devaluation expectations, Becker, Gelos, and Richards (2002) document that while the stock market clearly distinguished between exporting and importing firms, exposure to foreign currency debt had no effect on abnormal returns around the Mexican devaluation.¹⁷ Similarly, using enterprise-level data, Borensztein and Lee (2002) fail to find evidence for a generalized credit crunch after the Korean financial crisis; rather, the crisis seems to have provoked a lending reallocation toward more efficient firms.¹⁸

Research has also focused on the role of fluctuations in the nontraded sector (in particular, real estate) and ensuing balance sheet effects. Drawing on a panel of Mexican firms, Gelos and Werner (2002) find that investment is strongly associated with the share of real estate (often used as collateral) in total fixed capital, and that having real estate became perhaps even more important after financial liberalization.¹⁹ Collyns and Senhadji (2002) investigate the link between lending booms, asset price cycles, and financial crises across East Asian countries, providing evidence of a strong relationship between bank lending and asset price inflation. While asset price bubbles seem to have been present in most of the Asian crisis countries, the effect of their subsequent bust was related to the strength of bank regulation.²⁰ Hilbers, Lei, and Zacho (2001) discuss links between the real estate and the financial sectors. They examine 11 banking crises, documenting that they were all preceded by a sharp increase and followed by a subsequent decline in real estate prices.²¹

This brief review highlights a significant evolution in the way IMF economists think and conduct research on emerging market vulnerabilities. As the key lessons from theory are distilled, additional microeconomic balance sheet data become available, and the profession continues to learn from the experience of recent crises, further progress can be expected on this front.

¹ Ben Bernanke and Mark Gertler, "Agency Costs, Net Worth, and Business Fluctuations," *American Economic Review*, Vol. 79 (March 1989), pp. 15–31.

² Olivier Jeanne and Jeromin Zettelmeyer, "'Original Sin,' Balance Sheet Crises, and the Roles of International Lending," IMF Working Paper 02/234, 2002.

³ Lawrence J. Christiano, Christopher Gust, and Jorge Roldós, "Monetary Policy in a Financial Crisis," *Journal of Economic Theory*, forthcoming (also issued as NBER Working Paper No. 9005, 2002).

⁴ Piti Disyatat, "Currency Crises and the Real Economy: The Role of Banks," IMF Working Paper 01/49, 2001.

⁵ Luis Felipe Céspedes, Roberto Chang, and Andrés Velasco, "IS-LM-BP in the Pampas," paper presented at the Third Annual Research Conference, IMF, 2002. See also idem, "Balance Sheets and Exchange Rate Policy," NBER Working Paper No. 7840, 2000.

⁶ Woon Gyu Choi and David Cook, "Liability Dollarization and the Bank Balance Sheet Channel," IMF Working Paper 02/141, 2002.

⁷ Luis Catão and Sergio Rodríguez, "Bank and Monetary Shocks in Emerging Markets: How Far Can We Go with the 'Credit View?'" IMF Working Paper 00/68, 2000.

⁸ Mark Allen, Christoph Rosenberg, Christian Keller, Brad Setser, and Nouriel Roubini, "A Balance Sheet Approach to Financial Crises," IMF Working Paper 02/210, 2002. On the empirical side, there is some evidence that corporate sector balance sheet weaknesses help predict the probability of crises. See Mark R. Stone and Melvyn Weeks, "Systemic Financial Crises, Balance Sheets, and Model Uncertainty," IMF Working Paper 01/162, 2001; Christian Mulder, Roberto Perrelli, and Manuel Rocha, "The Role of Corporate, Legal and Macroeconomic Balance Sheet Indicators in Crisis Detection and Prevention," IMF Working Paper 02/59, 2002.

⁹ Olivier Jeanne, "Foreign Currency Debt and the Global Financial Architecture," *European Economic Review Papers and Proceedings*, Vol. 44 (May 2000), pp. 719–27.

¹⁰ Olivier Jeanne, "Why Do Emerging Economies Borrow in Foreign Currency?" (unpublished; Washington: IMF, 2002).

¹¹ R. Gaston Gelos, "Foreign Currency Debt in Emerging Markets: Firm-Level Evidence from Mexico," *Economics Letters*, Vol. 78 (March 2003), pp. 323–27.

¹² Alain Ize and Eduardo Levy-Yeyati, "Dollarization of Financial Intermediation: Causes and Policy Implications," IMF Working Paper 98/28, 1998 (forthcoming in the *Journal of International Economics*).

¹³ Luis Catão and Marco Terrones, "Determinants of Dollarization—The Banking Side," IMF Working Paper 00/146, 2000.

¹⁴ Adolfo Barajas and R. Armando Morales, "Dollarization of Liabilities: Beyond the Usual Suspects," IMF Working Paper 03/11, 2003.

¹⁵ The use of financial derivatives may substantially complicate the measurement of vulnerabilities. See Peter Breuer, "Measuring Off-Balance-Sheet Leverage," IMF Working Paper 00/202, 2000.

¹⁶ Pedro Rodríguez, "On the Impact of Devaluations on Investment: The Role of Currency Mismatches" (unpublished; Washington: IMF, 2002).

¹⁷ Torbjörn Becker, R. Gaston Gelos, and Anthony Richards, "Devaluation Expectations and the Stock Market—The Case of Mexico in 1994/95," IMF Working Paper 00/28, 2000 (also published in *International Journal of Finance and Economics*, Vol. 7 (July 2002), pp. 195–214).

¹⁸ Eduardo Borensztein and Jong-Wha Lee, "Financial Crisis and Credit Crunch in Korea: Evidence from Firm-Level Data," IMF Working Paper 00/25, 2000 (also published in *Journal of Monetary Economics*, Vol. 49 (May 2002), pp. 853–75).

¹⁹ R. Gaston Gelos and Alejandro Werner, "Financial Liberalization, Credit Constraints, and Collateral: Investment in the Mexican Manufacturing Sector," IMF Working Paper 99/25, 1999 (also published in the *Journal of Development Economics*, Vol. 67 (February 2002), pp. 1–27). Sancak (2002) examines the impact of the Turkish financial liberalization on firm-level financial constraints, finding mixed effects. See Cemile Sancak, "Financial Liberalization and Real Investment: Evidence from Turkish Firms," IMF Working Paper 02/100, 2002.

²⁰ Charles Collins and Abdelhak Senhadji, "Lending Booms, Real Estate Bubbles, and the Asian Crisis," IMF Working Paper 02/29, 2002.

²¹ Paul Hilbers, Quin Lei, and Lisbeth Zacho, "Real Estate Market Developments and Financial Sector Soundness," IMF Working Paper 01/129, 2001.

Books from the IMF

China: Competing in the Global Economy

Edited by Wanda Tseng and Markus Rodlauer

Since the start of reforms in 1978, China has enjoyed visible success in growth and economic transformation. Real income per capita has increased fivefold, more than 200 million people have been lifted out of poverty, and the country was able to weather the Asian financial crisis relatively unscathed. The key task facing policymakers in China today is how to sustain the rate of the economy's growth and development while spreading the benefits more widely across society.

China: Competing in the Global Economy highlights the major factors responsible for China's strong performance, and lays out the key items on the remaining reform agenda. The book focuses on four broad areas: China's growth dynamics, macroeconomic stability, state-owned enterprise (SOE) and banking sector reform, and global integration. It emphasizes the interlinkages among the banks, the SOEs, and the public finances, and argues that structural reforms in these sectors should continue. China's WTO accession is viewed as a potential watershed for this reform process.

The book reflects the analysis prepared by the IMF staff working on China under the direction of Wanda Tseng. The team of authors was led by Markus Rodlauer and David Robinson and included Thomas Dorsey, Jahangir Aziz, Paul Heytens, Christoph Duenwald, Paul Gruenwald, Thomas Richardson, Raju Singh, George Tsibouris, Harm Zebregs, James Daniel, Cem Karacadag, Nicholas Blancher, and Yongzheng Yang.

Full-text versions (or, in some cases, detailed summaries) of books published by the IMF are available online at <http://www.imf.org/publications>.

Exchange Rate Regimes: Choices and Consequences

Atish R. Ghosh (IMF),
Anne-Marie Gulde (IMF), and
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University)

Over the 30 years since the breakdown of the Bretton Woods system, countries have adopted a wide variety of exchange rate regimes, ranging from dollarization and currency boards to simple pegs and crawling pegs, target zones, and clean and dirty floats. This proliferation of exchange rate regimes suggests that they must matter for something—but quite what remains an open question in the profession. While a vast theoretical literature explores the implications of various regimes, the abundance of possible effects makes it difficult to establish clear relationships between the exchange rate regimes and common macroeconomic policy targets such as inflation and growth. *Exchange Rate Regimes: Choices and Consequences* (MIT Press) takes a systematic look at the evidence on macroeconomic performance under alternative exchange rate regimes, drawing on the experiences of some 150 member countries of the IMF over the past 30 years. It asks whether pegging the exchange rate leads to lower inflation, whether floating exchange rates are associated with faster output growth, and whether pegged regimes are particularly prone to currency and other crises. The book draws on history and theory to delineate the debate, and on case studies and statistical methods to assess the empirical evidence.

Banking Systems in a Financially Integrated World

(continued from page 1)

Financial reforms have eased legal barriers to entry, liberalized deposit and loan rates, relaxed restrictions on bank portfolios and ownership, and reduced reserve requirements. This process has also often involved the redesigning of prudential regulation and supervision, and a reduced public presence in the banking sector. Moreover, substantial theoretical work in the last 20 years has emphasized the role played by information in credit markets.¹ A number of studies at the IMF have, therefore, focused on the interaction between information, bank market structure, and liquidity allocation.² These studies show that the superior knowledge about borrower creditworthiness, which incumbent banks possess relative to new entrants, represents a barrier to entry in the banking industry. When faced with increased competition from foreign institutions, domestic banks reallocate their portfolio toward those market segments where their informational advantage is greater (for example, loans to small enterprises) and where returns, but also risks, are higher.

The traditional industrial organization framework predicts that competition should reduce the costs and prices of banking services and lead to an efficient allocation of aggregate liquidity. More recent theories focusing on the special role played by information in banking have argued, instead, that standard models of competition are inappropriate for the banking sector. These studies have emphasized that competition may lead banks to take greater risks thereby making the financial system more fragile, and that, in the presence of informational asymmetries, greater bank competition may reduce, rather than increase, the aggregate supply of bank credit to the economy. IMF researchers have examined this issue from both a theoretical and an empirical point of view. Sarr (2000) presents a model where profit-maximizing banks are willing to reduce account fees when they have market power that allows them to reduce deposit rates. The overall effect is a reduction of the cost of deposits and, hence, increased financial deepening.³ Several empirical papers focus on the effects of bank competition and entry on intermediation spreads and credit availability. A number of these studies examine single-country cases. For example, Barajas, Steiner, and Salazar (1999) find that financial liberalization and foreign entry had a beneficial impact on bank behavior in Colombia by enhancing operative efficiency and increasing competition.⁴ Other studies analyze panels of countries. Martinez-Peria and Mody (2002) use panel data from five Latin American countries and find that foreign bank entry tends to promote competition by reducing administrative costs, and that foreign banks charge lower intermediation spreads than do their domestic competitors. Grigorian and Manole (2002) examine commercial bank performance in a panel of 17 transition economies. They find that bank consolidation and foreign ownership and control are likely to improve the efficiency of banking operations. Bonaccorsi di Patti and Dell’Ariccia (forthcoming) find a nonlinear relationship between bank competition and the creation of new firms, suggesting that some competition is “good,” but too much competition is “bad.”⁵ Furthermore, consistent with the prediction of recent theories of financial intermediation, they find that bank competition is more favorable to firms operating in sectors characterized by less severe information problems. Bossone and Lee (2002) approach the issue of the efficiency of entire banking systems rather than that of individual banks. They focus on “systemic scale economies” in banking, that is, efficiency gains associated with the size of the system in which banks carry out their operations. The authors use a wide cross-country

panel to show that banks operating in systems with large markets and infrastructures have relatively lower costs of production and risk absorption.⁶

Market concentration and the degree of competition in the banking industry affects bank profitability and credit allocation. These in turn determine the riskiness of bank portfolios and banks' ability to withstand macroeconomic shocks. Financial reforms are likely to have an effect on financial fragility since they have the potential to change the structure of the banking sector. Several studies have focused on the causes and consequences of banking sector distress.⁷ Among these, Demirgüç-Kunt and Detragiache (1998, 1999, 2000), drawing on data from panels of countries, seek to identify common determinants of banking crises. They find that, in the absence of proper regulatory and supervisory institutions, financial liberalization and generous deposit insurance schemes tend to contribute to financial fragility.⁸ This view is also supported by a number of studies that focus on specific episodes of financial distress.⁹ De Nicolò and Kwast (2002) argue that consolidation may facilitate portfolio diversification and reduce risk at the individual bank level, but it may also raise systemic risk because large consolidated banks are more likely to have similar portfolios. They show that stock return correlations among large U.S. banks seem to have increased during the 1990s, suggesting that the potential for economic shocks capable of becoming systemic risks may have increased.¹⁰

Financial reforms have expanded the range of assets available to banks, allowing them to invest in foreign assets and to issue foreign denominated liabilities. This has increased banks' exposure to exchange rate volatility with the result that systemic banking sector problems have played a major role in most of the recent crises. A few papers have focused on the role played by banks in episodes of international financial contagion. Van Rijckeghem and Weder (2000 and 2001) find that spillovers through bank lending or "common lender effect," rather than trade linkages, explain financial contagion. They examine the Mexican, Thai, and Russian crises and find that countries borrowing from banks that are heavily exposed to the "original" crisis country are most likely to suffer from contagion.¹¹ In their theoretical contribution, Goodhart and Huang (2000) argue that an international interbank market would improve liquidity sharing among banks, but would also lead to international financial contagion, which would have to be contained by some sort of international lender of last resort.¹²

Finally, bank market structure and the institutions governing the financial system are likely to have an important impact on the cost and effectiveness of bank restructuring in the aftermath of episodes of financial distress. Dziobek and Pazarbasioglu (1997) survey episodes of bank distress in 24 countries and conclude that successful bank restructuring was generally characterized by prompt corrective action on the part of the authorities and on a comprehensive approach that not only addressed the immediate emergency but also corrected regulatory shortcomings and improved supervision and compliance. Countries that privatized troubled state enterprises and allowed a substantial change in the structure of the banking industry through extensive use of mergers and closures were relatively more successful in their restructuring effort.¹³ Zoli (2001) conducts a cross-country study of the cost and effectiveness of bank restructuring policies in transition economies. The absolute size of bad loans and weaknesses in the restructuring policies were the main determinant of the overall fiscal cost, while no relationship was found between restructuring cost and post-restructuring bank performance.¹⁴ Several other studies focus on

Policy Discussion Papers

Policy Discussion Paper No. 02/11
Poverty and Social Impact Analysis in PRGF-Supported Programs
Gabriela Inchauste

Policy Discussion Paper No. 02/12
On a Common Currency for the GCC Countries
Esteban Jadresic

Policy Discussion Paper No. 02/13
Cross-Border Issues in Energy Trade in the CIS Countries
John R. Dodsworth, Paul H. Mathieu, and Clinton R. Shiells

specific country cases.¹⁵ Frydl and Quintyn (2000) provide a theoretical framework to assess benefits and costs of official intervention during a banking crisis. They identify the relative size of the banking system and liquidation costs as the dominant factors affecting the net benefits of a public intervention.¹⁶

¹For a review, see F. Allen, H. Gersbach, J.P. Krahen, and A. Santomero, "Competition Among Banks: Introduction and Conference Overview," *European Finance Review*, Vol. 5 (2001).

²G. Dell'Ariccia and R. Marquez, "Adverse Selection as a Barrier to Entry in the Banking Industry," *RAND Journal of Economics*, Vol. 30 (1999), pp. 515–34; G. Dell'Ariccia, "Asymmetric Information and the Structure of the Banking Industry," *European Economic Review*, Vol. 45 (2001), pp. 1957–80; and G. Dell'Ariccia and R. Marquez, "Flight to Quality or to Captivity? Information and Credit Allocation," IMF Working Paper 01/20, 2001.

³A. Sarr, "Financial Liberalization, Bank Market Structure, and Financial Deepening: An Interest Margin Analysis," IMF Working Paper 00/38, 2000.

⁴A. Barajas, R. Steiner, and N. Salazar, "Interest Rate Spreads in Banking: Costs, Financial Taxation, Market Power, and Loan Quality in the Colombian Case, 1974–96," IMF Working Paper 98/110, 1998; idem, "Foreign Investment in Colombia's Financial Sector," IMF Working Paper 99/150, 1999; M. Mlachila and E. Chirwa, "Financial Reforms and Interest Rate Spreads in the Commercial Banking System in Malawi," IMF Working Paper 02/6, 2002; D. Hardy and E. Bonaccorsi di Patti, "Bank Reform and Bank Efficiency in Pakistan," IMF Working Paper 01/38, 2001; H. Juan-Ramon, Ruby Randall, and O. Williams, "A Statistical Analysis of Banking Performance in the Eastern Caribbean Currency Union in the 1990s," IMF Working Paper 01/105, 2001; and A. Kireyev, "Financial Reforms in Sudan: Streamlining Bank Intermediation," IMF Working Paper 01/53, 2001.

⁵S. Martinez-Peria and A. Mody, "How Foreign Participation and Market Concentration Impact Bank Spreads: Evidence from Latin America" (unpublished; Washington: IMF, 2002); E. Bonaccorsi di Patti and G. Dell'Ariccia, "Bank Competition and Firm Creation," *Journal of Money, Credit, and Banking* (forthcoming); and D. Grigorian and V.

Manole, "Determinants of Commercial Bank Performance in Transition: An Application of Data Envelopment Analysis," IMF Working Paper 02/146, 2002.

⁶B. Bossone and J.K. Lee, "In Finance, Size Matters," IMF Working Paper 02/113, 2002.

⁷See the research summary by Enrica Detragiache in the March 2001 issue of the *IMF Research Bulletin*.

⁸A. Demirgüç-Kunt and E. Detragiache, "The Determinants of Banking Crises in Developing and Developed Countries," *IMF Staff Papers*, March 1998; idem, "Financial Liberalization and Financial Fragility," in *Annual World Bank Conference on Development Economics* (Washington: World Bank, 1999); idem, "Does Deposit Insurance Increase Banking Sector Stability? An Empirical Investigation," IMF Working Paper 00/3, 2000.

⁹B. Drees and C. Pazarbasioglu, *The Nordic Banking Crises: Pitfalls in Financial Liberalization?* IMF Occasional Paper No. 161 (Washington: IMF, 1998); T. Balino and A. Ubide, "The Korean Financial Crisis of 1997: A Strategy of Financial Sector Reform," IMF Working Paper 99/28, 1999; and A. Kanaya and D. Woo, "The Japanese Banking Crisis: Sources and Lessons," IMF Working Paper 00/7, 2000.

¹⁰G. De Nicolò and M. Kwast, "Systemic Risk and Financial Consolidation: Are They Related?" IMF Working Paper 02/55, 2002.

¹¹C. Van Rijckeghem and B. Weder, "Spillovers Through Banking Centers: A Panel Data Analysis," IMF Working Paper 00/88, 2000; idem, "Sources of Contagion: Finance or Trade?" *Journal of International Economics*, Vol. 54 (2001), pp. 293–308.

¹²C. Goodhart and H. Huang, "A Simple Model of an International Lender of Last Resort," IMF Working Paper 00/75, 2000.

¹³C. Dziobek and C. Pazarbasioglu, "Lessons from Systemic Bank Restructuring: A Survey of 24 Countries," IMF Working Paper 97/161, 1997.

¹⁴E. Zoli, "Cost and Effectiveness of Banking Sector Restructuring in Transition Economies," IMF Working Paper 01/157, 2001.

¹⁵E. Enoch, A.M. Gulde, and D. Hardy, "Banking Crises and Bank Resolution: Experience in Some Transition Economies," IMF Working Paper 02/56, 2002; M. Pangestu and M. Habir, "The Boom, Bust, and Restructuring of Indonesian Banks," IMF Working Paper 02/66, 2002.

¹⁶E. Frydl and M. Quintyn, "The Benefits and Costs of Intervening in Banking Crises," IMF Working Paper 00/147, 2000.

Visiting Scholars at the IMF, October–December 2002

Christopher Adam; University of Oxford, United Kingdom

Yaw Asante; University of Ghana, Ghana

Jushan Bai; New York University

Graham Bird; University of Surrey, United Kingdom

Edward Buffie; Indiana University

Douglas Gale; New York University

Najib Harabi; Olten School of Economics & Business, Switzerland

Arvind Krishnamurthy; Northwestern University

Ross Levine; Carlson School of Management, University of Minnesota

Mamado Ndong; Ministry of Finance, Dakar, Senegal

Stephen O'Connell; Swarthmore College

Assaf Razin; Tel Aviv University, Israel

Sekou Sangare; University of Cocody-Abidjan, Côte d'Ivoire

Boulet Toure; Center for Studies in International

Development, France

Carlos Vegh; University of California at Los Angeles

Yishay Yafeh; The Hebrew University, Israel

Call for Papers

Fourth Annual IMF Research Conference

The Fourth Annual Research Conference of the IMF will take place at the organization's headquarters in Washington, DC, on November 6–7, 2003. The conference will provide a forum to discuss innovative research by IMF staff and leading outside economists and will facilitate an exchange of views among the participants. The main theme of this year's conference will be **Capital Flows and Macroeconomic Cycles**, which can be interpreted broadly. More information and details about possible topics can be found at

the **Research at the IMF** website at www.imf.org/research.

Interested contributors should submit a proposal to the Program Committee (e-mail to ARC2003@imf.org) by **March 31, 2003**. The Program Committee will evaluate all proposals in terms of originality, analytical rigor, and policy relevance and will communicate its decision by late April. The program committee consists of A. Mody (Chair), A. Brunner, G. Dell'Araccia, E. Detragiache, A. Ghosh, E. Ley, and R. Ramcharan.

IMF Staff Papers, Special Issue, November 2002 Proceedings of the Second Annual IMF Research Conference

Edited by Eduardo Borensztein and Robert Flood

This special issue of the *IMF Staff Papers* contains a selection of papers presented at the Second Annual IMF Research Conference held in Washington, DC, in November 2002. The papers in this volume were written by IMF authors and outside scholars. Included is the text of the second Mundell-Fleming Lecture, delivered by Kenneth Rogoff in honor of Rudiger Dornbusch's "overshooting model," and follow-up remarks by the late Rudiger Dornbusch.

Dornbusch's Overshooting Model After Twenty-Five Years: The International Monetary Fund's Second Annual Research Conference Mundell-Fleming Lecture
Kenneth Rogoff (IMF)

Remarks on the 2001 Mundell-Fleming Lecture
Rudiger Dornbusch

Conditionality and Ownership in IMF Lending: A Political Economy Approach
Allan Drazen (Tel-Aviv University and University of Maryland, NBER, and CEPR)

Limits of Conditionality in Poverty Reduction Programs
Tito Cordella and Giovanni Dell'Araccia (IMF)

What Determines Individual Preferences over Reform? Microeconomic Evidence from Russia
Stephanie Eble and Petya Koeva (IMF)

Boom-Bust Cycles in Middle Income Countries
Aaron Tornell (ULCA and NBER) and Frank Westermann (University of Munich and Ifo Institute)

Why Don't They Lend? Credit Stagnation in Latin America
Adolfo Barajas and Roberto Steiner (IMF)

Interest Rate Effects on Output: Evidence from a GDP Forecasting Model for South Africa
Janine Aron (Oxford University) and John Muellbauer (Nuffield College, Oxford University)

How Do Large Depreciations Affect Firm Performance?
Kristin J. Forbes (MIT)

IMF Staff Papers, the IMF's scholarly journal, edited by Robert Flood, publishes selected high-quality research produced by IMF staff and invited guests on a variety of topics of interest to a broad audience, including academics and policymakers in IMF member countries. The papers selected for publication in the journal are subject to a rigorous review process using both internal and external referees. The journal and its contents (including an archive of articles from past issues) are available online at the **Research at the IMF** website at <http://www.imf.org/research>.

Country Study

South Africa

Vivek Arora



South Africa has made substantial economic progress since the end of apartheid in 1994, notably in the form of a significant rise in real GDP growth and a reduction in macroeconomic imbalances. A sustained improvement in the public finances has been accompanied by a strengthening in the external position, and monetary policy has been bolstered by the adoption of an inflation-targeting regime in 2000. The economy nevertheless faces major challenges: relatively low growth compared with many successful emerging market countries, persistently high unemployment, and the spread of HIV/AIDS. This article provides an overview of recent IMF research on some of the key features of economic developments in South Africa and the associated policy implications.

A general strand of research has focused on issues related to the central longer-term economic challenge for South Africa of further raising growth and reducing unemployment. Success in meeting these goals depends in large part on maintaining a sound and stable financial environment, which will be supported by implementing the inflation-targeting strategy, maintaining fiscal restraint, and rebuilding international reserves; on following through with the structural reforms, including privatization and trade liberalization; and on addressing the spread of HIV/AIDS. These would improve growth performance both by their direct impact and by attracting foreign investment. Labor market reforms that reduce the statutory costs of doing business would help to ensure that investment absorbs labor.

The annual growth rate of real GDP in South Africa has risen from 1 percent on average during 1980–93 to 2¾ percent in 1994–2001. Arora, Bhundia, and Bagattini (2003) suggest that the growth pickup reflects a substantial increase in total factor productivity (TFP) growth rather than greater factor accumulation.¹ TFP growth may have increased in part due to the greater efficiency associated with increased openness to trade and greater private sector participation in the economy.² Jonsson and Subramanian (2001) show that trade liberalization and openness raised TFP growth significantly during the 1990s.³

The increase in growth has occurred against the background of prudent macroeconomic policies. The central government fiscal deficit declined from 9 percent of GDP in

1993/94 to 1½ percent in 2001/02 through a significant increase in the primary balance, in line with what Fajgenbaum and others (1996) anticipated was needed in order to avoid a public debt “trap” (an upward spiral in the public debt to GDP ratio).⁴ Using an analysis that examines the primary surplus, the interest-growth differential, other debt determinants, and the sensitivity to macroeconomic shocks, Barnett (2003) concludes that South Africa’s debt dynamics are manageable.⁵ This conclusion is supported by several of the alternative indicators proposed by Jacobs (2002) and Jacobs, Schoeman, and Van Heerden (2002) to gauge the stance and sustainability of fiscal policy.⁶

The monetary policy regime has gained credibility with a reduction in inflation from the very high rates prevailing through the early 1990s, the adoption of an inflation-targeting framework, and reduced external vulnerability. Jonsson (2000) argues that South Africa has the main prerequisites for an inflation-targeting regime, including an independent central bank and relatively well-developed capital markets.⁷ Bhundia (2003) and Jonsson (2001) find that a stable long-run relationship exists among prices, broad money, real income, and interest rate (the conventional “money-demand relationship”), which underscores the importance of continuing to monitor the rate of money growth in seeking to meet the inflation target.⁸ External confidence, as reflected in sovereign risk spreads, has been bolstered by the virtual elimination of the central bank’s net open forward position in foreign exchange, which was a key source of external vulnerability in the past.⁹ Empirical analysis by Vocke (2003) suggests that monetary policy credibility has contributed to the reduction in spreads between South Africa and comparator countries.¹⁰

Notwithstanding the general improvement in confidence, the exchange rate has fluctuated significantly, depreciating by over a third vis-à-vis the U.S. dollar in 2001 and early 2002, before recovering subsequently. Bhundia (2002) attributes the depreciation in part to an easing of monetary policy.¹¹ MacDonald and Ricci (2003) find evidence of “overshooting” and estimate that the rand was 25 percent below its long-run real equilibrium value in early 2002. They estimate an equilibrium path for the real exchange rate of the rand, which is found to depend mainly on commodity prices, productivity and real-interest-rate differentials vis-à-vis trading partners, openness, and the fiscal and net foreign asset positions; it does not, however, take into account the qualitative impact on confidence of factors such as unemployment and HIV/AIDS.¹² While the rand is influenced by commodity prices, Cashin, Céspedes, and Sahay (2002) find that it does not appear to be a “commodity currency” in the sense that

commodity price movements alone cannot explain a significant portion of real exchange rate fluctuations in South Africa during 1980–2002.¹³ Aron and Muellbauer (2002) find that, in the short run, nominal exchange rate shocks have a much smaller impact on real output than do monetary shocks, but their influence appears to be increasing with greater openness.¹⁴

The favorable overall macroeconomic performance since 1994 has not been reflected in jobs, with the unemployment rate at nearly 30 percent in 2002. Fajgenbaum and others (1997) and Alleyne (2000) discuss, respectively, the role of wage inflexibilities and the labor legislation, particularly collective bargaining agreements, in influencing unemployment.¹⁵ Although South Africa mainly trades with advanced countries, it is a net exporter of capital-intensive goods and a net importer of labor-intensive goods. Alleyne and Subramanian (2001) suggest that this surprising trade pattern indicates that domestic labor market institutions may not be functioning properly.¹⁶

Fajgenbaum and others (1996) estimate that in order for long-term real GDP growth to rise to a level that is consistent with declining unemployment, fixed investment would need to increase by nearly 10 percent of GDP.¹⁷ The increased investment would need to be accompanied by policies to reduce labor costs relative to capital costs so that it absorbs rather than displaces labor. For financing this investment, Fajgenbaum and others discuss the potential role of government saving, whose effect is estimated to be blunted by a significant Ricardian offset, and of foreign saving, which would depend on continued macroeconomic stability and policy credibility. There is scope for greater foreign direct investment, which in comparator countries is significantly influenced by infrastructure, trade liberalization, skills, and potential market size, according to an empirical study by Arvanitis (2003).¹⁸ Long-run economic prospects also depend importantly on the HIV/AIDS outlook.¹⁹

¹³Vivek Arora, Ashok Bhundia, and Gustavo Bagattini, “Potential Output and the Sources of Growth,” *South Africa: Selected Issues*, IMF Staff Country Report No. 03/18, January 2003.

¹⁴José Fajgenbaum, Trevor Alleyne, Gunnar Jonsson, Arvind Subramanian, Enrique de la Piedra, Timothy Muzondo, and Martin Parkinson, “Growth Accounting,” *South Africa—Selected Issues*, IMF Staff Country Report No. 98/96, October 1998.

¹⁵Gunnar Jonsson and Arvind Subramanian, “Dynamic Gains from Trade: Evidence from South Africa,” *IMF Staff Papers*, Vol. 48, No. 1 (2001), pp. 197–224.

¹⁶José Fajgenbaum, Benedict Bingham, Peter Doyle, Judith Gold, Sayuri Shirai, and Andrew Wolfe, “Accelerating Growth and Fiscal Policy,” *South Africa—Selected Issues*, IMF Staff Country Report No. 96/64, July 1996.

¹⁷Steven Barnett, “Government Debt Dynamics,” *South Africa: Selected Issues*, IMF Staff Country Report No. 03/18, January 2003.

¹⁸Davina Jacobs, “Suggestions for Alternative Budget Balances for South Africa,” IMF Working Paper 02/110, 2002; Davina Jacobs, Nicolaas Johannes Schoeman, and Jan Horn van Heerden, “Alternative Definitions of the Budget Deficit and Its Impact on the Sustainability of Fiscal Policy in South Africa,” *South African Journal of Economics*, Vol. 70, No. 3 (2002), pp. 543–59.

¹⁹Gunnar Jonsson, “Inflation Targeting as a Monetary Policy Framework in South Africa,” *South Africa: Selected Issues*, IMF Staff Country Report No. 00/42, March 2000.

²⁰Ashok Bhundia, “Real Money Demand, Consumer Prices, and the Real Exchange Rate in South Africa,” *South Africa: Selected Issues*, IMF Staff Country Report No. 03/18 (January 2003); Gunnar Jonsson, “Inflation, Money Demand, and Purchasing Power Parity in South Africa,” *IMF Staff Papers*, Vol. 48, No. 2 (2001), pp. 243–65.

²¹Gunnar Jonsson, “The Forward Book of the South African Reserve Bank,” *South Africa: Selected Issues*, IMF Staff Country Report No. 00/42, March 2000.

²²Matthias Vocke, “Sovereign Risk Spreads Under Inflation Targeting,” *South Africa: Selected Issues*, IMF Staff Country Report No. 03/18, January 2003.

²³Ashok Bhundia, “An Empirical Investigation of Exchange Rate Pass-Through in South Africa,” IMF Working Paper 02/165, 2002.

²⁴Ronald MacDonald and Luca Ricci, “Estimation of the Equilibrium Real Exchange Rate for South Africa,” IMF Working Paper, forthcoming, 2003.

²⁵Paul Cashin, Luis Céspedes, and Ratna Sahay, “Keynes, Cocoa, and Copper: In Search of Commodity Currencies,” IMF Working Paper 02/223, 2002.

²⁶Janine Aron and John Muellbauer, “Interest Rate Effects on Output: Evidence from a GDP Forecasting Model for South Africa,” *IMF Staff Papers*, IMF Annual Research Conference, Vol. 49 (2002), pp. 185–213.

²⁷José Fajgenbaum, Peter Doyle, Judith Gold, Gunnar Jonsson, Godfrey Kalinga, David Orsmond, and Julio Santaella, “Unemployment and Employment Issues,” *South Africa—Selected Issues*, IMF Staff Country Report No. 97/82, October 1997; Trevor Alleyne, “Labor Legislation in South Africa,” *South Africa: Selected Issues*, IMF Staff Country Report No. 00/42, March 2000.

²⁸Trevor Alleyne and Arvind Subramanian, “What Does South Africa’s Pattern of Trade Say About Its Labor Market?” IMF Working Paper 01/148, 2001.

²⁹Fajgenbaum et al., “Accelerating Growth and Fiscal Policy,” n. 4 above.

³⁰Athanasios Arvanitis, “Determinants of Foreign Direct Investment in South Africa,” *South Africa: Selected Issues*, IMF Staff Country Report No. 03/18, January 2003.

³¹Markus Haacker, “The Economic Consequences of HIV/AIDS in Southern Africa,” IMF Working Paper 02/38, 2002.

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Third Annual IMF Research Conference

The Third Annual IMF Research Conference was held in Washington, DC, on November 7–8, 2002. The conference had an overarching theme of capital flows and global governance but also dealt with an eclectic array of other issues that economists at the IMF and elsewhere are exploring. The Mundell-Fleming Lecture was delivered by Guillermo Calvo, Chief Economist at the Inter-American Development Bank and a professor at the University of Maryland. The conference included a panel discussion on “Promoting Better National Institutions” with Guillermo Ortiz, Governor of the Bank of Mexico; Nancy Birdsall, President of the Center for Global Development; Jeffrey Frankel, Professor of Economics at Harvard University; and Jeffrey Sachs, Professor of Economics at Columbia University. The conference agenda and brief descriptions of the papers follow. All the conference papers and the full text of the panel discussion are available at the IMF’s website at www.imf.org/external/pubs/ft/staffp/2002/00–00/arc.htm.

Mundell-Fleming Lecture

Explaining Sudden Stop, Growth Collapse and BOP Crisis: The Case of Distortionary Output Taxes

Guillermo A. Calvo (*Inter-American Development Bank, University of Maryland, and NBER*)

This paper discusses a model in which growth discontinuously switches from high to low as the fiscal burden reaches a critical level. Growth collapse is associated with a sudden stop of capital inflows, real depreciation, and a drop in output—all of which have occurred during recent financial crises in emerging markets. An important policy implication of the model is that, to avoid sudden stop crises, policymakers should aim at improving fiscal institutions.

Papers

Towards a Statutory Approach to Sovereign Debt Restructuring: Lessons from Corporate Bankruptcy Practice Around the World

Patrick Bolton (*Princeton University*)

Discussant: Jeffrey Frankel (Harvard University)

This paper provides an overview of key elements of corporate bankruptcy codes and practice around the world that are relevant to the debate on sovereign debt restructuring. It highlights the main components common to most bankruptcy reorganization institutions. It argues that these components ought to be present in some form in any sovereign debt restructuring procedure even if important differences exist between corporations and sovereign states.

IS-LM-BP in the Pampas

Luis Felipe Céspedes (*IMF*), Roberto Chang (*Rutgers University*), and Andrés Velasco (*Harvard University*)

Discussant: Michael Devereux (*University of British Columbia*)

Emerging markets (sometimes endowed with fertile pampas) have limited access to world capital markets and suffer from “original sin”: they cannot borrow in their own currency. Does this mean that monetary and exchange rate policy has nonstandard effects in such countries? The authors develop a simple IS-LM-BP model with balance sheet effects to study that question. Their answer: it all depends.

Securities Transaction Taxes and Financial Markets

Karl Habermeier (*IMF*) and Andrei A. Kirilenko (*IMF*)

Discussant: Kristin Forbes (MIT)

This paper considers the impact of transaction taxes on financial markets, drawing on the literature on market microstructure, asset pricing, rational expectations, and international finance. The authors argue that securities transaction taxes “throw sand” not at the wheels, but into the engine of financial markets. Transaction taxes can have negative effects on price discovery, volatility, and liquidity and lead to a reduction in the informational efficiency of markets.

Financial Integration and Macroeconomic Volatility

M. Ayhan Kose (*IMF*), Eswar S. Prasad (*IMF*),

and Marco Terrones (*IMF*)

Discussant: Roberto Rigobon (MIT)

This paper examines how macroeconomic volatility depends on financial openness in a large group of industrial and developing economies over the period 1960–99. The authors find that the volatility of consumption growth relative to that of income growth has increased for more financially integrated developing economies in the 1990s. This effect is reversed when financial openness exceeds a threshold.

International Financial Integration

Philip R. Lane (*Trinity College, Dublin, and CEPR*) and Gian Maria Milesi-Ferretti (*IMF and CEPR*)

Discussant: Charles Engel (*University of Wisconsin*)

This paper describes the broad trends in international financial integration for a sample of industrial countries, and seeks to explain the cross-country and time-series variation in the size of international balance sheets. The authors also examine the behavior of the rates of return on foreign assets and liabilities, relating them to “market” returns.

Bond Restructuring and Moral Hazard: Are Collective Action Clauses Costly?

Torbjörn Becker (IMF), Anthony Richards (Reserve Bank of Australia), and Yunyong Thaicharoen (Bank of Thailand)
Discussant: Michael Mussa (Institute for International Economics)

Recent emerging market crises have prompted debate about the costs and benefits of collective action clauses (CACs) in bond contracts. Proponents of CACs argue that they should lower borrowing costs, while opponents contend that they should increase them. This paper finds no evidence that the presence of CACs has increased yields for either higher- or lower-rated issuers.

Keynes, Cocoa, and Copper: In Search of Commodity Currencies

Paul Cashin (IMF), Luis Céspedes (IMF), and Ratna Sahay (IMF)
Discussant: Paolo Pesenti (Federal Reserve Bank of New York)

This paper examines the behavior of the real exchange rate of commodity-exporting countries. The authors find a long-term relationship between the real exchange rate and the real price of the exported commodity for about two-fifths of the commodity-exporting countries in their sample. There is little evidence that these countries are reluctant to allow their real exchange rates to fluctuate, and the behavior of the real exchange rates of commodity currencies seems to be independent of the exchange rate regime.

Money in a Theory of Banking

Douglas W. Diamond (University of Chicago and NBER) and Raghuram G. Rajan (University of Chicago and NBER)
Discussant: Enrica Detragiache (IMF)

This paper introduces money in a model of banking to examine how open market operations can affect aggregate bank lending and output. The authors use the model to see how changes in money supply can create, alleviate, or be ineffective in banking crises.

Bubbles and Capital Flows

Jaume Ventura (CREI, Universitat Pompeu Fabra, and MIT)
Discussant: Robert Flood (IMF)

This paper presents a stylized model of international trade and asset price bubbles. Its central insight is that bubbles tend to appear and expand in countries where productivity is low relative to the rest of the world. The author attempts to provide a simple account of some real world phenomena that have been difficult to model so far, such as the recurrence and depth of financial crises or their puzzling tendency to propagate across countries.

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Journal Articles

Becker, Torbjorn; Gelos, Gaston R.; Richards, Anthony
Devaluation Expectations and the Stock Market: A New Measure and an Application to Mexico, 1994/95
International Journal of Finance and Economics

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International Finance

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Callen, Timothy; Cashin, Paul
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Journal of International Trade and Economic Development

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Quarterly Journal of Economics

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Monetary Disturbances Matter for Business Fluctuations in the G-7
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Cashin, Paul; Haque, Nadeem Ul; Olekalns, Nils
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Economic Record

Cashin, Paul; McDermott, John
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Open Economies Review

Cashin, Paul; McDermott, John; Alasdair, Scott
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Global Linkages Conference

Summary by Robin Brooks, Kristin Forbes, and Ashoka Mody

The Global Linkages Conference was held in Washington, DC, on January 30–31, 2003. The conference emerged from the concern that even though countries are becoming increasingly interconnected through trade and financial linkages, the impact of these linkages on the international transmission of economic shocks is not yet well understood. In particular, the implications of these linkages for comovement across national financial markets and for the synchronization of business cycles across countries are often ambiguous in theory. A key goal of the conference, therefore, was to establish a set of empirical, stylized facts about the implications of growing financial and real linkages for business cycles, financial markets, and government policy. The conference was attended by researchers from academia, IMF staff members, and policymakers from around the world. The discussants included Kathryn Dominguez (University of Michigan), Andy Rose (University of California, Berkeley), Andrew Ang (Columbia University Business School), Robert Flood (IMF), Steve Kamin (Federal Reserve Board), John Campbell (Harvard University), Sergio Schmukler (World Bank), Marianne Baxter (Boston University), David Backus (New York University), and Yishay Yafeh (Hebrew University). A selection of papers presented at the conference will be published in an upcoming symposium of *The Review of Economics and Statistics*.

The main findings of the conference can be summarized as follows. First, there is a positive and significant association between comovement across national stock markets and trade integration across countries, both at the firm level through international sales of businesses and at the macroeconomic level through bilateral trade links. More generally, there is a positive association between international stock market comovement and the degree to which markets are integrated. Second, at high frequency, regional financial centers and the global business cycle play an important role in the transmission of shocks to emerging markets. Third, long-run factors, such as convergence in the sectoral composition across countries, and financial innovations, such as cross-listings and ADRs, are playing an important role in the increasing synchronization of financial markets and real activity. A detailed summary of the conference as well as a general discussion of key issues, in addition to the papers, presentations, and the discussions, are available at the global linkages web page: <http://web.mit.edu/kjforbes/www/GL-Website/index.htm>. The list of conference papers follows:

Firm-Level Evidence on International Stock Market Comovement

Robin Brooks (IMF) and Marco Del Negro (Federal Reserve Bank of Atlanta)

A Decomposition of Global Linkages in Financial Markets over Time

Kristin Forbes (MIT) and Menzie Chinn (University of California, Santa Cruz)

The Center and the Periphery: The Globalization of Financial Turmoil

Graciela Kaminsky (George Washington University) and Carmen Reinhart (IMF)

U.S. Investors' Emerging Market Equity Portfolios: A Security-Level Analysis

Hali Edison (IMF) and Frank Warnock (Federal Reserve Board)

Are Daily Cross-Border Equity Flows Pushed or Pulled?

John Griffin (Arizona State University), Federico Nardari (Arizona State University), and René Stulz (Ohio State University)

Time Varying Synchronicity in Individual Stock Returns: A Cross-Country Comparison

Randall Morck (University of Alberta) and Bernard Yeung (New York University)

The Role of ADRs in the Development and Integration of Emerging Equity Markets

G. Andrew Karolyi (Ohio State University)

Trade, Finance, Specialization and Synchronization

Jean Imbs (London Business School)

Understanding the Evolution of World Business Cycles

M. Ayhan Kose (IMF), Christopher Otrok (University of Virginia), and Charles Whiteman (University of Iowa)

Long-Term Global Market Correlations

K. Geert Rouwenhorst (Yale University), William Goetzmann (Yale University), and Lingfeng Li (Yale University)

