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Research Summaries

Globalization and Macroeconomic Volatility

M. Ayhan Kose



The causes and consequences of macroeconomic volatility have received renewed attention because of the financial crises experienced by a number of developing countries over the past two decades. Such crises are, of course, extreme manifestations of macroeconomic volatility, but they have clearly highlighted its negative impact on economic growth and welfare. Many of these crises have been associated with the rapid opening up of some developing economies to global trade and financial flows—a phenomenon broadly referred to as globalization. This article briefly surveys recent IMF research on the effects of globalization on macroeconomic volatility.

Recent research has led to a dramatic shift in our understanding of the complex relationship between macroeconomic volatility and long-term economic performance. For example, during the 1980s, the impact of macroeconomic volatility on growth and welfare was generally believed to be minor at most. In contrast, research in the 1990s reached a strikingly different conclusion—that macroeconomic volatility may actually reduce long-term growth and could result in large welfare costs (Kose, 2005). *(continued on page 2)*

International Financial Integration and Domestic Financial Systems

Thierry Tresselt



Over the past decades, financial globalization has progressed in many countries, sometimes motivating bold statements in favor of or against integration of capital markets. A growing body of evidence shows that assessing the benefits of financial globalization requires a more precise understanding of the role of country-specific influences—in particular, the two-way interactions between the forces of integration, on the one hand, and domestic policies and institutions, on the other hand. This article reviews the most recent IMF research on the role of domestic financial institutions in helping countries realize the benefits of financial globalization.

Financial globalization has advanced at a solid pace over the past decades. Lane and Milesi-Ferretti (2006) have constructed a comprehensive database of external positions of nations, and of the composition of external assets and liabilities. They document the increasing importance *(continued on page 4)*



Globalization and Macroeconomic Volatility

(continued from page 1)

Although economic theory does not provide a clear guide to the effects of either trade or financial integration on volatility, recent research has documented substantial changes in the dynamics of macroeconomic volatility in developing countries over the past two decades, during which there has been a significant increase in international trade and financial flows. For example, there is strong evidence that increased trade linkages tend to exacerbate output volatility. Kose, Prasad, and Terrones (2003), using aggregate cross-country data, find that trade openness increases the volatility of output and consumption growth in developing economies. Di Giovanni and Levchenko (2006) employ an industry-level panel dataset and find that openness to trade results in higher sectoral volatility through its positive impact on specialization.

The effects of financial integration on macroeconomic volatility have been rather difficult to uncover. Kose, Prasad, and Terrones (2003) document a trend decline in average output volatility in industrial, emerging market, and low-income developing countries since the early 1980s. They also find, however, that the ratio of consumption growth volatility to income growth volatility increased during this period for emerging market economies. This result runs exactly counter to one of the presumed theoretical benefits of financial integration—that it allows countries to share income risk and smooth consumption. In addition, Kose, Prasad, and Terrones find that the relative volatility of consumption growth increases with the degree of financial openness, but only up to a certain threshold level of integration. Levchenko (2005) provides a dynamic general equilibrium model to explain the puzzling result about the positive association between financial integration and the volatility of consumption.

There has been an intensive debate about the role played by capital account liberalization in triggering financial crises. Has financial globalization, by itself, led to economic crises? A recent survey by Kose, Prasad, Rogoff, and Wei (2006) concludes that there is little empirical evidence to support the widely held view that capital account liberalization, by itself, increases vulnerability to crises. In fact, some of the studies they survey find that capital account openness reduces the probability of currency crises, while others report there is no systematic evidence that countries with higher capital mobility tend to have a higher incidence of crises.

Recent research has also analyzed the sources of volatility by employing a variety of econometric methods. For example, Satyanath and Subramanian (2004) find that democratic institutions have a strong and significant causal impact on macroeconomic stability using cross-section and panel regressions. Hakura (2005) estimates a dynamic

factor model to decompose the volatility of output growth into global, regional, and country-specific factors. She finds that country-specific factors play a more important role in explaining the volatility of output in developing countries than in industrialized economies. She also documents that a variety of factors—including financial sector development, terms of trade variation, and volatility of fiscal policy—play important roles in accounting for the country-specific component of output volatility in developing countries.

Recent financial crises in emerging market economies have often coincided with “sudden stops” of financial flows and resulted in highly volatile macroeconomic fluctuations. Recent studies analyze various aspects of sudden stops. For example, Levchenko and Mauro (2006) study the behavior of different types of financial flows during sudden stops and find that bank lending and official flows display sharp declines after sudden stops. Eichengreen, Gupta, and Mody (2006) argue that sudden stops are fewer and generally less costly when an IMF arrangement exists. Catão (2006) documents that recent sudden stops appear to have characteristics similar to those that occurred in the early financial globalization period before 1914. Mendoza (2006) reports that sudden stops can take place as endogenous responses to adverse shocks to fundamentals in dynamic stochastic general equilibrium models with credit constraints.

Several recent studies focus on the dynamics of volatility in Latin America—a region that has long suffered from chronically high volatility. Aiolfi, Catão, and Timmermann (2006), using a new set of business cycle indices, find that the average volatility was significantly higher in Argentina, Brazil, Chile, and Mexico than in industrial economies over the period 1870–2004. Sahay and Goyal (2006) document that macroeconomic outcomes and policies appeared to be more volatile in periods of relatively low growth in several Latin American countries. Singh (2006) concludes that although external shocks have played an important role, fiscal policy has been the primary factor accounting for the high volatility in the region. Kose, Rebucci, and Schipke (2005) argue that regional trade agreements, such as the North American Free Trade Agreement (NAFTA) and the Central America-Dominican Republic-United States Free Trade Agreement (CAFTA-DR), could help moderate the extent of volatility in the region by accelerating the diversification of the export base and by fostering intra-industry and vertical trade linkages with the United States.

While emerging market economies have faced high episodes of volatility on account of financial crises, they have also posted much better average growth rates than other developing countries during the period of globalization. Have increased trade and financial linkages changed the negative relationship between volatility and growth we have

discussed previously? Kose, Prasad, and Terrones (2005 and 2006) document that both trade and financial integration significantly weaken this negative relationship during the past two decades. Specifically, they find that the estimated coefficient on the interaction between volatility and trade integration is significantly positive in their regressions. They also find a similar, although less significant, result for the interaction of financial integration with volatility. In a related paper, Rancière, Tornell, and Westermann (2005) document that financial liberalization policies could increase leverage and investment growth. While this leads to higher growth, it could also be associated with a greater incidence of financial crises. Cerra and Saxena (2005) document a negative relationship between volatility and growth, since economic contractions are not followed by offsetting fast recoveries in most cases.

Finally, the design of policies to prevent financial crises has been a significant component of recent research efforts. Borensztein and others (2004) analyze how the debt structures of countries affect their vulnerability to crises. They argue that debt with different degrees of seniority and financial instruments with equity-like features could help reduce the risks associated with sovereign debt structures. Catão and Kapur (2006) find that while there is a positive association between volatility and debt accumulation, the ability of borrowing is limited by the higher default risk stemming from volatility. Becker and others (2006) document that while financial shocks are the underlying cause of output drops in emerging markets, real shocks, such as terms of trade fluctuations, appear to play an important role in developing countries. While their findings emphasize the importance of sound policies and strong institutions to mitigate the impact of negative external shocks, they also argue that underutilized financial instruments, including GDP growth-indexed bonds, could play a useful role in providing country insurance to cope with financial crises. In order to provide strong incentives for crisis prevention, Ostry and Zettelmeyer (2005) propose that a country's potential access to IMF credit lines be linked to the quality of the country's policies during noncrisis periods.

References

- Aiolfi, Marco, Luis Catão, and Allan Timmermann, 2006, "Common Factors in Latin America's Business Cycles," IMF Working Paper 06/49.
- Becker, Törbjörn, Olivier Jeanne, Paolo Mauro, Jonathan D. Ostry, and Romain Rancière, 2006, "Country Insurance: The Role of Domestic Policies" (unpublished; Washington: International Monetary Fund).
- Borensztein, Eduardo, Marcos Chamon, Olivier Jeanne, Paolo Mauro, and Jeromin Zettelmeyer, 2004, *Sovereign Debt Structure for Crisis Prevention*, IMF Occasional Paper No. 237 (Washington: International Monetary Fund).
- Catão, Luis, 2006, "Sudden Stops and Currency Drops: A Historical Look," IMF Working Paper 06/133.
- , and Sandeep Kapur, 2006, "Missing Link: Volatility and the Debt Intolerance Paradox," *Staff Papers*, International Monetary Fund, Vol. 53, No. 2, pp. 195–218.
- Cerra, Valerie, and Sweta Chaman Saxena, 2005, "Growth Dynamics: The Myth of Economic Recovery," IMF Working Paper 05/147.
- Di Giovanni, Julian, and Andrei Levchenko, 2006, "Trade Openness and Volatility" (unpublished; Washington: International Monetary Fund).
- Eichengreen, Barry, Poonam Gupta, and Ashoka Mody, 2006, "Sudden Stops and IMF-Supported Programs," IMF Working Paper 06/101.
- Hakura, Dalia, 2005, "Output Volatility in Emerging Market and Developing Countries," in *World Economic Outlook, April 2005* (Washington: International Monetary Fund), pp. 85–97.
- Kose, M. Ayhan, 2005, "Why Is Volatility Harmful?" Box 2.3 in *World Economic Outlook, April 2005* (Washington: International Monetary Fund), pp. 86–87.
- , Eswar S. Prasad, and Marco E. Terrones, 2003, "Financial Integration and Macroeconomic Volatility," *Staff Papers*, International Monetary Fund, Vol. 50, Special Issue, pp. 119–42.
- , 2005, "Growth and Volatility in an Era of Globalization," *Staff Papers*, International Monetary Fund, Vol. 52, Special Issue, pp. 31–63.
- , 2006, "How Do Trade and Financial Integration Affect the Relationship Between Growth and Volatility?" *Journal of International Economics*, Vol. 69, pp. 176–202.
- Kose, M. Ayhan, Eswar Prasad, Kenneth Rogoff, and Shang-Jin Wei, 2006, "Financial Globalization: A Reappraisal," IMF Working Paper 06/189.
- Kose, M. Ayhan, Alessandro Rebucci, and Alfred Schipke, 2005, "Macroeconomic Implications of CAFTA-DR," in *Central America Global Integration and Regional Cooperation*, ed. by Markus Rodlauer and Alfred Schipke, IMF Occasional Paper No. 243 (Washington: International Monetary Fund), pp. 7–40.
- Levchenko, Andrei, 2005, "Financial Liberalization and Consumption Volatility in Developing Countries," *Staff Papers*, International Monetary Fund, Vol. 52, No. 2, pp. 237–50.
- , and Paolo Mauro, 2006, "Do Some Forms of Financial Flows Help Protect from Sudden Stops?" IMF Working Paper 06/202.
- Mendoza, Enrique G., 2006, "Lessons from the Debt Deflation Theory of Sudden Stops," *American Economic Review: Papers and Proceedings*, Vol. 96, No. 2, pp. 411–16.
- Ostry, Jonathan D., and Jeromin Zettelmeyer, 2005, "Strengthening IMF Crisis Prevention," IMF Working Paper 05/206.
- Rancière, Romain, Aaron Tornell, and Frank Westermann, 2005, "Systemic Crises and Growth," NBER Working Paper No. 11076 (Cambridge, Massachusetts: National Bureau of Economic Research).
- Sahay, Ratna, and Rishi Goyal, 2006, "Volatility and Growth in Latin America: An Episodic Approach," IMF Working Paper 06/287.
- Satyanath, Shanker, and Arvind Subramanian, 2004, "What Determines Long-Run Macroeconomic Stability? Democratic Institutions," IMF Working Paper 04/215.
- Singh, Anoop, 2006, "Macroeconomic Volatility: The Policy Lessons from Latin America," IMF Working Paper 06/166.

International Financial Integration and Domestic Financial Systems *(continued from page 1)*

of equity financing and the improvement in the external position for emerging markets, and the differing pace of financial integration between advanced and developing economies.

In a recent paper, Gourinchas and Jeanne (2006a) argue that the permanent welfare gains from financial integration are rather limited for the typical emerging market country if one is guided only by the textbook neoclassical growth models. In particular, they are negligible relative to the domestic productivity takeoffs that have been observed in some of those countries over the past decades. This implies that most of the gains from financial integration are indirect and depend on the two-way interactions between financial globalization, on the one hand, and domestic policies and institutional structures, on the other hand. Gourinchas and Jeanne (2005) show, for example, that capital mobility can enhance the benefits of reforms but also facilitates self-fulfilling capital flight, which can destroy the political support for reform.

In their survey, Kose and others (2006) conclude that the growth and stability benefits of financial globalization are realized mainly through a broad set of “collateral benefits”—for example, financial market development, better institutions and governance, and macroeconomic discipline. They argue, however, that the macroeconomic gains are not fully evident in the short run and may be difficult to uncover in cross-country regressions, partly for methodological reasons. They also remark that benefits are likely to occur only in countries having reached sufficiently high levels of institutional development, including in their domestic financial markets.

It is now well established that the short-run effects of capital flows depend on domestic financial conditions. For example, in the worst-case scenario, a credit boom associated with a surge in capital flows precedes a sudden reversal that precipitates a credit crunch, which is followed by a fall in real credit to the private sector. (Demirgüç-Kunt and Detragiache (2005) summarize the literature on banking crises.) Rancière, Tornell, and Westermann (2005) find that countries that have experienced occasional financial crises have, on average, grown faster than countries with stable financial conditions. To explain this finding, they present a model in which systemic risk guarantees help relax borrowing constraints and increase investment, thus stimulating growth but also entailing a greater incidence of crises. These shocks are very costly, however: Becker and Mauro (2006) find that external financial shocks (“sudden stops”) have been the most costly for emerging markets (which

are the more financially integrated economies among non-industrialized countries). According to Levchenko and Mauro (2006), sudden stops in financial flows are driven mainly by bank lending flows and official flows.

Two recent theories try to explain why a fall in the cost of external finance (which could be driven by financial integration) can have unintended consequences through the domestic banking system. Dell’Ariccia and Marquez (2006) show that when a shock leads to greater access to credit markets, a lending boom can develop and lead to a deterioration of credit quality as banks reduce their screening standards. This results in more output but can also increase the probability of a banking crisis. In the model of Tressel and Verdier (2006), a reduction in the cost of external finance can induce collusion between domestic banks and firms, particularly in countries where connected lending is prevalent. In such countries with weak bank supervision, financial integration negatively affects productivity, output, and bank governance.

To improve the soundness of their banks, many developing countries have strengthened their bank supervision and regulation and have endorsed and tried to comply with the Basel Core Principles of good banking supervision and regulation. Recent research confirms that there is a strong and positive relationship between bank soundness and compliance with principles related to information provision, even after controlling for macroeconomic stability and the overall institutional quality (Demirgüç-Kunt, Detragiache, and Tressel (2006)).

Two new papers also identify long-run pathological patterns in capital flows. Gourinchas and Jeanne (2006b) explain that although the Lucas paradox can easily be solved by a combination of frictions on international capital markets and slow domestic productivity growth, there remains an even bigger puzzle: the *allocation* among developing countries of capital flows from rich countries is the opposite of the one predicted by standard textbook models: more capital seems to go to the countries that invest less and have lower marginal products of capital. They suggest two potential, non-mutually exclusive explanations for this puzzle: (1) “mercantilist” behaviors of fast-growing countries (export-led development strategies combined with undervalued real exchange rates), and (2) underdevelopment of the domestic financial system.

Similarly, Prasad, Rajan, and Subramanian (2006) find a positive correlation between current account surpluses and long-run growth in non-industrialized countries. In contrast, they find that growth and foreign financing were positively correlated in industrial countries, as predicted by

the theory. They argue that the behavior of savings is key to understanding this pattern of capital flows and could result from underdevelopment of the domestic financial sectors of developing countries. Another explanation is that manufacturing sectors geared toward export markets (an engine of growth) have been stronger in countries that avoided overvalued real exchange rates. A competitive real exchange rate, in turn, has been associated with smaller net inflows of foreign capital.

Ju and Wei (2006) offer a solution to two paradoxes: the Lucas paradox of “too little capital flows” and the paradox that according to a two-sector trade model with factor price equalization, cross-border capital flows should not occur. Their explanation is based on differences in the quality of financial systems and investor protection across countries, which can result simultaneously in South-North portfolio capital flows and North-South foreign direct investment (FDI).

Not all types of capital flows have been volatile in the short run, nor have they gone “upstream” in the long run. Gourinchas and Jeanne (2006b), as well as Prasad, Rajan, and Subramanian (2006), find that long-run FDI flows seem to be more consistent with the basic theory. They are also more stable in the short run, in particular during episodes of sudden stops (Levchenko and Mauro (2006)). Threshold effects, however, could matter for FDI as well: for example, Alfaro and others (2004) find that the growth impact of FDI is stronger in countries with well-developed financial sectors. A potential explanation is that the direct positive effects of FDI could be dampened in countries with weak bank governance by inducing more collusion between domestic banks and firms (Tressel and Verdier (2006)).

As a complement to capital mobility, institutional mobility can help maximize the gains from globalization. Indeed, many foreign banking institutions have opened branches or subsidiaries in developing countries to be able to reach local firms (Cerutti, Dell’Ariccia, and Martinez Peria (2006)). Foreign bank entry can bring many benefits to host countries: it can improve the efficiency of domestic banks by fostering competition, and it can help spread new technologies, better management techniques, and good governance practices. Foreign banks are also perceived as safer than private domestic banks, especially in times of economic difficulties. Unfortunately, there is no free lunch: Detragiache, Tressel, and Gupta (2006) find evidence that a larger foreign bank presence is associated with shallower banking systems in low-income countries, which is consistent with cream-skimming of the better firms by foreign banks. Tressel and Verdier (2006) show theoretically that competition by

foreign banks can induce better governance of the domestic banking system. But this prediction can be reversed in countries in which a large proportion of opaque firms are financed only by domestic banks.

References

- Alfaro, Laura, Areendam Chanda, Sebnem Kalemli-Ozcan, and Selin Sayek, 2004, “FDI and Economic Growth: The Role of Local Financial Markets,” *Journal of International Economics*, Vol. 64 (October), pp. 89–112.
- Becker, Törbjörn I., and Paolo Mauro, 2006, “Output Drops and the Shocks that Matter,” IMF Working Paper 06/172.
- Cerutti, Eugenio, Giovanni Dell’Ariccia, and Maria Soledad Martinez Peria, 2006, “How Banks Go Abroad: Branches or Subsidiaries?” forthcoming in the *Journal of Banking and Finance*.
- Dell’Ariccia, Giovanni, and Robert Marquez, 2006, “Lending Booms and Lending Standards” forthcoming in the *Journal of Finance*.
- Demirgüç-Kunt, Asli, and Enrica Detragiache, 2005, “Cross-Country Empirical Studies of Systemic Bank Distress: A Survey,” IMF Working Paper 05/96.
- , and Thierry Tressel, 2006, “Banking on the Principles: Compliance with Basel Core Principles and Bank Soundness,” IMF Working Paper 06/42.
- Detragiache, Enrica, Thierry Tressel, and Poonam Gupta, 2006, “Foreign Banks in Poor Countries: Theory and Evidence,” IMF Working Paper 06/18.
- Gourinchas, Pierre-Olivier, and Olivier Jeanne, 2005, “Capital Mobility and Reform,” paper presented at the IMF Sixth Jacques Polak Annual Research Conference, Washington.
- , 2006a, “The Elusive Gains from International Financial Integration,” *Review of Economic Studies*, Vol. 73 (July), pp. 715–41.
- , 2006b, “Capital Flows to Developing Countries” (unpublished; Washington: International Monetary Fund).
- Ju, Jiandong, and Shang-Jin Wei, 2006, “A Solution to Two Paradoxes of International Capital Flows,” IMF Working Paper 06/178.
- Kose, M. Ayhan, Eswar Prasad, Kenneth Rogoff, and Shang-Jin Wei, 2006, “Financial Globalization: A Reappraisal,” IMF Working Paper 06/189.
- Lane, Philip, and Gian Maria Milesi-Ferretti, 2006, “The External Wealth of Nations Mark II: Revised and Extended Estimates of Foreign Assets and Liabilities, 1970–2004,” IMF Working Paper 06/69.
- Levchenko, Andrei, and Paolo Mauro, 2006, “Do Some Forms of Financial Flow Help Protect from Sudden Stops” (unpublished; Washington: International Monetary Fund).
- Prasad, Eswar, Raghuram Rajan, and Arvind Subramanian, 2006, “Foreign Capital and Economic Growth” (unpublished; Washington: International Monetary Fund).
- Ranciére, Romain, Aaron Tornell, and Frank Westermann, 2005, “Systemic Crises and Growth” (unpublished; Washington: International Monetary Fund).
- Tressel, Thierry, and Thierry Verdier, 2006, “Financial Globalization and the Governance of Domestic Financial Intermediaries,” forthcoming as an IMF Working Paper.

Country Study

Germany

Stephan Danninger



The German economy is emerging from a decade-long adjustment process marked by high unemployment, rising fiscal deficits, and a bifurcation between a languishing domestic economy and an increasingly competitive external sector. This drawn-out and painful

process owes much to the costs associated with reunification in the early 1990s and the rigidities in various sectors of the economy that prevented a more rapid correction. IMF staff analysis has highlighted the roles of structural impediments in labor, product, and financial markets, and examined their repercussions for public finances and long-term sustainability in conjunction with pressures from population aging.

Germany's protracted, external-demand-led recovery since 2000 is symptomatic of the country's difficulties in adjusting to shocks. Odenius (2006b) takes stock of a number of possible explanations for an altered connection between exports and domestic demand. Since the early 1990s, Germany experienced a series of shocks: a wage blowout following unification, intensified competition from regional and global markets, and public sector adjustment to prepare for emerging costs of the country's aging population. This paper argues that a combination of factors—importantly rigidities in services and labor markets, and the need for fiscal adjustment—restrained domestic demand and employment growth, and led to protracted wage moderation. As a result, the traditional spillover from external demand to domestic activity took longer to occur than in previous cycles.

Sluggish growth is partly the result of inflexible labor markets. Analyzing wage regressions derived from a micro-panel dataset, Prasad (2004) shows that the German wage structure has been remarkably stable between and within skill groups despite important shifts in labor supply and demand. He attributes this rigidity to institutional factors and concludes that in the absence of relative price flexibility, labor markets have no alternative but to adjust by shedding labor. Economy-wide wage moderation, which was successful in creating employment in other countries coming into the 1990s, was undercut by the rapid wage convergence in the former East Germany following unification (Decressin and others, 2001). Productivity-adjusted labor costs declined gradually but from a high level, so that restoring price competitiveness required more time than in other countries.

Regulatory barriers also held back the domestic economy and employment. Berger and Danninger (2006b) argue that regulatory reforms lagged in key growth areas. Licensing

requirements and entry barriers in services markets and crafts favor incumbents and stifle productivity growth. In labor markets, employment protection legislation for full-time jobs remains among the strictest in the European Union (EU), although there has been some liberalization for temporary employment. Berger and Danninger (2006a) estimate that joint deregulation of labor and product markets could boost employment growth by up to 1 percentage point a year. Their findings also point to sizable benefits from coordinating structural reforms.

Germany's financial sector lacks dynamism and records lower productivity growth than in some comparator countries. German banks are less profitable, and the banking system is more fragmented, than in most European countries (Brunner and others, 2004). The performance of private banks lags that of their international peers, possibly owing to inadequate risk pricing and their insufficient involvement in high-value-added activities. The credit slowdown beginning in the late 1990s is therefore not only the result of low credit demand. Čihák (2006) presents evidence of a partial credit crunch exacerbated by regulatory barriers. He concludes that a greater degree of market-based restructuring and consolidation are needed to achieve more dynamism in the banking sector. Public sector ownership is still significant, and regional public banks (*Landesbanken*) have underperformed comparable banks. Čihák and Traa (2006) estimate that the opportunity cost of investing public capital in these banks was one-quarter of 1 percent of GDP annually since the early 1990s.

Political economy processes in Germany appear to be one reason why reforms have been implemented slowly. As Braumann and Decressin (2004) show, the consensus approach of the German political system influences the type and degree of reform. A political trade-off between structural and fiscal reform appears to prevent the implementation of broad-based and simultaneous reforms. Regression analysis of indicators of fiscal and structural reform shows that German governments with smaller majorities in the legislature pursued fewer fiscal and more structural reforms while the opposite was true of governments with larger majorities. Using a game-theoretic model for structural reform, Berger and Danninger (2006a) argue that a partial perspective of policymakers—who are focusing on either labor or product markets, rather than adopting a joint approach—may lead to suboptimal outcomes, because benefits from reform complementarities are not internalized.

With rather slow, policy-led adjustment, the parts of the private sector most exposed to competition—the tradables

sectors—responded and moved ahead on their own with strong cost cutting, including through offshoring of production activities. Odenius (2006a) shows that cost cutting has been a major avenue toward the achievement of adjustment and improved corporate profitability, while use of other avenues, such as increasing productivity and revenue growth domestically, was restricted by barriers to competition in the domestic sector. Danninger and Joutz (2007) explore adjustment in the export sector and examine how Germany, in these circumstances, was able to improve its export market share since 2000 relative to other industrial countries. By estimating an error-correction model for exports, they show that exporters not only benefited from long-standing trade relationships with fast-growing partners but also engaged in cost cutting by importing intermediate inputs and shifting labor-intensive production abroad.

In the public sector, fiscal adjustment was hampered by headwinds from slow growth. Braumann (2006a) decomposes the fiscal deficit into a policy and an economic component. His analysis shows that the structural weakening of the economic component was caused by erosion of Germany's main tax bases—wage income and household consumption—which complicated the government's substantial adjustment effort.

From a longer-term perspective, Germany's economic outlook is affected by declining labor input (hours worked), which is lowering potential growth at a faster rate than anticipated. Braumann (2006b) computes potential growth using a production-function approach and estimates it to be around 1.4 percent in this decade. Population aging will exert further pressures beginning in 2010 and is expected to slow down the annual growth potential to 1.0 percent over the following decade. Government policies aimed at improving labor utilization or increased productivity growth could help ease this constraint, but would still leave a challenging growth environment for policymaking.

In recent years, the German government has decisively reduced expenditure pressures exerted on public finances by the country's aging population that appear to have slowed growth as households have stepped up their own precautionary saving. Traa (2006) presents a first public sector balance sheet for Germany and tracks the impact of recent reforms on public sector net worth. Estimated public sector net worth is highly negative but has improved in recent years as pension, health, and welfare reforms have lowered future fiscal liabilities related to aging. In IMF (2006), these estimates were refined and show that the Grand Coalition's adjustment program from 2005 onward has further strengthened the public sector's net worth. Using the IMF's Global Fiscal Model, Botman and Danninger (2006) show that achieving structural balance by 2010 would significantly improve the public debt dynamics—thereby strengthening

confidence in the sustainability of the welfare state and the economic recovery. Long-term estimates on spending trajectories remain uncertain, however, and hence the adjustment requirement needs to be monitored continuously.

References

- Berger, H., and S. Danninger, 2006a, "The Employment Effects of Labor and Product Market Regulation," CESifo Working Paper No. 1709 (Munich: Center for Economic Studies and IFO Institute).
- , 2006b, "Does Excessive Regulation Impede Growth in Germany?" in *Germany: Selected Issues*, IMF Country Report 06/17.
- Botman, D., and S. Danninger, 2006, "Tax Reform and Debt Sustainability in German: An Assessment Using the Global Fiscal Model," in *Germany: Selected Issues*, IMF Country Report 06/436.
- Braumann, B., 2006a, "Why Is Germany's Deficit So Large?" in *Germany: Selected Issues*, IMF Country Report 06/17.
- , 2006b, "Long-Run Growth in Germany," in *Germany: Selected Issues*, IMF Country Report 06/17.
- , and J. Decressin, 2004, "Perspectives on Federalism and the Political Economy of Adjustment," in *Germany: Selected Issues*, IMF Country Report 04/340.
- Brunner, Allan, Jörg Decressin, Daniel Hardy, and Beata Kudela, 2004, *Germany's Three-Pillar Banking System: Cross-Country Perspectives in Europe*, IMF Occasional Paper No. 233 (Washington: International Monetary Fund).
- Čihák, M., 2006, "The German Banking Sector: Credit Decline, Soundness, and Efficiency," in *Germany: Selected Issues*, IMF Country Report 06/17.
- , and B. Traa, 2006, "Landesbanken: A Measure of the Costs for Taxpayers," in *Germany: Selected Issues*, IMF Country Report 06/436.
- Danninger, S., and F. Joutz, 2007, "What Explains Germany's Rebounding Export Market Share?" IMF Working Paper 07/24.
- Decressin, J., M. Estevão, P. Gerson, and C. Klingen, 2001, "Job-Rich Growth in Europe," in *Selected Euro-Area Countries: Rules-Based Fiscal Policy and Job-Rich Growth in France, Germany, Italy, and Spain—Report with Supplementary Information*, IMF Country Report 01/203.
- International Monetary Fund (IMF), 2006, *Germany: 2006 Article IV Consultation—Staff Report*, IMF Country Report 06/438.
- Odenius, J., 2006a, "The Performance of Germany's Nonfinancial Corporate Sector—An International Perspective," in *Germany: Selected Issues*, IMF Country Report 06/17.
- , 2006b, "Exports and Domestic Demand in Germany: Has the Nexus Been Altered by Globalization?" in *Germany: Selected Issues*, IMF Country Report 06/436.
- Prasad, E.S., 2004, "The Unbearable Stability of the German Wage Structure: Evidence and Interpretation," *Staff Papers*, International Monetary Fund, Vol. 51, No. 2, pp. 354–85.
- Traa, B., 2006, "A Preliminary Public Sector Balance Sheet for Germany," in *Germany: Selected Issues*, IMF Country Report 06/17.

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China and India—Learning from Each Other: Reforms and Policies for Sustained Growth

Edited by Jahangir Aziz, Steven Dunaway, and Eswar Prasad

International Monetary Fund, 2006, 298 pp., \$35.00 (paperbound)

China and India are the two fastest-growing emerging markets and among the three largest economies in Asia. These two countries are now having far-reaching effects on the global economy, including through their impact on world trade, their demand for energy and other commodities, and their huge accumulation of foreign currency reserves.

What does the future hold for these two giants? How can each continue to grow and develop in a sustainable way? And how will policies and reforms in each country serve to spread the benefits of recent economic gains among their respective populations?

This book attempts to address these questions and also brings together analysis and insights on how China and India have cooperated and learned from each other. It also shows what has (and what has not) worked in each country and offers some suggestions on how each may achieve long-term sustainable development.

The unique contribution of this book is that a majority of the chapters are written by policymakers and practitioners, thereby infusing the analytical material with a strong dose of pragmatism and policy relevance. For instance, Reserve Bank of India Deputy Governor Rakesh Mohan discusses how the forces of globalization can complicate the challenges facing monetary policymakers in emerging economies such as China and India. In his contribution, Governor Zhou Xiaochuan of the People’s Bank of China contrasts the growth of the services sector, including financial services, in China and India and discusses the importance (and difficulties) of developing this sector in China.

Section I covers banking sector reforms. Nachiket Mor, R. Chandrasekhar, and Diviya Wahi note that India’s banking sector performance has improved in many dimensions but further reforms are needed, including improvements in the financial services infrastructure, reductions in the cost of intermediation, and scaling up of banking services to provide broader access to financial services, especially in rural areas. Nicholas Hope and Fred Hu enumerate the priorities for Chinese banking reforms and provide an assessment of the role that foreign strategic investors could play in the reform process. Luo Ping compares the efficacy of the regulatory structures and reform processes in both countries and notes that the Indian experience may provide some useful lessons for Chinese policymakers.

Section II looks at the development of securities markets. In their papers, G.N. Bajpai and Narendra Jadhav catalogue the development of equity, corporate debt, and government securities markets in India and discuss how policy reforms have contributed to these outcomes. Xinghai Fang, Ti Liu, and Donghui Shi argue that opening up the Chinese securities industry to both internal and external competition could play a crucial role in enhancing its efficiency.

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Journal Articles

Aisen, Ari; Veiga, Francisco José

“Does Political Instability Lead to Higher Inflation? A Panel Data Analysis”

Journal of Money, Credit and Banking

Baldacci, Emanuele; Clements, Benedict; Gupta, Sanjeev; Mulas-Granados, Carlos

“The Phasing of Fiscal Adjustments: What Works in Emerging Market Economies?”

Review of Development Economics

Beetsma, Roel; Debrun, Xavier

“The New Stability and Growth Pact: A First Assessment”

European Economic Review

Berengaut, Julian; Elborgh-Woytek, Katrin

“Who Is Still Haunted by the Specter of Communism? Explaining Relative Output Contractions Under Transition”

Emerging Markets Finance and Trade

Broner, Fernando A.; Gelos, R. Gaston; Reinhart, Carmen M.

“When in Peril, Retrench: Testing the Portfolio Channel of Contagion”

Journal of International Economics

Carare, Alina; Stone, Mark

“Inflation Targeting Regimes”

European Economic Review

Delipalla, Sofia; Keen, Michael

“Product Quality and the Optimal Structure of Commodity Taxes”

Journal of Public Economic Theory

Gupta, Sanjeev; Pattillo, Catherine; Wagh, Smita

“Are Donor Countries Giving More or Less Aid?”

Review of Development Economics

Kandil, Magda

“The Asymmetric Effects of Aggregate Demand Shocks Across Industries of the United States: Evidence and Implications”

Eastern Economic Journal

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Journal of Economic Studies

Kandil, Magda

“The Wage-Spiral: International Evidence and Implications”

Journal of Economics and Business

Kandil, Magda; Bahmani, Mohsen

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“Changes in the Structure of Earnings During the Polish Transition”

Journal of Development Economics

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“How Do Trade and Financial Integration Affect the Relationship Between Growth and Volatility?”

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Macroeconomic Dynamics

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“Sources of Fluctuations: The Case of MENA”

Emerging Markets Finance and Trade

Rebucci, Alessandro; Rossi, Marco

“Measuring Disinflation Credibility in Emerging Markets: A Bayesian Approach with an Application to Turkey’s IMF-Supported Program”

Economics Bulletin

Other External Publications (Books, Conference Volumes, etc.)

Kandil, Magda

“On the Transmission of Exchange Rate Fluctuations to the Macroeconomy: Contrasting Evidence for Developing and Developed Countries”

Oxford Development Studies

Keen, Michael; Lighthart, Jenny

“Information Sharing and International Taxation: A Primer”

International Tax and Public Finance

Mauro, Paolo; Sussman, Nathan; Yafeh, Yishay

Emerging Markets and Financial Globalization: Sovereign Bond Spreads in 1870–1913 and Today (Oxford and New York: Oxford University Press)

Prasad, Eswar; Rajan, Raghuram

“Modernizing China’s Growth Paradigm”

American Economic Review, Papers and Proceedings

Strand, Jon; Mundaca, Gabriela

“Impacts of Macroeconomic Policies on the Environment, Resources, and Welfare in Developing Countries”

Economic Development and Environmental Sustainability: New Policy Options (Oxford and New York: Oxford University Press)

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China and India—Learning from Each Other

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Section III discusses the relationship between domestic financial development and international financial integration. Suman Bery and Kanhaiya Singh argue that although international financial integration has some risks, further integration could stimulate financial sector development and improve macroeconomic policy discipline in India. Eswar Prasad, Thomas Rumbaugh, and Qing Wang contend that although capital account liberalization could play an important role in China’s development, undertaking further liberalization *before* allowing for greater exchange rate flexibility could pose some risks.

Section IV examines a broader range of macroeconomic policies relevant for sustainable growth. Steven Dunaway and Annalisa Fedelino note that Chinese fiscal policy has been prudent in recent years, with low levels of fiscal deficits and debt (relative to GDP), and has been appropriately guided by a medium-term focus on fiscal consolidation to make room for financing contingent liabilities, including in the state-owned banking system, and rising spending pressures as the population ages. Arvinder Singh examines the factors behind, and the implications of, labor mobility in China and India.

The final section of the book evaluates the scope for further economic cooperation between China and India. Arvind Virmani argues that the bilateral trade potential is very high and discusses the main barriers to realizing this potential. Nalin Surie compares and contrasts the development models of China and India, picking out some important lessons from each country’s experience. He notes that both countries face similar socioeconomic challenges and that effective cooperation between them could have broader benefits for the Asia-Pacific region and the global economy.