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Research Summaries

Global Population Aging and Pension Reform

Mario Catalán

Recent IMF research examines the global macroeconomic challenges posed by population aging, including analyses of large and persistent shifts in capital flows, substantial fiscal challenges, and risks of increasing poverty among the elderly. IMF studies show that the stakes are high and instill a sense of urgency, and that prompt reforms can mitigate future risks.

The world's population will age substantially in coming decades, posing severe macroeconomic and fiscal challenges for advanced and developing economies. Recent IMF papers addressing these challenges can be grouped into four topic clusters focused on (1) aging and international capital flows; (2) fiscal challenges arising from aging; (3) pension reforms in advanced economies; and (4) pension reforms in developing economies.

The pace and timing of aging will vary across countries and regions. Aging is well advanced in Japan, Europe, and North America, but it lags behind by more than two decades in much of Asia and Latin America. *(continued on page 2)*

Seven Questions about Decoupling

M. Ayhan Kose

There has been an extensive debate about whether business cycles in emerging economies have been decoupling from fluctuations in industrial countries. In light of the results of some recent studies, this article provides brief answers to seven commonly asked questions surrounding this debate.

Question 1: Why has there been an intensive debate about decoupling in recent years?

Answer: The debate stems from some profound changes the global economy has witnessed over the past two decades. First, international trade and financial linkages have become much stronger. Second, emerging market economies have differentiated themselves from other developing countries by growing at an extraordinary pace while rapidly integrating into the global economy (Claessens and Kose, 2008; IMF, 2008a). With increasing economic clout and faster growth than in the major industrial economies, the emerging *(continued on page 4)*

Global Population Aging and Pension Reform

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Brooks (2003, 2005) and Batini, Callen, and McKibbin (2006) show that nonsyncronized demographic movements will cause large shifts in *international capital flows*. In the next decade, advanced economies will observe a surge in saving as large cohorts of workers prepare to retire, while investment will fall as workforces shrink. This will result in lower levels of growth, capital outflows to developing countries, and falling world real interest rates. Beyond 2020, current accounts in industrial countries will decline as baby boomers dissave in retirement. But world interest rates will continue to fall as population aging intensifies in Asia—particularly China. Policies that increase productivity growth can offset the demographic impact on world output, and improved capital market access for developing countries could facilitate global adjustment and mitigate the decline in world interest rates.

Fiscal challenges posed by population aging are also a major concern. How will the decline in world interest rates—associated with global aging—affect small and open economies whose populations are also aging? Catalán, Guajardo, and Hoffmaister (2008) show that aging-related fiscal pressures in small and open economies will be exacerbated as declines in world interest rates boost capital-labor ratios, and hence, wages and pension benefits. The pass-through effect of lower interest rates into pension benefits will be stronger if pensions are indexed to nominal wages rather than prices. And pension reforms, particularly those that shift indexation from wages to prices, can provide macro-insurance against long-run declines in world interest rates.

Widely used projections often involve extrapolating past macroeconomic trends in light of demographic movements. In this approach—followed notably by the European Commission's Aging Working Group—individual behavior is taken as independent of the changes in incentives associated with aging, pension reforms, and tax reforms needed to finance aging-related spending. All approaches have limitations, but only a general equilibrium analysis can account for important feedback effects, including the (endogenous) response of output, labor, capital accumulation, and the current account to aging and policy changes. Catalán, Guajardo, and Hoffmaister (2007) assess the impact of aging in the Spanish economy using an overlapping-generations model and find that aging-related fiscal pressures could be twice as large as those projected by the European Commission's working group. Also in a general equilibrium setting, Botman and Kumar (2007) evaluate the effects of prefunding aging-related spending in large and open economies. Prefunding has an adverse short-term growth effect, but reduces future tax increases and world real interest rates. Although individual economies benefit from delaying tax or spending adjustments and free-riding on fiscal consolidation elsewhere, all economies are worse off in a noncooperative outcome. Hence, there is scope for improving global welfare through international cooperation.

Regarding *pension reforms in advanced economies* with mature pay-as-you-go systems, Turner (2006) argues that the principle of proportionally rising retirement ages—to keep stable the proportion of a person's adult life spent working and in retirement—should be a central feature of reform to cope with increasing longevity. Declining fertility rates, however, require retirement ages that rise more than proportionally with rising life expectancy, large-scale immigration, higher levels of taxes and pension contributions, or significant falls in pensions relative to earnings.

"The pace and timing of aging will vary across countries and regions. Aging is well advanced in Japan, Europe, and North America, but it lags behind by more than two decades in much of Asia and Latin America."

Catalán, Guajardo, and Hoffmaister (2007) examine the effects of reducing the Spanish system's replacement ratio by extending the averaging period used to compute pension benefits. They show that this reform limits the increase in pension expenditure at the peak of the demographic transition as much as increasing the retirement age in line with life expectancy. Heller and Hauner (2005) argue that there is narrow scope for most governments to cut nonage-related spending or to increase taxes; hence, the focus must be on implementing structural pension and health care reforms.

IMF staff have also studied *pension reforms in developing countries*, with a focus on financial market development and coverage. Roldos (2007) shows that Latin American pension reforms from pay-as-you-go to fully funded systems based on individual accounts have contributed to the development of government bond markets, but regulatory investment limits have at times distorted the prices of domestic securities. Results are also somewhat disappointing in terms of coverage ratios, which remain far from levels of member countries of the Organization for Economic Cooperation and Development. Other areas of concern are the high administrative costs—account and management fees—and the low replacement rates associated with the new systems. Catalán (2004) criticizes the Latin American capital markets development strategy based on pension reforms combined with tight capital controls restricting the international diversification of pension fund assets.[1] This strategy can be called, paradoxically, "financial repression-for-financial development" because future pensioners are financially repressed while corporations, the government, and banks have access to a low-cost and captive source of funds that spurs the development of local bond and stock markets. The drawbacks of this strategy could be avoided by (gradual) elimination of pension-fund-specific capital controls. Also, one could ask why workers should pay for the cost of local capital markets development. Even if market failures would justify the imposition of capital controls, these controls should be broad-based.

Large emerging market economies, including China and India, have also introduced pension reforms in recent years. India launched reforms in 2004 shifting central government employees from a noncontributory defined benefit scheme to a defined contribution plan, and allowing voluntary participation of nongovernment workers. Poirson (2007) asks whether these reforms could stimulate financial market development. She argues that financial development may be thwarted by the absence of minimum pension guarantees—participants may opt for highly conservative asset allocations—and the optional participation of nongovernment workers, which may prevent the achievement of critical mass needed to exploit economies of scale in the financial system.

In aging China, the risk of a widespread increase in old-age poverty is higher than in aging developed countries because of China's lower income per capita. Dunaway and Arora (2007) call for further and faster pension reforms. A reform initiated in 1997 to provide coverage to the entire urban population is ongoing, but progress has so far been slow: less than half of urban workers and only 12 percent of rural workers have pension coverage. The need to expand coverage and increase the retirement age is pressing, but the transition costs associated with the old regime have distracted attention from these objectives. Also, geographical discrepancies in key pension parameters have emerged from the decentralized approach to reform, and Dunaway and Arora recommend steps toward nationwide consolidation.

Heller (2006) shows that similar risks loom for other Asian economies. In contrast to industrial countries, where elderly dependency ratios will start rising sharply around 2010, in Asian countries they will do so only after 2030. By the time these ratios start rising in Malaysia and the Philippines, income per capita will be less than two-thirds of the current EU-6 level; in China and India, income per capita will be about 40 and 20 percent of the current EU-6 level, respectively. This implies that Asian countries will get old before they get rich. Sustaining strong growth will not be sufficient to avert the risk of increasing old-age poverty, and younger generations will need to support the elderly. Facing this challenge would mean expanding the coverage of pension systems and improving health care so that individuals can work longer. Also, financial sector reform would allow greater productivity to be achieved on savings accumulated for retirement.

References

Batini, Nicoletta, Tim Callen, and Warwick McKibbin, 2006, "The Global Impact of Demographic Change," IMF Working Paper 06/9.

Botman, Dennis and Manmohan Kumar, 2007, "Global Aging Pressures: Impact of Fiscal Adjustment, Policy Cooperation, and Structural Reforms," IMF Working Paper 07/196.

Brooks, Robin, 2003, "Population Aging and Global Capital Flows in a Parallel Universe," *IMF Staff Papers*, Vol. 50, No 2.

———, 2005, "Population Aging and International Capital Flows," *IMF Research Bulletin,* Vol. 6, No 3.

Catalán, Mario, 2004, "Pension Funds and Corporate Governance in Developing Countries: What Do We Know and What Do We Need to Know?" *Journal of Pension Economics and Finance*, Vol. 3, No. 2.

———, Jaime Guajardo, and Alexander Hoffmaister, 2007, "Coping with Spain's Aging: Retirement Rules and Incentives," IMF Working Paper 07/122.

———, 2008, "Global Aging and Declining World Interest Rates: Macroeconomic Insurance through Pension Reform in Cyprus," IMF Working Paper 08/98.

Dunaway, Steven, and Vivek Arora, 2007, "Pension Reform in China: The Need for a New Approach," IMF Working Paper 07/109.

Heller, Peter, 2006, "Is Asia Prepared for an Aging Population?" IMF Working Paper 06/272.

———, and David Hauner, 2005, "Characterizing the Expenditure Uncertainties of Industrial Countries in the 21st Century," IMF Working Paper 05/91.

Poirson, Helen, 2007, "Financial Market Implications of India's Pension Reform," IMF Working Paper 07/85.

Roldos, Jorge, 2007, "Pension Reform and Macroeconomic Stability in Latin America," IMF Working Paper 07/108.

Turner, Adair, 2006, "Pension Challenges in an Aging World," *Finance and Development*, Vol. 43, No. 3.

[1]Although foreign investment limits in Latin America have been rising over time, they remain extremely low—20 percent in Argentina, Colombia, and Mexico; 40 percent in Chile; and 10 percent in Peru. In El Salvador and Uruguay, pension funds are not allowed to invest abroad. In Brazil—where pension fund investment is optional—the foreign investment limit is about 3 percent. It is often argued that controls are needed as the funded system matures to secure demand for public debt issued to finance pension payments of the old pay-as-you-go system. This argument treads water: only a fraction of the captive pension funds are invested in government debt. As of 2007, the share of government debt in pension fund portfolios was 50.9 percent in Argentina; 14.5 percent in Brazil; 9.2 percent in Chile; 46.6 percent in Colombia; and 70 percent in Mexico.

Seven Questions about Decoupling

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markets have become major contributors to world growth. These changes have prompted questions about the relevance of the conventional wisdom that when the U.S. economy sneezes, the rest of the world catches a cold. That wisdom is coming into question especially because emerging market growth has continued to be strong in recent years despite relatively tepid growth in the United States and some other major industrial countries. These developments have led to a fierce discussion about whether emerging markets have been "decoupling" from industrial economies, in the sense that their business cycle dynamics are no longer tightly linked to industrial country business cycles.

Question 2: What does economic theory suggest about this debate?

Answer: The decoupling debate centers around the impact of globalization on the synchronization of business cycles. However, economic theory provides ambiguous predictions on how globalization affects the strength of cyclical linkages across nations. On the one hand, the closer economic linkages among the emerging markets and industrial countries have the potential to tie their business cycles more closely together (Kose, Otrok, and Whiteman, 2008). If this is the case, the forces of globalization in recent decades would be expected to lead to a convergence of business-cycle fluctuations. On the other hand, the fact that emerging markets have themselves become engines of global growth suggests that developments in the United States and other industrial countries can now have smaller spillover effects on the growth dynamics of emerging markets. This implies that business cycles in emerging markets can diverge (or decouple) from macroeconomic fluctuations in the United States and other industrial countries. These are both plausible theoretical arguments suggesting that this debate can only be settled by empirical studies.

Question 3: Is it possible to observe both convergence and decoupling in a highly integrated world economy?

Answer: To answer this question, recent empirical research utilizes the data of a large number of countries over a fairly long time period. For example, Kose, Otrok, and Prasad (2008) study the evolution of the degree of global cyclical interdependence over 1960–2005. They categorize the 106 countries in their sample into three groups—industrial countries, emerging markets, and other developing economies. Using a dynamic factor model, they then decompose macroeconomic fluctuations in key macroeconomic aggregates—output, consumption, and investment—into global, group-specific, and country-specific factors. The global factor represents fluctuations that are common to all countries and all three variables in each country. The group-specific factor captures fluctuations that are common to a particular group of countries. The country-specific factor accounts for the fluctuations that are common across all three variables in a given country but that are specific to that country.

They report that, during the period of globalization (1985–2005), there was some convergence of business-cycle fluctuations among the group of industrial economies and among the group of emerging market economies. Surprisingly, there has been a concomitant decline in the relative importance of the global factor. In other words, there is evidence of business cycle convergence *within* each of these two groups of countries but divergence (or decoupling) *between* them.

Question 4: How can these findings be explained?

Answer: These results are driven by the changing nature of shocks and international linkages over the past two decades. There were a number of large global shocks from 1960–84, including the two oil shocks and the synchronized disinflationary episode of the early 1980s. But from the mid-1980s onward (globalization period), there have been fewer large common shocks, and their role in explaining international business-cycle fluctuations has declined. These developments have led to a decline in the importance of the global factor in accounting for business cycles.

At the same time, intra-group trade and financial linkages among industrial countries and emerging markets have risen rapidly, especially after the mid-1980s (Akin and Kose, 2008). Moreover, during the period of globalization, the countries in these two groups have increased the pace of diversification of their industrial (and trade) bases. This has been accompanied by a greater degree of sectoral similarity across countries within each group. With these changes, intra-group spillovers have begun to contribute more to concurrent cyclical fluctuations than common disturbances. These changes have been associated with a notable increase in the roles played by group-specific factors for the groups of industrial and emerging market economies. Using a panel regression model, Akin and Kose (2008) also find that the impact of economic developments in industrial countries on the growth dynamics of emerging markets has declined during the globalization period.

Question 5: What are the implications of these findings for the decoupling debate?

Answer: These findings suggest the need for a nuanced approach to this debate. Contrary to the convergence hypothesis, rising trade and financial integration are not necessarily associated with a global convergence of business cycles, as evidenced by the decline in the importance of the global factor. But there is indeed some evidence of convergence at a different level. Greater economic integration among industrial countries and among emerging market economies has been associated with the emergence of group-specific cycles.

However, these results do not imply a blanket endorsement of the decoupling view. In particular, the secular changes documented above apply to a large set of industrial countries, not just the United States. Moreover, adverse developments in the U.S. economy can have a significant impact on emerging markets in the presence of certain nonlinearities involving the amplitude of business cycles. For example, IMF (2007) documents that a deep and protracted U.S. recession can have much larger spillovers than a mild and short one.

In addition, these results address the potency of linkages through real macroeconomic aggregates, but do not account for financial ones. In other words, these findings do not speak to the possibility of financial decoupling (or lack thereof). The turmoil in global financial markets in the past year has clearly shown that, in an age of closely linked financial markets, a prolonged period of financial decoupling is highly unlikely.

Question 6: What do we know about the decoupling potential of different regions?

Answer: The studies summarized above primarily focus on the interactions between emerging markets and industrial countries. Recent research has also examined whether certain regions are better positioned to decouple from a recession in the United States. The potential of Asia, in particular, has been studied in detail mainly because of the strong growth performance of some of the Asian emerging market economies in recent years (ADB, 2007; He, Cheung and Chang, 2007; IMF 2008b). Some studies emphasize the rapid expansion of trade and financial linkages between the United States and the Asian emerging markets and, using a variety of methodologies, conclude that the U.S. slowdown could have a substantial impact on these economies (IMF, 2008b). However, others argue that while the impact of a slowdown in the U.S. economy would be relatively small on the growth dynamics in the Asian emerging markets, it could have a much larger impact if the slowdown translates into a recession and leads to severe dislocations in global financial markets (Park, 2007).

Another line of study has focused on the transmission of spillovers from the United States to its partners in the North American Free Trade Agreement (Canada and Mexico) and to Latin American countries (Roache, 2008). Swiston and Bayoumi (2008) report that business cycle fluctuations in Canada and Mexico have over time become more sensitive to developments in the United States, implying that it is hard to make a strong case for these economies to decouple from a potential recession in their large neighbor.

Ilahi and Shendy (2008) study the intra-regional growth linkages among the major oil exporters of the Gulf Cooperation Council (GCC) and eight countries in the Middle East. They document that growth in the Middle East has been associated with remittance outflows from and the accumulation of financial surpluses in the GCC. These findings suggest that the growth impact of industrial countries is relatively smaller for the developing countries of this region. One interpretation of these results is that the Middle Eastern countries in their sample appear to be better positioned to decouple from business cycles in the United States.

Question 7: Is it correct to claim that the decoupling debate is a new one for the new century?

Answer: Not necessarily. This can be seen as an extension of an old debate about the dependency of developing countries on developed economies, a topic which has been extensively studied by development economists over the years (Akin and Kose, 2008). For example, in his 1979 Nobel Prize lecture, Sir Arthur Lewis stated: "For the past hundred years the rate of growth of output in the developing world has depended on the rate of growth of output in the developed world. When the developed world grow fast the developing world grow fast, when the developed slow down, the developing slow down. Is this linkage inevitable?" (Lewis, 1992)

In a sense, the decoupling debate is about the same question Lewis asked almost 30 years ago. Although the debate appears to be an old one, the topic itself promises to be fertile ground for research because of the dramatic changes in the global economy during the past two decades. As a result of these changes, the nature of economic interactions between industrial economies and emerging markets has evolved from one of dependence to multidimensional interdependence. Understanding the implications of these changes is important for the design of macroeconomic policies and theoretical models.

References

Akin, Cigdem and M. Ayhan Kose, 2008, "Changing Nature of North-South Linkages: Stylized Facts and Explanations," *Journal of Asian Economics*, Vol. 19, No. 1, pp. 1–28.

Asian Development Bank (ADB), 2007, "Uncoupling Asia: Myth and Reality." In *Asian Development Outlook* (Hong Kong: Oxford University Press).

Claessens Stijn, and M. Ayhan Kose, 2008, "Emerging Markets: On the Verge of a New Era?" In *Euromoney Emerging Markets Handbook, 2008/9* (Bedfordshire, UK: Euromoney Institutional Investor PLC).

He, Dong, Lillian Cheung, and Jian Chang, 2007, "Sense and Nonsense on Asia's Export Dependency and the Decoupling Thesis," Hong Kong Monetary Authority Research Memorandum 06/2007.

Ilahi, Nadeem, and Riham Shendy, 2008, "Do the Gulf Oil-Producing Countries Influence Regional Growth? The Impact of Financial and Remittance Flows," IMF Working Paper 08/167.

International Monetary Fund (IMF), 2007, "Decoupling the Train? Spillovers and Cycles in the Global Economy." In *World Economic Outlook, April 2007* (Washington: International Monetary Fund).

———, 2008a, "Global Prospects and Policies." In *World Economic Outlook, October 2008* (Washington: International Monetary Fund).

———, 2008b, "Can Asia Decouple? Investigating Spillovers from the United States on Asia?" In *Regional Economic Outlook: Asia and Pacific, April 2008* (Washington: International Monetary Fund).

Kose, M. Ayhan, Christopher Otrok, and Eswar Prasad, 2008, "Global Business Cycles: Convergence or Decoupling?" Iza Discussion Papers 3442, Institute for the Study of Labor (IZA).

Kose, M. Ayhan, Christopher Otrok, and Charles Whiteman, 2008, "Understanding the Evolution of World Business Cycles," *Journal of International Economics* Vol. 75, No. 1, pp. 110–30.

Lewis, Arthur, 1992, "The Slowing Down of the Engine of Growth," 1979 Nobel Prize Lecture. In *Nobel Lectures-Economics 1969-1980*, ed. by Assar Lindbeck (Singapore: World Scientific Publishing).

Park, Cyn-Young, 2007, "Can East Asia Weather a U.S. Slowdown?' Asian Development Bank Economics and Research Department ERD Working Paper No. 95.

Roache, Shaun, 2008, "Central America's Regional Trends and U.S. Cycles," IMF Working Paper 08/50.

Swiston, Andrew and Tamim Bayoumi, 2008, "Spillovers Across NAFTA," IMF Working Paper 08/3.

Recent External Publications by IMF Staff

Journal Articles

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"What Drives Credit Dollarization in Transition Economies?"
Journal of Banking & Finance

Apergis, Nicholas; Lyroudi, Katerina; Vamvakidis, Athanasios
"The Relationship Between Foreign Direct Investment and Economic Growth: Evidence from Transition Countries"
Transition Studies Review

Bonato, Leo
"Money and Inflation in the Islamic Republic of Iran"
Review of Middle East Economics and Finance

Bulíř, Aleš; Hurnik, Jaromir
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"Tied to the Mast? National Fiscal Rules in the European Union"
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"Old-Age Benefits and Retirement Decisions of Rural Elderly in Brazil"
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"The 35-Hour Workweek in France: Straightjacket or Welfare Improvement"
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Applied Financial Economics

Worrell, DeLisle; Craigwell, Roland
"The Competitiveness of Selected Caribbean Tourism Markets"
Social and Economic Studies

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

Chan-Lau, Jorge A.
"Anticipating Credit Events Using Credit Default Swaps"
Credit Risk: Models, Derivatives, and Management—A Volume in Quantitative Finance (Boca Raton, FL: Chapman & Hall/CRC, Taylor & Francis Group, LLC)

Chan-Lau, Jorge A.; Yinqiu
"Systematic and Idiosyncratic Risk in CDO Tranches"
The Credit Derivatives Handbook (New York: McGraw Hill)

Chan-Lau, Jorge A.; Santos, Andrâe
"The Asset-Liability Management Compound Option Model: A Public Debt Management Tool"
Handbook of Value-at-Risk (New York: Bloomberg Press)

González-Hermosillo, Brenda; Li, Jenny
"A Banking Firm Model: The Role of Market, Liquidity and Credit Risks"
Computational Methods in Financial Engineering (Berlin, Heidelberg: Springer-Verlag)

Country Study

United States

Koshy Mathai

With the U.S. economy now in a slump driven by the housing downturn and the credit crisis it spawned, IMF staff working on the United States have focused their recent research efforts on housing, financial sector issues, and macrofinancial linkages. Earlier, considerable attention was devoted to international spillovers and global imbalances, fiscal challenges, and monetary policy. This article provides a brief guide to these analyses, which have provided the underpinnings to the IMF staff's policy line during annual Article IV consultations with the United States.

Gyrations in the housing market have often been tied to the broader business cycle, with the current episode in the United States a particularly notable example. Bubbles are often alleged, but assessing the equilibrium level of house prices is difficult. Updating and extending work originally done by Mühleisen and Kaufman (2003), Klyuev (2008) finds that prices are some 11 to 12 percent overvalued and are not closely anchored to fundamentals, implying that the housing cycle is likely to last some time and that prices could well undershoot equilibrium.

The United States is currently going through its first major nationwide housing downturn since the Great Depression, and there is thus little historical precedent for what the implications will be for the economy at large. Analysis in the April 2003 *World Economic Oulook* found that, in other industrial countries, housing busts have typically been associated with long recessions, as hits to bank and household balance sheets were only slowly resolved (IMF, 2003). This international evidence for a prolonged slowdown is further supported in Estevão and Barrera's (2008) work on regional housing cycles in the United States; they find that parts of the country experiencing housing busts—such as New England or California in the early 1990s—have typically suffered unusually long downturns even when controlling for reverse causation.

Three other papers examine the role of housing finance. Schnure (2005) describes an evolution from local-bank-based mortgages to nationwide funding based on securitization. He runs house price regressions over different time periods and regions of the country to establish that pricing errors declined as mortgage finance developed. Mühleisen (2006) examines how U.S. mortgage-backed securities have become a globally attractive asset and discusses whether foreign capital inflows helped to create a housing bubble. Kiff and Mills (2007) pay special attention to the subprime mortgage market that was at the heart of the current crisis, tracing the market's development, examining why it got into trouble, and assessing the impact of the crisis on financial institutions and households. The authors conclude with a discussion of risk management and consumer protection in the "originate-to-distribute" model, as well as possible policy responses.

Broader financial issues are covered in several other papers. Bhatia (2007) provides an overview of the new financial landscape, with a "core" of heavily regulated institutions—depositories, government-sponsored enterprises, and major broker-dealers—surrounded by an increasingly important, but lightly regulated, "periphery." Bhatia describes and motivates the U.S. regulatory philosophy—which is to focus on cases of systemic importance and those in which moral hazard is particularly important, while leaving financial innovation relatively unconstrained elsewhere—and provides some suggestions on regulatory policy going forward.

Empirical analyses of financial risks are developed in De Nicoló and others (2004), who focus on the 20 biggest of the "large complex banking groups" (LCBGs). They find that systemic vulnerability may have increased over time, suggesting the need for regulatory surveillance not only of individual LCBGs, but also of the system as a whole, a theme Bhatia (2006) picks up in his analysis of financial innovation and systemic risk in the U.S. banking sector.

In the same vein, Capuano and Segoviano (2008) analyze the extent to which bank default risks are interlinked. The authors quantify default dependence among the major commercial and investment banks and assess how it varies over time. The key result is that interconnections rise at the very time that individual defaults become more likely—in other words, financial turmoil increases systemic risks even more than risks to individual institutions.

Recent analysis by the IMF's U.S. team has also quantified macrofinancial linkages to examine the link between tighter financial conditions and growth. Using vector autoregressions (VARs), Swiston (2008) estimates impulse responses from financial variables—including, importantly, bank lending standards—to growth, in order to build up a financial conditions index (FCI). The FCI suggests that macrofinancial linkages are large but occur with some lag, implying that recently observed financial turmoil could lower growth by some 1 to 2 percent over the next two years. In a complementary paper, Bayoumi and Melander (2008) take a more structural approach, estimating a series of equations tracing out the impact of changes in bank capital on credit extension, then on spending, income, and back again on bank capital. Through this very different approach, the authors derive similar estimates of the likely growth impact of recently observed financial shocks.

Another strand of the team's research has examined external spillovers as well as risks from the external deficit. On spillovers, Bayoumi and Swiston (2007a) assess the size, direction, and channels of international growth links. They run VARs of quarterly growth in four regions—the United States, the euro area, Japan, and a diverse group of small, industrial countries whose very diversity suggests that shocks affecting all of them can proxy well for global shocks. The VAR results suggest that shocks to U.S. activity affect the rest of the world—and largely through financial, as opposed to trade, channels—while shocks elsewhere have little impact on the United States. Bayoumi and Swiston (2007b) pick up on this work by using data from inflation-indexed bonds to examine international spillovers of real interest rates and inflation expectations. The authors find that U.S. bond markets drive world bond markets, and that real interest rates are much more linked than inflation expectations. Some earlier papers also examined spillovers, with Kose (2003a) documenting the growth in linkages between the United States and the rest of the G-7 and suggesting that global factors have become increasingly important in driving business cycles, and Cardarelli and Kose (2003) performing simulations suggesting that increased U.S. budget deficits would not only slow long-run domestic growth through crowding out, but also raise *global* interest rates and slow activity elsewhere as well.

It should come as no surprise that the U.S. team has also devoted considerable research effort to analyzing current account sustainability. Balakrishnan, Bayoumi, and Tulin (2007) examine alternative explanations for the easy financing of the U.S. current account deficit. The authors highlight the importance of declining home bias and financial deepening in other industrial countries, and conclude that the key issue is the degree to which these are likely to continue. Swiston (2005) comes at the same question by focusing on the U.S. net international investment position (NIIP). He finds that global portfolios do not appear to hold excessive amounts of U.S. assets, suggesting that continued U.S. borrowing will be possible, but cautions that the NIIP is weaker than would be expected and deteriorating rapidly. Finally, Kumhof, Laxton, and Muir (2005) use the IMF's Global Fiscal Model to conclude that fiscal tightening would lead to a substantial improvement in the current account while also—as suggested by Cardarelli and Kose (2003)—lowering global interest rates.

Finally, a number of papers have examined trade issues, with Justiniano and Krajnyak (2005) looking at the rapid decline of the U.S. trade balance, Hilaire (2003) discussing the U.S. emphasis on regional and bilateral trading arrangements, Kose (2003b) focusing on the North American Free Trade Agreement in particular, and Alexandraki (2004) analyzing U.S.-China trade.

With all the attention paid to problems in the housing and financial sectors, as well as to global imbalances, it may be easy to forget the severe fiscal challenges facing the United States, but these remain very real, and a number of staff papers have focused on these issues. Bayoumi, Botman, and Kumar (2005) use the IMF's Global Fiscal Model to analyze the effects of various Social Security and tax reforms, concluding that personal retirement accounts are unlikely to be helpful in macroeconomic terms and that lowering taxes on investment income would be beneficial, but only if done in a revenue-neutral manner. Ivaschenko (2005) hones in on the key driver of long-term spending pressures—namely, rising medical costs—and presents cross-country analysis showing precisely how much of an outlier the United States is in terms of health expenditure, without matching benefits in outcomes. Bayoumi and Gonçalves (2007) look at the historical growth of government over the past half-century and see no evidence that "starving the beast" is likely to work, while Kumhof, Laxton, and Leigh (forthcoming) supplement this with some Global Integrated Monetary and Fiscal Model simulations. Rial and Gorter (2007) report on a pilot study to implement the IMF's *Government Finance Statistics Manual 2001* methodology in the United States.

Nearer-term fiscal issues have also caught the attention of IMF researchers. Swiston, Mühleisen, and Mathai (2007) construct a data set of tax revenues adjusted for changes in tax law and then perform econometric analyses showing that recent buoyancy was explained largely by capital gains and corporate profits. Mühleisen and Swiston (2004) analyze tax and spending options to meet the current adminstration's deficit target, while Swiston (2004) describes the spread of the alternative minimum tax and possible policy solutions. Finally, Ivaschenko (2003) examines fiscal problems at the state and local levels and analyzes their likely impact on growth.

Other papers have focused on monetary policy and communications. Rabanal (2004) contrasts the simple policy rules studied by academics with the more nuanced descriptions (e.g., the "risk management approach") used by central bankers. He estimates a policy rule with time-varying parameters and finds that the Fed operates differently depending on where the economy is in the business cycle. Kişinbay, Rogers, and Stone (2005) consider the pros and cons of the Fed's adopting an explicit inflation objective, concluding that such a move would indeed be helpful for long-term expectations and near-term policy transparency, and would not make it substantially more difficult to achieve output/employment goals.

While the papers described above span the major themes of study over the past few years, research has also been conducted on a variety of other topics, including household savings, labor markets, energy policy, and the effects of the information technology revolution.

References

Alexandraki, Katerina, 2004, "U.S. Trade with China: Trends and Policies," *United States: Selected Issues*, IMF Staff Country Report 04/228.

Balakrishnan, Ravi, Tamim Bayoumi, and Volodymyr Tulin, 2007, "Globalization, Gluts, Innovation, or Irrationality: What Explains the Easy Financing of the U.S. Current Account Deficit?" IMF Working Paper 07/160.

Bayoumi, Tamim, and Fernando Gonçalves, 2007, "Government for the People: On the Determinants of the Size of U.S. Government," IMF Working Paper 07/289.

Bayoumi, Tamim, and Ola Melander, 2008, "Credit Matters: Empirical Evidence on U.S. Macro-Financial Linkages," IMF Working Paper 08/169.

Bayoumi, Tamim, and Andrew Swiston, 2007a, "Foreign Entanglements: Measuring the Size and Source of Spillovers Across Industrial Countries," IMF Working Paper 07/182.

———, 2007b, "Ties that Bind: Measuring International Bond Spillovers Using Inflation-Indexed Bond Yields," IMF Working Paper 07/128.

Bayoumi, Tamim, Dennis Botman, and Manmohan Kumar, 2005, "Effects of Social Security and Tax Reform in the United States," *United States: Selected Issues*, IMF Staff Country Report 05/258.

Bhatia, Ashok, 2006, "U.S. Banking: Financial Innovation and Systemic Risk," *United States: Selected Issues*, IMF Staff Country Report 06/278.

———, 2007, "New Landscape, New Challenges: Structural Change and Regulation in the U.S. Financial Sector," *United States: Selected Issues*, IMF Staff Country Report 07/265.

Capuano, Christian, and Miguel Segoviano, 2008, "Analyzing the Sources of (In)stability in the U.S. Banking Sector," *United States: Selected Issues*, IMF Staff Country Report 08/217.

Cardarelli, Roberto, and Ayhan Kose, 2003, "Domestic and International Impact of U.S. Budget Policies," *United States: Selected Issues*, IMF Staff Country Report 03/245.

De Nicoló, Gianni, and others, 2004, "U.S. Large Complex Banking Groups: Business Strategies, Risks, and Surveillance Issues," *United States: Selected Issues*, IMF Staff Country Report 04/228.

Estevão, Marcello, and Natalia Barrera, 2008, "House Prices and Regional Cycles in the United States," *United States: Selected Issues*, IMF Staff Country Report 08/217.

Hilaire, Alvin, 2003, "The United States and the New Regionalism/Bilateralism," *United States: Selected Issues*, IMF Staff Country Report 03/245.

International Monetary Fund (IMF), *World Economic Outlook April 2003,* Chapter II (Washington, IMF).

Ivaschenko, Iryna, 2003, "Budget Crisis of State and Local Governments in the United States: Will It Hinder Economic Growth?" *United States: Selected Issues*, IMF Staff Country Report 03/245.

———, 2005, "Diagnosing the High Cost of U.S. Medical Care," *United States: Selected Issues*, IMF Staff Country Report 05/258.

Justiniano, Alejandro, and Kornelia Krajnyak, 2005, "Why Has the U.S. Trade Balance Widened So Fast?" *United States: Selected Issues*, IMF Staff Country Report 05/258.

Kiff, John, and Paul Mills, 2007, "Money for Nothing and Checks for Free: Recent Developments in U.S. Subprime Mortgage Markets," *United States: Selected Issues*, IMF Staff Country Report 07/265.

Kişinbay, Turgut, Scott Rogers, and Mark Stone, 2005, "Should the Fed Adopt an Explicit Inflation Objective?" *United States: Selected Issues*, IMF Staff Country Report 05/258.

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Kose, Ayhan, 2003a, "Globalization and Business Cycles in the United States," *United States: Selected Issues*, IMF Staff Country Report 03/245.

———, 2003b, "Economic Integration in the Americas: Lessons from NAFTA," *United States: Selected Issues*, IMF Staff Country Report 03/245.

Kumhof, Michael, Douglas Laxton, and Dirk Muir (with assistance from Susanna Mursula), 2005, "Consequences of Fiscal Consolidation for the U.S. Current Account," *United States: Selected Issues*, IMF Staff Country Report 05/258.

Kumhof, Michael, Douglas Laxton, and Daniel Leigh, forthcoming, "To Starve or Not to Starve the Beast," IMF Working Paper.

Mühleisen, Martin, 2006, "The Attractiveness of U.S. Financial Markets: The Example of Mortgage Securitization," *United Sates: Selected Issues*, IMF Staff Country Report 06/278.

———, and Martin Kaufman, 2003, "Are U.S. House Prices Overvalued?" *United States: Selected Issues*, IMF Staff Country Report 03/245.

Mühleisen, Martin, and Andrew Swiston, 2004, "United States: Perspectives on Fiscal Consolidation," *United States: Selected Issues*, IMF Staff Country Report 04/228.

Rabanal, Pau, 2004, "Monetary Policy Over the U.S. Cycle," *United States: Selected Issues*, IMF Staff Country Report 04/228.

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———, 2005, "A Global View of the U.S. Investment Position," *United States: Selected Issues*, IMF Staff Country Report 05/258.

———, 2008, "A U.S. Financial Conditions Index: Putting Credit Where Credit is Due," IMF Working Paper 08/161.

———, Martin Mühleisen, and Koshy Mathai, 2007, "U.S. Revenue Surprises: Are Happy Days Here to Stay?" United States: Selected Issues, IMF Staff Country Report 07/265.

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