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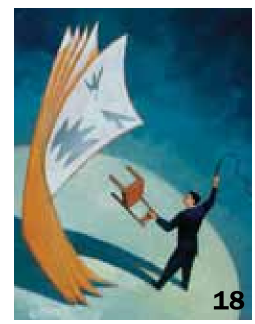
FEATURES

EMERGING MARKETS' PLACE AT THE TABLE

ALSO IN THIS ISSUE



Emerging markets driving the recovery

MAJOR emerging markets have exited from the global economic crisis in the driver's seat. They are gaining in strength and prominence and helping the world recover from the recession that plagued advanced economies along with everyone else.

This issue of *F&D* looks at the growing role of the emerging markets. Analysis by the IMF's Ayhan Kose and Eswar Prasad, professor of trade policy at Cornell University, argues that their economic ascendance will enable emerging markets, such as Brazil, China, India, and Russia, to play a more significant part in global economic governance and take on more responsibility for economic and financial stability. And Vivek Arora and Athanasios Vamvakidis measure how China's economy is increasingly affecting the rest of the world.

Emerging markets are already highly influential in the Group of Twenty (G-20) leading economies and their added weight is being reflected at the International Monetary Fund, where the Executive Board has approved a set of measures to give them more influence in running the 187-member organization.

In addition, this issue of *F&D* examines a variety of topics as the world struggles to shake off the crisis. Alan Blinder and Mark Zandi look at the positive effects of stimulus in the United States. Without it, they say, the United States would still be in recession. IMF researchers look at how countries can get debt under control. Other articles examine the human costs of unemployment, how inequality can lead over time to financial crisis, and what changes in the way banks do business could mean for the financial system.

Two articles examine Islamic banking, which was put to the test during the global crisis and proved its mettle, while in our section on *Faces of the Crisis Revisited*, we continue to track how the recession affected several individuals around the world.

Finally, our profile of Princeton economic theorist Avinash Dixit contains some good advice—be prudent in good times. "The lesson that really should be learned, and I'm afraid will never be learned, is that the time for fiscal prudence is when times are good. That's when governments should be running substantial surpluses, so that when crises or a recession hit, they're able to spend freely without worrying so much about debt."

Jeremy Clift
Editor-in-Chief

DEPARTMENTS

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Fun

Jeremy Clift profiles economic theorist **Avinash Dixit**

> "Victory awaits him who has everything in order—luck, people call it. Defeat is certain for him who has neglected to take the necessary precautions in time; this is called bad luck."
>
> —from *The South Pole,* by Roald Amundsen

IT may seem strange that Avinash Dixit, who grew up in the tropical heat of India, has a shelf in his living room of neatly arranged books on icebound Antarctic expeditions. But the owlish Princeton University professor has a simple explanation: "They're ideal for illustrating game theory strategies. Almost always an expedition had a fatal flaw that guaranteed defeat compared with the rival that succeeded.

"The Brits, for example, thought they knew it all, and had nothing to learn from anyone else," he said, while slicing sandwiches for lunch in his sparsely equipped kitchen. "Scott of the Antarctic, for example, thought that the hierarchical structure of the British Navy was the right way to organize his team, when a more open participatory organization would have been better for his small group's fateful attempt to reach the South Pole."

Dixit, who compares academic research to rock climbing—it's "the breathtaking view from the top" that makes it all worthwhile—is a passionate advocate of game theory and argues it has become part of the basic framework of economics.

He was drawn to it when he discovered *The Strategy of Conflict* by Thomas Schelling, one of the pioneers of the study of bargaining. "That, to me, made game theory come alive," said Dixit, in an interview at his Princeton, New Jersey, townhouse. "As Schelling says, 'When two trucks carrying dynamite meet on a single-lane road, who backs up?'"

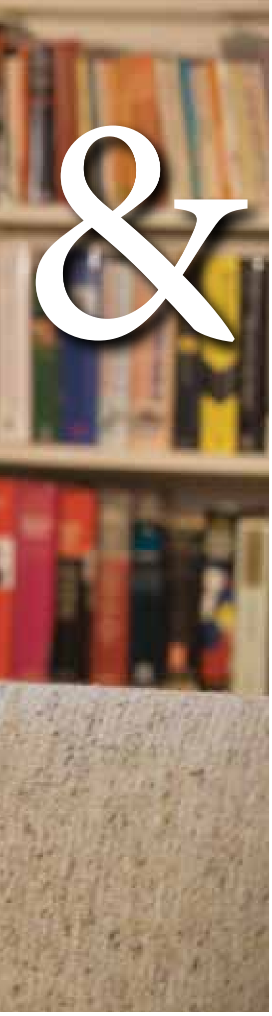
Making learning fun

Teaching game theory, he insists, must be fun—he has won awards for his teaching prowess—and he tries to illustrate key concepts with tales from films, books, and real life.

Dani Rodrik, professor of international political economy at Harvard, says Dixit was the best classroom teacher he ever had—he never treated anything as silly or obvious. "No matter how stupid a question seemed, he would stop, raise his hand to his chin, narrow his eyes, and think a long time about it, while the rest of us in the classroom would roll our eyes at the stupidity of the questioner," said Rodrik. "Then he would say, "Ah, I see what you have in mind . . . ," and he would roll out an answer to a deep and interesting question the student had no idea he had asked."

"What makes him special," says former student Kala Krishna, now an economics professor at Penn State, "is that more than anyone else I know, he sees economics as an inescapable part of life: from books, movies, negotiating with a taxi driver—everything has economic content. He truly loves economics, and you can see how much he is enjoying himself doing it."

Others praise his wit. "Avinash Dixit is one of my favorite economists, in part because he has a trait that is extremely rare among economists: a good sense of humor," said Steven



& Games

D. Levitt, coauthor of the best-selling book *Freakonomics*.

Dixit, who received his doctorate from the Massachusetts Institute of Technology (MIT), taught in Princeton's economics department from 1981 to 2010. He attained recognition early on for his work with Joseph Stiglitz on imperfect markets and what is referred to by economists as monopolistic competition. This concept offers an intermediate theoretical ground between pure monopoly, in which one firm controls the market, and perfect competition, in which there are so many competitors none has any market power.

He is also famous for his textbook on trade with Norwegian economist Victor Norman, *The Theory of International Trade*, which was enormously influential, and his work on oligopoly and industrial organization.

Path-breaking model

What became known as the "Dixit-Stiglitz" model underpins a huge body of economic theory on international trade, economic growth, and economic geography—a model tapped by Paul Krugman, who won the Nobel Prize in 2008.

The model, first published in 1977, became a building block for others in the new fields of endogenous growth theory and regional and urban economics—what journalist David Warsh described as "one of those economical and easy-to-use 'Volkswagen' models that were the hallmark of MIT" (Warsh, 2006).

Monopolistic competition was pioneered by Joan Robinson and Edward Chamberlin in the 1930s and was the stuff of basic economics for years. But Stiglitz—who went on to win a Nobel Prize in 2001 for his work with Michael Spence and George Akerlof on the analysis of markets with asymmetric information—and Dixit took it to a new level.

"The success of the Dixit-Stiglitz model of monopolistic competition might have come as a surprise to students of the history of economic thought, as it was by no means the first attempt to deal with imperfect markets or monopolistic competition," said Steven Brakman and Ben Heijdra in a book analyzing what they termed a revolution in the analysis of imperfect competition.

"However, where the earlier attempts failed, the Dixit-Stiglitz approach turned out to be very successful and has the potential for 'classic status.' "

Huge impact

The theory of monopolistic competition shook up modern trade theory, which Oxford economist Peter Neary attributed to "one factor above all others": the development of the "elegant and parsimonious" model by Dixit and Stiglitz.

The duo applied their innovation only to the classic question in industrial organization of whether monopolistically competitive industries would yield an optimal level of product diversity. But within a few years, many were applying the approach to international trade.

Dixit admitted to Warsh that he hadn't foreseen the wide applications of the model. "Joe and I knew that we were doing something in building a tractable general equilibrium model with imperfect competition, but we didn't recognize that it would have so many uses—obviously; otherwise we would have written all those subsequent papers ourselves!"

Masahisa Fujita, Krugman, and Anthony Venables rave in their book, *The Spatial Economy*, about the model's adaptability in the field of economic geography. "In short, Dixit-Stiglitz lets us have our cake in discrete lumps while doing calculus on it, too."

Wide-ranging work

By his own admission, Dixit is somewhat haphazard and opportunistic about his research interests and focus. "I have always worked on the next problem that grabbed my interest, and tackled it using whatever approaches and techniques seemed suitable, never giving a thought to how it might fit into an overall world-view or methodology," Dixit wrote in *Passion and Craft: Economists at Work,* edited by Michael Szenberg (see Box 1).

Barry Nalebuff, coauthor with Dixit of the popular book on game theory *Thinking Strategically*, jokes that Dixit was

Box 1

Being twenty-three

"Of all the lessons I have learnt during a quarter-century of research," writes Dixit, "the one I have found most valuable is always to work as if one were still twenty-three. From such a young perspective, I find it difficult to give advice to anyone."

Dixit, who likes popular science and engineering books, says he pretends to have a perpetually youthful mind so as not to be confined by his field and the "distilled wisdom of a middle-aged has-been."

Research may seem frustrating and daunting to outsiders, but he delights in it. "For me, it is the mental equivalent of free-climbing a new rock face, using only hands and feet for the ascent, or even free solo climbing, without any ropes, pitons, or harnesses to protect one if one falls."

the human prototype for Wikipedia, the online encyclopedia. "Then and now, no matter what part of economics, he was able to answer your question, and push it further."

Dixit also wrote the introductory textbook *Games of Strategy* with Susan Skeath, a former student and now professor at Wellesley College. John Nash, the founder of modern game theory and Nobel Prize–winner portrayed in the film *A Beautiful Mind*, is a friend and occasional lunch or beer companion.

Apart from game theory and his eponymous model, Dixit is known for seminal work on microeconomic theory, international trade and growth, and development. But his varied interests have moved him to write extensively about governance, the role of institutions, law, and democracy in development, and political polarization. He says his most cited work is *Investment under Uncertainty*, written in 1994 with Robert Pindyck of MIT, about how firms make investment choices.

That book points out the inherent irreversibility of most business investment decisions. Dixit and Pindyck suggest a way to deal with the risks posed by irreversibility: wait before acting. Waiting is valuable because with time comes additional information whose value would be lost had the irreversible decision already been made.

Dixit has advocated the same approach in other fields, and it is at the heart of a paper based on an episode of the popular TV show *Seinfeld*, in which a young woman must make decisions about using her finite supply of contraceptive sponges (see Box 2).

Dixit, who was president of the Econometric Society in 2001 and the American Economic Association in 2008, has taught at several U.S. and U.K. universities and had stints at the International Monetary Fund and New York's Russell Sage Foundation, which is dedicated to research in the social sciences.

From mathematics to economics

Dixit didn't start out in economics. His bachelor's degree from Bombay University is in mathematics and physics; he earned another bachelor's in mathematics from Cambridge University. He credits a professor at his Cambridge college, Corpus Christi, for setting him on his new path by suggesting he read Paul Samuelson's *Foundations of Economic Analysis* and Gérard Debreu's *Theory of Value.*

When he arrived at MIT in 1965, he was interested in economics but formally a master's student in the operations research department. "They sent me to see Frank Fisher for advice on what economics courses to take. He heard my story and said, 'Operations research is boring; it's just all algorithms. Come and join the economics Ph.D. program.'"

Although Dixit professes that his primary interest is in "the ideas, not the people," he goes out of his way to pay tribute to the ideas and research of others, in particular fellow MIT economist and *New York Times* columnist Krugman, and Samuelson, the first U.S. economist to win a Nobel Prize, who Dixit says taught him the unity of economics as a subject.

"From his own work and his teaching, I realized that all the 'fields' into which economics is conventionally divided are intricately linked pieces of one big puzzle, with a common framework of concepts and methods of analysis—choice, equilibrium, and dynamics."

Time of turmoil

Dixit calls himself a theorist, "albeit of a relatively applied kind." He started his research career in 1968, when the academic world of Europe and the United States was in turmoil. Dixit says the prevailing atmosphere was decidedly left-wing and anti-establishment, and research almost had to be "relevant." In this climate, topics such as the problems of less-developed countries, urban areas, and the environment reigned.

"Looking back on those years, much of the 'relevant' research in economics left little lasting mark on the subject. Problems of less-developed countries and urban areas proved so political that good economic advice would have achieved nothing even if we had been able to give it," Dixit said in "My System of Work (Not!)," an article he wrote in 1994.

"No, the topics that proved to have lasting value in economics were quite different—for example the theory of rational expectations, the role of information and incentives, and later in this period, game theory. In the early 1970s much of this work seemed abstract and irrelevant and would have been called politically incorrect had that phrase existed in those days."

Dixit's work with Victor Norman on international trade changed how people think about factor price equalization analysis—which looks at how free trade in commodities affects factor prices such as wages and interest rates—and most who studied international trade in the 1980s and 1990s acknowledge its influence.

He also brought sophisticated ideas from game theory to the study of industrial organization. His work on investment and entry deterrence looked at incumbent firms' strategic buildup of excess capacity as a way to protect their monopoly by scaring off new entrants to the market.

What drives development?

Dixit has spent the past decade watching what drives economic development, including governance and institutions, and has studied fragile states—poor countries recovering from conflict or disasters. "Governance was neglected by economists for a long time, perhaps because they expected the government to

Box 2

The hidden model

In an episode of the television sitcom *Seinfeld*, Elaine Benes's favorite contraceptive sponge is taken off the market. She scours pharmacies to stock up, but her supply is now finite, so she must "reevaluate her whole screening process." Every time she dates a new man, she has to consider whether he is "spongeworthy."

When Elaine uses a sponge, Dixit says, she is forfeiting the option to have it available when an even better man comes along. He developed a mathematical model to quantify this concept of spongeworthiness many years ago, but kept quiet because it seemed inappropriate at the time. "I hope that my advanced age now exempts me from the constraints of political correctness," Dixit wrote after retiring from teaching earlier this year.

provide it efficiently. However, experience with less developed and reforming economies, and observations from economic history, have led economists to study non-governmental institutions of governance," he says (Dixit, 2008).

To this he brings his habitual skepticism.

While Dixit acknowledges the importance of democracy, property rights, contract enforcement, and the provision of public infrastructure and services that support private economic activity, he is scathing about attempts to draw up a menu of items that underpin development in low-income countries.

"There's a long, long tradition of people offering recipes which don't work out," he says. He stirred things up with a lecture at the World Bank in 2005 that he said he hoped would be provocative and critical, but "evenhandedly so."

In many cases, he argued in that lecture, the accumulated research on the role of institutions in development stopped short of giving useful or reliable policy prescriptions. "I hope to give everyone some incentives to think further and harder."

In a subsequent talk at the Reserve Bank of India (Dixit, 2007), he said that in general "bottom-up and organically generated reforms will work better than imposed top-down ones."

The World Bank's Philip Keefer, who was Dixit's respondent at the 2005 lecture, said the Princeton professor was right to be skeptical, but "big ideas" could help guide a country's reform agenda.

To work effectively, Dixit said, change must be coordinated and take place across several fronts. "The one recipe that works is what I call 'strategic complementarities.' That is, if 15 things need to be done, doing 3 of them is not going to get you 20 percent of the way there. It's going to get you much less. You'll need to get all 15, or at least 13 or 12, right before you start to see any big effect. So that's one thing, strategic complementarities, and the second is luck.

"Napoleon supposedly said that the quality he most admired in his generals was luck, and the same goes for governments and countries."

Economics and the crisis

Dixit, recently retired from full-time teaching at Princeton, rejects the agonizing of some chastened economists following the global economic crisis. He says they are wrong to blame the "dismal science."

"Actually, I think that economic theory came out of this rather better than policy practice did. . . . Economic theory and economic analysis based on pretty standard theories told everybody that the situation was unsustainable, that there was going to be a house price bust sometime. The timing is always unpredictable, but pretty much everybody knew that things were going to go bad.

"But what we were not able to predict is the quantitative magnitude of it—how far, for example, house prices would fall. And secondly, we were not able to recognize how big an effect the financial crisis would have on the real economy."

In light of the crisis, how should economic research adapt?

"Going forward, I think some of the most fruitful research will come from a better integration of financial theory and macroeconomic theory. It may be supplemented by better recognition of rare major events, something that already exists in financial theory, but is less assimilated into financial practice than it should be.

"But the real fault was not so much in economic theory as, if you like, in the political and business world, where people actually swallowed some of the simplistic views about the wonder of markets too much without recognizing the hundreds of qualifications that Adam Smith and a number of others have told us about, and we should all have known about."

Crises won't go away

Dixit, now a visiting professor for part of the year at Hong Kong's Lingnan University, says the biggest message to take on board is that crises are not going to go away.

"We shouldn't think they have been abolished," Dixit said. "Thinking that we have abolished them is an illusion and perhaps a dangerous illusion, because if you think you have abolished crises, your policymakers, business people, consumers, et cetera, will behave in more reckless ways and thereby make crises more likely."

He advises prudence in good times. "The lesson that really should be learned, and I'm afraid will never be learned, is that the time for fiscal prudence is when times are good. "That's when governments should be running substantial surpluses, so that when crises or a recession hit, they can spend freely without worrying about debt.

"Unfortunately, the reason the lesson will never be learned is that good economic times are especially conducive to the illusion that bad times will never return." ■

Jeremy Clift is Editor-in-Chief of Finance & Development.

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Emerging

Markets Come of Age

M. Ayhan Kose and Eswar S. Prasad

THE superlative performance of emerging market economies, a group of middle-income countries that have become rapidly integrated into global markets since the mid-1980s, has been the growth story of the past decade. After being beset by various crises during the 1980s and 1990s, emerging markets came into their own during the 2000s, recording remarkable growth rates while keeping inflation and other potential problems largely under control.

Before the global financial crisis of 2008–09, there was a growing sense among investors and policymakers that emerging economies, with their new economic might, had become more resilient to shocks originating in advanced economies. Indeed, empirical evidence indicates that over the past two decades there has been a convergence of business cycles among emerging markets and a convergence among advanced economies, but a gradual divergence of cycles *between* the two groups—referred to as decoupling. Fluctuations in *financial markets* have become more correlated across these two sets of countries, but that has not translated into greater spillovers into the *real economy,* which produces goods and services.

Yet the global financial crisis seemed to put to rest such notions of decoupling. It cast a shadow over the ability of emerging markets to insulate themselves from developments in advanced economies. Still, once the worst of the crisis began to wear off, it became apparent that as a group emerging economies had weathered the global recession better than advanced economies. In many emerging markets, growth rates have bounced back briskly during the past year, and as a group these economies seem poised to record high growth over the next few years (see Chart 1).

This is not to say that all emerging economies did equally well during the global recession. There is significant variation in the degree of resilience they displayed during the financial crisis. And therein lie some important lessons regarding the future growth paths of these economies and the issues they might face.

As emerging markets grow, they will continue to gain importance in the world economy. That economic ascendance will enable them to play a more significant role in improving global economic governance, so long as they employ good policies and intensify reforms that contributed to their resilience during the global recession. All told, emerging markets are in control of their own destiny.

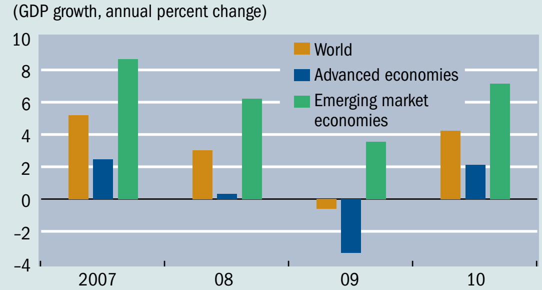
These vibrant middle-income countries survived the global recession, but face bumps as they seek to solidify their place in the world economy

Chart 1

Bouncing back

Emerging markets survived the Great Recession better and recovered from it faster than advanced economies.

(GDP growth, annual percent change)



Source: Authors' calculations.
Note: Data for 2010 are based on forecasts in the IMF's *World Economic Outlook* (October 2010). Growth calculations use real GDP growth rates for each country and are weighted by purchasing power parity.

Changing drivers of global growth

The past five decades have witnessed substantial changes in the distribution of world gross domestic product (GDP) across different groups of economies. During 1960–85, advanced economies on average accounted for about three-quarters of global GDP measured in current dollars adjusted for differences in purchasing power parity across countries. This share has declined gradually over time—by 2008–09, it was down to 57 percent. In contrast, emerging markets' share has risen steadily from just about 17 percent in the 1960s to an average of 31 percent during the period of rapid global trade and financial integration that started in the mid-1980s. By 2008–09, it was close to 40 percent (see Chart 2).

The rising importance of emerging markets becomes even more apparent when their contribution to world output growth is considered.

During 1973–85, advanced economies accounted for about 60 percent of the 3.4 percent annual world GDP growth. Emerging markets contributed a third (the remainder is accounted for by other developing economies). Growth of world GDP averaged 3.7 percent a year during the period of globalization—1986–2007—and the contribution of emerging markets grew to about 47 percent. Advanced economies' share fell to about 49 percent.

During the two years of the financial crisis there was a stunning shift in these relative contributions. Emerging markets became the lone engine of world GDP growth during 2008–09, while advanced economies experienced a deep contraction. The direct contribution of emerging markets to global growth has continued to increase over time and was further accentuated during the financial crisis, while the reverse has been true for advanced economies.

Diverging performance

Although emerging economies as a group performed well during the global recession of 2009, there were sharp differences among them and across regions. The economies of emerging Asia had the most favorable outcomes, surviving the ravages of the global crisis with relatively modest declines in growth rates. China and India, the two largest economies in emerging Asia, maintained strong growth during the crisis and played an important role in the region's overall record. When India and China are excluded, emerging Asia's overall performance is less impressive (see table).

While emerging Asia did well, emerging Europe performed poorly and had the sharpest fall in total output during 2009. Latin America was also hit hard. Both regions suffered because of their ties to advanced economies. But many of the emerging economies in Latin America bounced back relatively strongly—in contrast to earlier episodes of global financial turbulence, during which Latin American economies proved vulnerable to massive currency and debt crises.

The emerging economies of the Middle East and North Africa (MENA) region as well as those of sub-Saharan Africa weathered the crisis better than Latin America, with only small declines in output. The reason for the relatively good performance of sub-Saharan African and MENA countries may be their modest exposure to trade and financial flows from advanced economies—which limited the extent of spillovers of the global shock.

Why the resilience?

Many factors account for the relative resilience of emerging markets, as a group, during the global financial crisis. Some relate to policy choices made by these countries, while others are associated with underlying structural changes in their economies. These factors also help explain differences in degrees of resilience across different groups of emerging market economies.

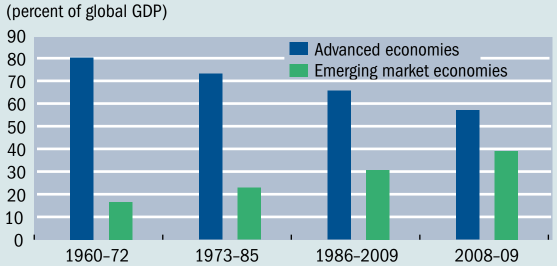
- *Better macroeconomic policies* in most emerging markets succeeded over the past decade in bringing inflation under control through a combination of more disciplined fiscal and monetary policies. Indeed, many emerging markets have now adopted some form of inflation targeting—either explicit or implicit, soft or hard—along with flexible exchange rates, which help absorb external shocks. Prudent fiscal policies that resulted in low levels of fiscal deficit and public debt created room for emerging market economies to respond

Chart 2

Growing in importance

Emerging market economies' share of world GDP has been growing steadily over the past five decades.

(percent of global GDP)



Source: Authors' calculations.

Note: The values correspond to period averages as a share of world GDP computed using purchasing-power-parity exchange rates. The sum does not equal 100 percent because not all economies are counted—only advanced and emerging.

Differing performance

Emerging Asia experienced a mild growth slowdown during the crisis, while emerging Europe had a steep decline.

(GDP growth, percent change from one year earlier)

	2007	2008	2009	Projected 2010
Emerging Asia	10.6	6.8	5.8	9.3
Emerging Asia except China, India, and Hong Kong SAR	5.9	3.0	0.6	7.1
Emerging Europe	7.6	4.7	–6.3	3.1
Emerging Latin America	5.7	4.2	–2.0	6.0
Emerging Middle East and North Africa	6.0	4.8	1.9	4.1
Emerging sub-Saharan Africa	7.1	5.6	2.7	4.9

Source: Authors' calculations. Data for 2010 are based on forecasts in the IMF's *World Economic Outlook* (October 2010).

Note: Group growth is computed using real GDP growth rates for individual countries weighted by purchasing power parity.

aggressively with countercyclical fiscal policies to offset the contractionary effects of the crisis. In addition, emerging economies with low inflation were able to employ expansionary monetary policies to stimulate domestic demand.

• *Less dependence on foreign finance and changes in the composition of external debt* reduced their vulnerability to swings in capital flows. As a group, emerging economies were net exporters of capital during the past decade. Asian emerging markets, especially China, have run significant current account surpluses in recent years. There are, of course, other emerging economies—especially those in Europe—that were running large current account deficits before the crisis. This latter group proved most vulnerable to the crisis because credit booms in these countries were financed largely through foreign capital rather than domestic savings (see "A Tale of Two Regions," in the March 2010 issue of *F&D*). However, shifts in the nature of capital flows to emerging markets have reduced their overall vulnerability to sudden stops of capital inflows. During the past decade, disciplined macroeconomic policies have facilitated a shift toward more stable forms of capital inflows to a number of emerging markets, away from debt and toward foreign direct investment (FDI) and equity investment. FDI, in particular, tends to be less risky for the recipient country.

• *Large buffers of foreign exchange reserves* also insured against sudden reversals in investor sentiment. Following the Asian financial crisis of 1997–98, emerging markets around the world built large levels of foreign exchange reserves, partly as a result of export-oriented growth strategies and partly as a form of self-insurance against crises associated with sudden stops or reversals of capital inflows. Emerging economies have accumulated $5.5 trillion in foreign exchange reserves, nearly half of which is accounted for by China. These reserves came in handy during the crisis but, as we discuss later, their benefits have to be weighed against the costs of accumulating such reserves.

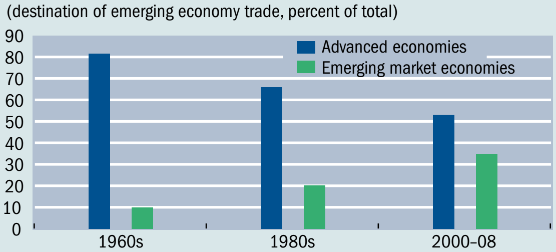
• *Emerging markets have become more diversified in their production and export patterns*, although this has been largely offset by vertical specialization—with some countries supplying parts and other intermediate products to the country that is the ultimate exporter. This specialization has led, particularly in Asia, to regional supply chains. Diversification offers only limited protection against large global shocks but, as long as the macro effects of shocks are not the same across the export markets of emerging economies, it can help them deal with the disruptions that occur over the normal business cycle.

Chart 3

Trading among themselves

Emerging economies are trading increasingly with one another rather than with advanced economies.

(destination of emerging economy trade, percent of total)



Source: Authors' calculations.

Note: Trade flows are calculated by aggregating the bilateral export and import data of emerging economies. The sum does not equal 100 percent because not all economies are counted—only emerging and advanced.

• *Greater trade and financial linkages among the emerging economies* have increased their resilience as a group (see Chart 3). Strong growth in the emerging markets has shielded commodity-exporting countries from slowdowns in the advanced economies. China's continued rapid growth during the crisis, fueled by a surge in investment, has boosted the demand for commodities from emerging markets, such as Brazil and Chile, and has increased the demand for raw materials and intermediate inputs from other Asian emerging markets. The increase in trade flows among emerging economies has been accompanied by a rise in financial flows within this group.

• *Broader divergence of emerging market business cycles from those of the advanced economies* has also increased resilience. The rising intragroup trade and financial linkages discussed above have strengthened this trend. In addition, regional initiatives have encouraged financial integration and financial development among some Asian countries, although the scope and scale of these initiatives remain limited.

• *Rising per capita income levels and a burgeoning middle class* have increased the size of domestic markets, making emerging markets potentially less reliant on foreign trade to benefit from economies of scale in their production structures and less susceptible to export collapses. Still, private consumption may not always be able to take up the slack if there are adverse shocks to export growth.

The good and the ugly

These factors are brought into sharper relief when we examine more closely the experiences of two sets of emerging markets between which there is a clear contrast in terms of resilience to the global financial crisis. Before the crisis, average per capita GDP growth was highest in emerging markets in Asia and Europe. But since then these two groups' fortunes have diverged. While Asian emerging markets, particularly China and India, were among the most resilient during the crisis, some economies of emerging Europe were the hardest hit.

Emerging Asia was relatively insulated from the effects of the financial crisis, possibly for the following reasons:

• Financial markets are relatively limited in their dependence on foreign bank financing, which narrowed the channels for financial contagion and also kept trade finance from collapsing.

• High and rising saving rates have more than kept pace with rising investment rates, leading to current account surpluses and growing stocks of foreign exchange reserves, thereby insulating the region as a whole from the effects of a sudden stop in capital flows from advanced economies.

• Prudent macroeconomic policies practiced by a number of these countries allowed for the fiscal flexibility to respond aggressively to the spillover effects of the crisis.

By contrast, emerging Europe was particularly vulnerable to the aftershocks of the crisis. It had a high level of dependence on external finance, as reflected in large current account deficits; significant exposure to foreign banks, which had many benefits but also served as a transmission channel for the crisis; and rapid credit expansion in the years before the crisis, which was difficult to sustain after foreign bank financing dried up.

Lessons

Our analysis points to some important lessons as well as a few instances where it may be tempting for policymakers to draw the wrong conclusions.

First, during good times, *policymakers should work to create more room for macroeconomic policy responses to adverse shocks.* Emerging economies that had lower levels of public debt (relative to GDP) were better able to conduct aggressive countercyclical fiscal policy responses to the global financial crisis and less concern about worsening their debt service obligations.

Second, *a growth strategy that is well balanced between domestic and external demand can lead to more stable outcomes.*

Third—and this is hardly new—*emerging economies can derive significant indirect benefits from openness to foreign capital but should be cautious about dependence on certain forms of capital*, particularly short-term external debt.

Fourth, *a deep and well-regulated financial system can help absorb capital inflows more effectively* and reduce vulnerability to volatile capital inflows. It can also enhance the transmission of monetary policy and add to its potency as a countercyclical tool. This means that financial market development and reforms are an important priority in most emerging economies. Although some emerging economies were not hit hard by the crisis precisely because they had underdeveloped financial markets, this has potentially adverse long-term implications for growth as well as the distribution of the benefits of growth (see "Trusting the Government," in this issue of *F&D*).

Moreover, although large buffers of foreign exchange reserves can mitigate vulnerabilities stemming from the crisis, there are also significant costs associated with massive stocks of reserves. One cost is the interest payments on government bonds that are used to soak up the liquidity created by these inflows (when they are converted to domestic currency). Without such sterilization there would be risks of spiraling domestic inflation. Subtler but equally important costs are the constraints on domestic policies used to buttress fixed exchange rates; such constraints often include state ownership of banks, heavy restrictions on capital flows, and government control of interest rates.

Confronting new issues

In the aftermath of the crisis, there is a striking dichotomy between advanced and emerging economies in the short-term risks and policy issues they face. Among advanced economies, the major concern is weak growth and deflation pressures. Conventional monetary policy has reached its limits, and debt has risen to such high levels that it constrains the scope of fiscal policy. In many emerging economies, by contrast, growth has rebounded sharply, and some of these economies face rising inflation, surges of capital inflows and the accompanying risk of bubbles in asset and credit markets, and the threat of rapid currency appreciation.

Emerging economies are becoming more important players in setting global priorities.

Along with an increase in their economic heft, emerging economies are becoming more important players in setting global priorities. The unofficial anointment of the Group of 20 large economies as the major body determining the global economic agenda has given emerging markets a prominent seat at the table. The same is true in international institutions such as the new Financial Stability Board and the 65-year-old International Monetary Fund, where emerging economies are getting a much larger say than before.

Although emerging markets have attained a good level of maturity in many dimensions, they still face major domestic policy issues that could limit their growth potential. Financial market development is essential to channel domestic and foreign savings more efficiently into productive investment. In tandem with well-designed social safety nets, this is important for distributing the fruits of growth more evenly. The emphasis should be on more balanced growth rather than a narrow focus on boosting bottom-line GDP without regard for distributional and environmental consequences.

The global financial crisis presents a unique opportunity for emerging markets to mature in another dimension—taking on more responsibility for global economic and financial stability. While emerging markets, such as China and India, remain relatively poor in per capita terms, their sheer overall size makes it important for them to consider the regional and global spillovers of their policy choices. This will require them to play an active role in guiding international debate on key policy issues, including strengthening global economic governance. It is in their own long-term interest to take the lead on global challenges, from dismantling trade barriers to tackling climate change, rather than focusing narrowly on their own perceived short-term interests. ■

M. Ayhan Kose is an Assistant to the Director in the IMF's Research Department. Eswar S. Prasad is the Tolani Senior Professor of Trade Policy at Cornell University, Senior Fellow and New Century Chair in International Economics at the Brookings Institution, and a Research Associate at the National Bureau of Economic Research.

This article is based on Emerging Markets: Resilience and Growth Amid Global Turmoil, *by Kose and Prasad, published in November 2010 by the Brookings Institution Press.*

Gauging China's Influence

Vivek Arora and Athanasios Vamvakidis

CHINA'S economy has grown dramatically and rapidly since 1978, when it launched its "reform and opening-up" strategy. It is now the world's second-largest economy, its biggest exporter, and an increasingly important investor. And to fuel its export engine, it imports significant quantities of raw materials and semifinished products from around the globe.

But there is little empirical analysis of how much China's growth has affected other countries—whether nearby Asian nations, commodity-producing countries in Africa and Latin America, or major consumers of Chinese products.

To help remedy this, we have quantified the implications of China's growth for the rest of the world and conclude that China's expansion has had a positive impact on global growth that has increased over time in both size and reach. A few decades ago, China's expansion influenced growth only in neighboring countries; it now affects growth all over the world. These findings confirm, or at least provide a quantitative basis for, a hunch that economists have had for years.

Unprecedented growth

The ramifications of China's opening-up policy are well documented. Even so, the facts are astonishing. From relatively poor beginnings three decades ago, China's economy is now second in size only to the United States. Real gross domestic product (GDP) has grown by about 10 percent annually, implying a doubling every seven to eight years. The resulting 16-fold increase in a major economy's national income during a single generation is unprecedented.

That these improvements involve one-fifth of the world's population highlights the vast human scale of the achievement. Several hundred million people have been lifted out of poverty, and living conditions have improved for many more people in a shorter period of time than ever before.

Tighter global linkages

China's opening up has meant increasing linkages with the rest of the world, as reflected in its rising share in world trade, global markets for selected goods, and capital flows. China's stronger linkages with the

China's rapid integration and growth are increasingly affecting the rest of the world

Photo above: Salesperson in textile shop in Beijing, China.

global economy have also led to a growing use of its currency abroad, as well as closer correlation of market sentiment in China and the rest of Asia and, more recently, the world. China's share in world trade has increased nearly tenfold over the past three decades, to about 9 percent, while its share in world GDP has risen to 13 percent from less than 3 percent (purchasing-power-parity basis; see Chart 1).

Although China's role in the world economy has increased significantly, it remains small relative to that of the United States. China's GDP at current exchange rates is only one-third of U.S. GDP, and its private consumption is only about one-fifth. China cannot, therefore, replace the United States as a global consumer anytime soon. But it continues to be an important trading partner for many countries, and its rapid expansion can affect growth in other countries in various ways.

China's imports of commodities, inputs, and, increasingly, final products directly raise partner countries' exports and GDP.

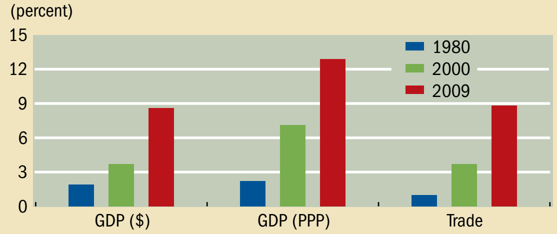
The increase in China's share of world trade is particularly striking in the markets for certain products. China now accounts for nearly one-tenth of global demand for commodities and more than one-tenth of world exports of medium- and high-technology manufactured goods. China has become a major exporter of electronics and information technology products and is the largest supplier to the United States of consumer electronics products such as DVD players, notebook computers, and mobile phones.

China's rising share in world trade over the past three decades is underpinned by a rise in its share in the external trade of every major region (see Chart 2). China's share is, perhaps unsurprisingly, largest in the trade of other emerging Asian economies (13 percent), and this share has seen a striking increase over time. But its share of African trade is almost as large, and its share in trade with the Middle East, the Western Hemisphere, and Europe has increased severalfold in recent decades.

Chart 1

Rising share

China's share of world GDP and trade is rising rapidly.



Source: IMF, *World Economic Outlook*, and *Direction of Trade Statistics*.
Note: PPP = purchasing power parity, which takes into account national cost of living.

China's growing integration with the rest of the world extends beyond trade. Developments in China appear to have an increasing influence on business and consumer sentiment in other countries. And other countries' capital flows to and from China are growing steadily. Inflows of foreign direct investment (FDI) to China, for example, accounted for 7 percent of gross world FDI inflows in 2009, compared with just 1 percent in 1980. FDI outflows from China are a more recent phenomenon, rising from a negligible share of gross global outflows as recently as 2004 to 4 percent in 2009.

Impact on others

Flows of trade and capital between China and the rest of the world are affecting growth in other countries through several channels. China's imports of commodities, inputs, and, increasingly, final products directly raise partner countries' exports and GDP. In turn, China's exports have a negative direct effect on partner countries' net exports. The indirect effects on welfare and GDP, however, could be positive because relatively low-cost products from China raise consumption and production possibilities in partner countries.

China's role in processing trade also has implications for other Asian countries in the Asian supply chain, where Chinese final goods exported to the West require, for their production, substantial inputs from the rest of Asia. This supply chain allows other Asian countries, especially smaller ones, greater access to global markets. Capital flows to and from China can also affect the global demand and supply of capital. Developments in China seem to have spillover effects on market confidence in other countries. And the list goes on.

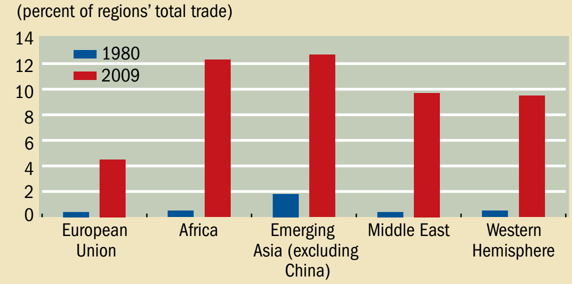
Measuring the impact

To quantify the effects of China's growth on the rest of the world, we conducted an empirical analysis using data from the past few decades. In light of the multiple channels through which China's growth can influence growth elsewhere, and the difficulty of identifying—let alone quantifying—each channel, our analysis focuses on quantifying only the aggregate impact. We leave for future research the task of assessing the relative importance of various channels of impact.

Chart 2

Surging trade

China is an increasingly important trading partner with all regions.



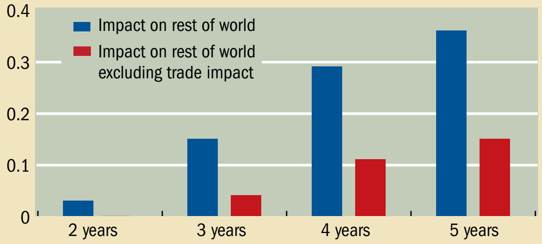
Source: IMF, *Direction of Trade Statistics*.

Chart 3

Branching out

China's growth affects other countries first only in trade but over time also through other channels.

(cumulative effects of a 1 percentage point rise in China's growth on growth in other countries, in percentage points)



Source: Authors' calculations, based on IMF, World Economic Outlook database.
Note: Estimates from an unrestricted panel vector autoregression with two lags, using annual data for 172 economies for the rest of the world.

Our empirical results suggest that the role of China's growth in explaining output fluctuations in other countries is sizable and has increased substantially in recent decades. The results include effects both during the one- to five-year period typically associated with business cycles and over the longer term.

In the short and medium term, our results suggest that a 1 percentage point shock to China's GDP growth is followed by a cumulative response in other countries' growth of 0.2 percentage point after three years and 0.4 percentage point after five years (see Chart 3). What accounts for this impact? Our analysis suggests that initially almost all of the impact is felt through trade channels. But, over time, the impact of nontrade channels increases. Over a full five years, about 60 percent of the impact of China's growth on other countries seems to be transmitted through trade channels and the remaining 40 percent through other channels. Examples of these other channels include capital flows, tourism (which is particularly important for some of China's neighbors) and business travel, and consumer and business confidence.

Shifting to the longer term, we estimated the impact on the rest of the world of long-term changes in Chinese growth, smoothing over the short-term fluctuations associated with the typical business cycle and focusing on longer-term fluctuations. We looked at variables that are known to have a significant impact on GDP growth, such as investment, trade, initial income, age dependency (the ratio of non-working-age to working-age people), government consumption, and inflation. We found, as have previous studies, that domestic growth is positively correlated with investment and trade and negatively correlated with initial per capita GDP, age dependency, government consumption, and inflation. We conducted several tests to rule out the effects of such factors as common global shocks, which could simultaneously influence growth in China and the rest of the world.

The results suggest that, over the long term, as in the short and medium term, China's expansion affects growth in other countries. And, as noted, the size and scope of this effect have increased in recent decades: initially China's growth significantly affected only neighboring Asian countries, but the influence has spread over time to countries all over the world. The size of the global impact of China's growth, moreover, has increased from negligible levels until about two decades ago to a sizable impact more recently.

Our results, based on data for the past two decades, suggest that a 1 percentage point change in China's growth sustained over five years is associated with a 0.4 percentage point change in growth in the rest of the world (coincidentally the same amount as for the short and medium term). Moreover, analysis of a longer time period (1963–2007) suggests that the spillover effect of China's growth has increased over time. Geographic distance seems to affect the strength of the spillover effects, with a stronger impact the closer a country is to China. But the estimates also suggest that the role of distance has diminished over time.

Just a first step

We have taken a first step in assessing the influence of China's growth on other countries, but we have quantified only the aggregate impact. Future work will need to document and quantify the various channels of transmission, which may themselves change over time with changes in the structure of the Chinese economy and the composition of its trade and capital flows. ■

Vivek Arora is an Assistant Director in the IMF's Asia and Pacific Department, and Athanasios Vamvakidis is a Deputy Division Chief in the IMF's Strategy, Policy, and Review Department.

This article is based on the authors' IMF Working Paper 10/165, "China's Economic Growth: International Spillovers."

Stimulus Worked

Alan S. Blinder and Mark Zandi

Without the quick and massive policy response, the Great Recession might still plague the United States

THE U.S. economy has come a long way since the dark days of the Great Recession. Less than two years ago, the global financial system was on the brink of collapse, and the United States was suffering its worst economic downturn since the 1930s. At its worst, real gross domestic product (GDP) appeared to be in free fall, declining at nearly a 7 percent annual rate, with job losses averaging close to 750,000 a month. Today, the financial system is operating much more normally, real GDP has grown by more than 3 percent during the past year, and job growth has resumed, although at an insufficient pace.

From the perspective, say, of early 2009, this rapid turnabout was a surprise. Maybe the country and the world were just lucky. But we take another view: the Great Recession in the United States gave way to recovery as quickly as it did largely because of the unprecedented responses by monetary and fiscal policymakers.

The Federal Reserve (Fed), the Bush and Obama administrations, and the U.S. Congress pursued the most aggressive and multifaceted fiscal and monetary policy responses in history. While the effectiveness and/or wisdom of any individual element can be debated, we estimate that if policymakers had not reacted as aggressively or as quickly as they did, the financial system might still be unsettled, the economy might still be shrinking, and the costs to U.S. taxpayers would have been vastly greater.

That said, almost every policy response remains controversial, with critics accusing them of being misguided, ineffective, or both. Resolution of this issue is crucial because, with the durability of the economic recovery still uncertain, there may be need for further stimulus.

Policy responses

Broadly speaking, the U.S. government set out to accomplish two goals: to stabilize the sickly financial system and to mitigate the burgeoning recession and restart economic growth. The first task was necessitated by the financial crisis, which struck in mid-2007 and spiraled into a financial panic in late 2008. After the bankruptcy of the investment banking firm Lehman Brothers, liquidity evaporated, credit spreads ballooned, stock prices fell sharply, and a string of major financial institutions failed. The second task was required because of the devastating effects of the financial crisis on the real economy, which began to contract at an alarming rate after the Lehman collapse.

The Fed took a number of extraordinary steps to quell the financial panic. In late

2007, it established the first of what would eventually become an alphabet soup of new credit facilities designed to provide liquidity to financial institutions and markets. The Fed lowered interest rates aggressively during 2008, adopting a near-zero interest rate policy by year's end. It also engaged in massive quantitative easing to bring down long-term interest rates, purchasing treasury bonds and Fannie Mae and Freddie Mac mortgage-backed securities in 2009 and 2010. The Federal Deposit Insurance Corporation increased deposit insurance limits and guaranteed bank debt. Congress established the Troubled Asset Relief Program (TARP) in October 2008, part of which was used by the U.S. Treasury to inject much-needed capital into the nation's banks. The Treasury and the Fed ordered 19 large financial institutions to conduct comprehensive stress tests in early 2009 to determine whether they had sufficient capital—and to raise more if necessary. The stress tests and subsequent capital raising seemed to restore confidence in the banking system.

The fiscal (that is, taxing and spending) efforts to end the recession and jump-start the recovery were built around a series of stimulus measures. Income tax rebate checks were mailed to households in early 2008; the American Recovery and Reinvestment Act (ARRA) was passed in early 2009; and several smaller stimulus measures became law in late 2009 and early 2010—such as the Cash-for-Clunkers tax incentive for auto purchases, the extension and expansion of the housing tax credit through mid-2010, the passage of a new jobs tax credit through year-end 2010, and several extensions of emergency unemployment insurance benefits. In all, close to \$1 trillion, roughly 7 percent of GDP, will be spent on fiscal stimulus. We do not believe it was a coincidence that the turnaround from recession to recovery occurred in mid-2009, just as ARRA was providing its maximum impact.

The emergency measures included rescuing the nation's housing and auto industries. The housing bubble and bust set off a vicious cycle of falling house prices and surging foreclosures, which policymakers appear to have broken with an array of efforts, including the Fed's actions to bring down mortgage rates, an increase in limits on the size of loans that conformed to government standards, a dramatic expansion of Federal Housing Administration lending, a series of tax credits for home buyers, and the use of TARP funds to mitigate foreclosures. While automakers General Motors (GM) and Chrysler eventually went through bankruptcies, TARP funds made the process relatively orderly—and GM is a publicly traded company again.

Withering criticism

The response to the crisis sounds like a success story to us. Yet nearly all aspects of the government's response have been subjected to intense criticism. The Fed has been accused of overstepping its mandate by conducting fiscal as well as monetary policy. Critics have attacked efforts to stem the decline in house prices as inappropriate, claimed that foreclosure mitigation efforts were ineffective, and argued that the auto bailout was both unnecessary and unfair. Particularly heavy criticism has been aimed at the two biggest programs: TARP and the Recovery Act.

The Troubled Asset Relief Program was controversial from its inception. Both the program's \$700 billion headline price tag and its goal of "bailing out" financial institutions—including some of the institutions that had triggered the panic—were hard for citizens and legislators to accept. To this day, many believe TARP was a costly failure. In fact, however, TARP has been a substantial success, helping restore stability to the financial system and end the free fall in housing and auto markets at an ultimate cost to taxpayers that will be a small fraction of the headline \$700 billion figure.

Criticism of ARRA has also been strident, focusing on the high price tag, the slow delivery, and the fact that the unemployment rate rose much higher than the Obama administration predicted in January 2009. While we would not defend every aspect of the stimulus, we believe this criticism is largely misplaced. The unusually large fiscal stimulus is consistent with the extraordinarily severe downturn and the limited ability to use monetary policy once interest rates neared zero. Regarding speed, spending surged from nothing at the start of 2009 to over \$100 billion (over \$400 billion at an annual rate) in the second quarter—which is a huge change in a short period. (But soon the stimulus will end, with a resulting drag on economic growth.)

Critics who argue that ARRA failed because it did not keep unemployment below 8 percent ignore that unemployment was already above 8 percent when ARRA was passed (which we learned only later because of lags in the data) and that most private forecasters also misjudged how serious the downturn would be. If anything, this forecasting error suggests the stimulus package should have been even larger.

The turnaround from recession to recovery occurred in mid-2009, just as ARRA was providing its maximum impact.

Quantifying the economic impacts

To quantify the economic impacts of the fiscal stimulus and the financial market policies such as TARP and the Fed's quantitative easing, we simulated the Moody's Analytics model of the U.S. economy under four scenarios:

- No. 1, with all the policies pursued;
- No. 2, which includes the fiscal stimulus but excludes the financial policies;
- No. 3, *with* the financial policies but *without* fiscal stimulus; and
- No. 4, which excludes all the policy responses.

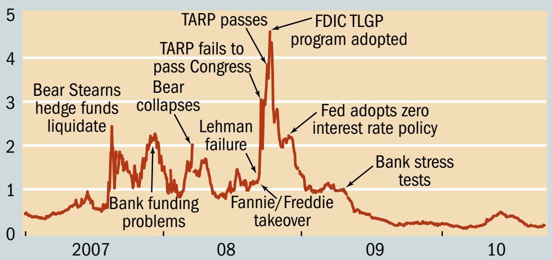
The differences between the baseline and what would have happened with no policy response provide our central results: estimates of the impacts of the entire menu of anti-

Chart 1

Quelling the panic

After Lehman Brothers collapsed, the spread between rates on U.S. treasury bills and on private credit (such as LIBOR) rose dramatically, a sign of investor panic. After financial support programs were put in place, the spreads shrank.

(difference between yield on three-month LIBOR and U.S. treasury bills, percentage points)



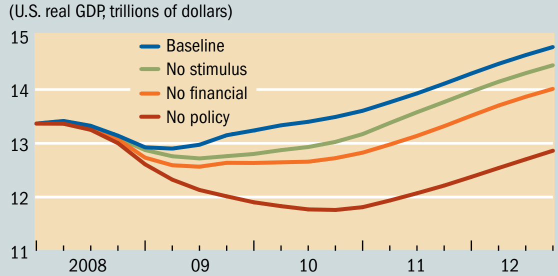
Sources: U.S. Federal Reserve; and Moody's Analytics.
Note: LIBOR is the London interbank offered rate, a rate at which banks lend to each other; TARP is the Troubled Asset Relief Program; FDIC is the Federal Deposit Insurance Corporation; TLGP is the Temporary Liquidity Guarantee Program.

Chart 2

Judging U.S. policy

The U.S. economy, as measured by GDP, is much better off because of the policy responses to the Great Recession. Had there been no response, the recession would continue today.

(U.S. real GDP, trillions of dollars)



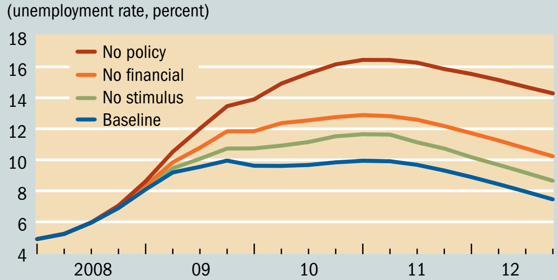
Sources: U.S. Bureau of Economic Analysis; and Moody's Analytics.
Note: The chart estimates GDP under four scenarios: baseline (which includes both the stimulus and financial support); no policy (in which the government took no action); no financial (in which only fiscal stimulus was provided); and no stimulus (in which only financial support was undertaken).

Chart 3

Unemployment would soar

Had U.S. authorities taken no action, unemployment would have risen to nearly 17 percent and would be above 14 percent at the end of 2012.

(unemployment rate, percent)



Sources: U.S. Bureau of Economic Analysis; and Moody's Analytics.
Note: The chart estimates unemployment under four scenarios: baseline (which includes both the stimulus and financial support); no policy (in which the government took no action); no financial (in which only fiscal stimulus was provided); and no stimulus (in which only financial support was undertaken).

recession policies. Scenarios 2 and 3 enable us to decompose this overall impact into the components stemming from the fiscal stimulus and financial initiatives. All simulations begin in the first quarter of 2008, with the start of the Great Recession, and end in the fourth quarter of 2012. The impact on the U.S. economy of the substantial policy efforts implemented in much of the rest of the world in response to the global downturn was not explicitly considered.

Estimating the economic impact of the policies is a counterfactual econometric exercise. Outcomes for GDP, employment, and other variables are estimated using a statistical representation of the U.S. economy based on historical relationships—in particular, the Moody's Analytics model, which is used regularly for forecasting, scenario analysis, and quantifying the impacts of fiscal and monetary policies.

The modeling techniques for simulating the *fiscal* policies were straightforward and have been used by countless modelers over the years. While the scale of the fiscal stimulus was massive, most of the instruments themselves (tax cuts, spending) were conventional.

But modeling the vast array of *financial* policies, most of which were unprecedented and unconventional, required some creativity and forced us to make some major simplifying assumptions. Our basic approach treated these policies as ways to reduce *credit spreads,* particularly the three credit spreads in the model: between the three-month London interbank offered rate (LIBOR)—at which banks lend money to each other—and three-month U.S. treasury bills; between fixed-rate mortgages and 10-year U.S. treasury bonds; and between below-investment-grade corporate bonds and U.S. treasury bonds. All three of these spreads rose alarmingly during the crisis, but then came tumbling down once the financial medicine was applied (see Chart 1). The key question for us was how much of the decline in credit spreads to attribute to the policies, and here we tried several different assumptions.

The simulation results

Under the baseline scenario, which includes all the financial and fiscal policies, the recovery that began over a year ago is expected to remain intact. Real GDP, which declined 2.4 percent in 2009, expands 2.7 percent in 2010 and 3 percent in 2011, with monthly job growth averaging near 75,000 in 2010 and 175,000 in 2011. Unemployment is still close to 10 percent at the end of 2010, but closer to 9.5 percent by the end of 2011.

With no policy responses, the downturn is estimated to continue into 2011. The decline in real GDP is stunning, falling peak-to-trough by close to 12 percent—compared with an actual decline of about 4 percent. By the time employment hits bottom, some 16.6 million jobs are lost, about twice as many as actually were lost. The unemployment rate peaks at 16.5 percent. With outright deflation in prices and wages during 2009–11, this dark scenario would constitute a 1930s-like depression.

The *differences* between the baseline scenario and the scenario with no policy responses are huge (see Charts 2–4). By

2011, real GDP is \$1.8 trillion (15 percent) higher because of the policies, there are almost 10 million more jobs, and the unemployment rate is about 6½ percentage points lower. The inflation rate is about 3 percentage points higher (roughly 2 percent instead of –1 percent). That's what averting a depression means.

How much of this gigantic effect was due to the government's efforts to stabilize the financial system and how much was due to the fiscal stimulus? The other two scenarios are designed to answer those questions.

We find that the financial policy responses were more important than the fiscal policies. In the scenario without them but including the fiscal stimulus, the recession would only now be winding down, the peak-to-trough decline in real GDP and employment would be about 6 percent and 12 million respectively, and the unemployment rate would peak at about 13 percent.

The *differences* between the baseline and the scenario with no financial policy responses represent our estimates of the combined effects of the various policy efforts to stabilize the financial system. They are very large. By 2011, real GDP is almost \$800 billion (6 percent) higher because of the policies, and the unemployment rate is almost 3 percentage points lower. By the second quarter of 2011—when the effects are at their largest—the financial rescue policies are credited with saving almost 5 million jobs.

In the scenario that includes all the financial policies but none of the fiscal stimulus, the recession ends in the fourth quarter of 2009 and expands very slowly through mid-2010. The peak-to-trough decline in real GDP is over 5 percent, and employment declines by more than 10 million. The economy finally gains some traction by early 2011, but by then unemployment is peaking at nearly 12 percent.

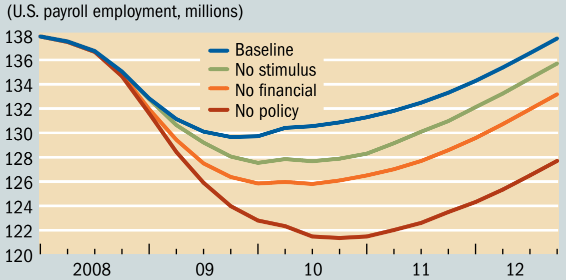
The *differences* between the baseline and the scenario with no fiscal stimulus represent our estimates of the effects of all the fiscal stimulus efforts. Because of the fiscal stimulus, real GDP is about \$460 billion (more than 6 percent) higher

Chart 4

More on the job

Far more people are at work because of the financial and fiscal actions than would have found jobs had there been no policy response.

(U.S. payroll employment, millions)



Sources: U.S. Bureau of Labor Statistics; and Moody's Analytics.
Note: The chart estimates employment under four scenarios: baseline (which includes both the stimulus and financial support); no policy (in which the government took no action); no financial (in which only fiscal stimulus was provided); and no stimulus (in which only financial support was undertaken).

by 2010, when the impacts are at their maximum; there are 2.7 million more jobs; and the unemployment rate is almost 1.5 percentage points lower.

The *combined* effects of the financial and fiscal policies exceed the sum of the financial policy effects and the fiscal policy effects, each taken in isolation. This is because the policies tend to reinforce one another. As one simple example (there are many others), by holding interest rates constant, the Fed increases the fiscal multiplier.

Laissez-faire: not an option

The financial panic and the ensuing Great Recession were massive blows to the U.S. and world economies. Employment in the United States is still some 7.5 million below where it was at its prerecession peak, and the unemployment rate remains over 9 percent. The hit to the nation's fiscal health has been equally disconcerting, with budget deficits in fiscal years 2009 and 2010 of close to \$1.4 trillion. These unprecedented deficits reflect both the recession itself and the costs of the government's multifaceted response to it.

It is understandable that the still-fragile economy and the massive budget deficits have fueled criticism of the government's response. No one can know for sure what the world would look like today if policymakers had not acted as they did. Our estimates are just that: *estimates*. It is also not difficult to find fault with aspects of the policy response. Were the bank and auto industry bailouts necessary? Was the housing tax credit a giveaway to buyers who would have bought homes anyway? The questions go on and on.

Although these—and other—questions deserve careful consideration, we believe that laissez-faire was not an option. Not responding would have left both the economy and the government's fiscal situation in far graver condition. We conclude that U.S. Federal Reserve Board Chairman Ben Bernanke was probably right when he said, "We came very close in October [2008] to Depression 2.0" (Wessel, 2009).

While TARP has not been a universal success, it was instrumental in stabilizing the financial system and ending the recession. The fiscal stimulus also fell short in some respects, but without it, the economy might still be in recession. When all is said and done, the panoply of policy responses will have cost taxpayers a substantial sum, but not nearly as much as most had feared and not nearly as much as if policymakers had not acted at all. If the comprehensive policy responses saved the economy from another depression, as we estimate, they were well worth their cost. ■

Alan S. Blinder is a Professor of Economics at Princeton University and Mark Zandi is Head of Moody's Analytics.

This article is based on the authors' paper "How the Great Recession Was Brought to an End," released July 28, 2010, and available at www.dismal.com/mark-zandi/documents/End-of-Great-Recession.pdf

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Getting Debt under Control

Emanuele Baldacci, Sanjeev Gupta, and Carlos Mulas-Granados

In dealing with the aftermath of the Great Recession, policymakers must pay attention to the mix of austerity policies

THE severe financial crisis that hit the world economy in 2008 not only caused a large decline in output and brought about an uncertain economic outlook, it also harmed many countries' public finances. Its legacy can be seen in the massive buildup of public debt around the world—more so in advanced than in emerging market economies.

In the advanced economies, public debt is projected to reach an average of 108 percent of gross domestic product (GDP) at end-2015. This is about 35 percentage points more than at end-2007, before the onset of the global crisis. That high a level of debt has not been seen in these countries since just after the end of World War II (see Cottarelli and Schaechter, 2010) and reflects in large part a permanent loss of revenue from the bursting of the asset price bubble, lower potential output, and countercyclical fiscal stimulus. Public debt had started to pile up before the crisis in these countries, mostly because of rising spending, but the increase in the aftermath of the global recession has been rapid and large, as some countries borrowed at wartime levels.

In the absence of policy changes, the fiscal position of advanced economies is projected to get even worse. Population aging is likely to exert significant upward pressure on health care and pension spending (IMF, 2010), creating a tide against which advanced economies will be forced to swim, even as they seek to implement policies aimed at reducing their debt burden (fiscal consolidation).

In emerging economies, the impact of the crisis has been milder and underlying fiscal conditions stronger than in advanced economies (with some exceptions, such as central and eastern European economies). Nonetheless, emerging economies have less tolerance for debt, because their ability to raise revenue is more limited—for example, their large informal sectors escape taxation—and their tax bases are more volatile than those in advanced economies. Emerging economies remain exposed to spillover from debt problems in advanced sovereigns and face possible problems refinancing existing debt as it comes due.

Crises spawn debt accumulation

High public debt levels in the wake of financial crises are not new. Studies have shown that banking crises have large fiscal consequences both in advanced and emerging market economies. For example, Rogoff and Reinhart (2009) found that in a sample of historical episodes, government debt on average rose by 86 percent in the three years following a banking crisis; Laeven and Valencia (2008) report that the average fiscal cost of banking crises was slightly less than 15 percent of GDP in the past three decades. Furthermore, the average increase in the ratio of public debt to GDP was about 40 percentage points during these episodes (see Baldacci, Gupta, and Mulas-Granados, 2009).

What is unprecedented this time is that many countries—those with the biggest slice of global output—have been piling up government liabilities in a fragile global economic environment amid a high degree of uncertainty. This can be problematic for four reasons.

First, high debt levels raise solvency risks and increase the cost of borrowing for sovereigns. Second, high debt can constrain the ability of a government to use fiscal policy as a countercyclical tool, for example, when crisis strikes. Third, high interest rates spawned by high debt can have an adverse impact on output growth and productivity. Fourth, the need for simultaneous fiscal tightening—in the absence of exchange rate depreciation and with limited room for expansionary monetary policy across a number of large economies—risks harming global aggregate demand.

Restoring debt sustainability

How then should countries lower their debt-to-GDP ratio? They can either implement new revenue and/or expenditure measures to reduce the fiscal deficit or take steps to promote growth—or do both. Improvements in the primary balance (the fiscal balance without interest costs) can reduce new borrowing and help lower the debt stock. Higher output growth can help improve the overall fiscal position in two ways: increased revenue and a lower ratio of spending to GDP.

However, reducing public debt after the recent financial crisis will likely be particularly challenging. Adjustments sufficient to reduce debt to prudent levels have been achieved both in advanced and in emerging market economies in the past two decades, but this time fiscal consolidation must take place in an environment of higher global risk, more turbulent financial markets, and weaker demand. In addition, the scope for monetary policy to support growth, if countries undertake fiscal consolidation, is limited by many advanced economies' low policy interest rates. Moreover, policymakers will find it difficult to use exchange rate policies to support competitiveness, because many large economies are in need of fiscal consolidation at the same time.

What is a desirable debt level for these countries to ensure fiscal sustainability? This is a difficult question to answer: the target must take into account country-specific considerations concerning sustainable debt in light of fiscal policies, demographics, and unfunded entitlements, as well as long-term interest rates and output growth rates. For example, a return to the precrisis public debt level may not be sufficiently ambitious for countries that had high ratios before the crisis. A widely used approach is to define specific thresholds of 60 percent of GDP for advanced economies and 40 percent of GDP for emerging market economies—reflecting the perceived higher risk for the latter. The 60 percent of GDP target for advanced economies is roughly also the median debt-to-GDP ratio of those economies before the crisis.

Successful debt consolidation is less likely when countries are hit by longer-lasting (and thus more severe) banking crises.

Previous banking crises

What factors explain the success of public debt consolidation after banking crises, and why are some countries able to reduce their public debt to a prudent level faster than others?

To answer these questions we looked at 100 banking crisis episodes that occurred between 1980 and 2008 in advanced, emerging market, and low-income economies (see Baldacci, Gupta, and Mulas-Granados, 2010). The analysis focuses on factors affecting the length of successful debt reduction episodes. These are defined as reductions in the ratio of government debt to GDP to the 60/40 percent of GDP thresholds, but we also use alternative thresholds to test the robustness of the results.

To assess the factors underlying the probability of successful debt reduction, we first determined the length of successful debt consolidation cases. Such episodes are identified by a decline in public debt to a level (in percent of GDP) that is lower than the target threshold. The length of the successful debt consolidation episode ranges between 1 and 24 years: the mean length of successful adjustment is about 10 years.

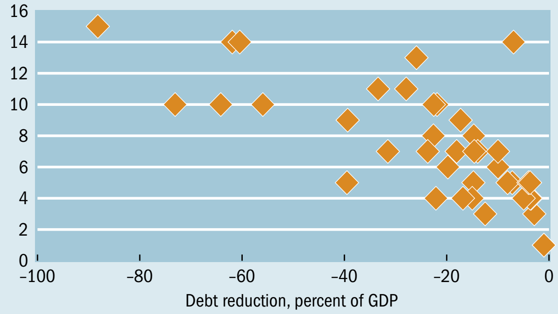
We then sought to explain differences in the length of successful debt reductions across episodes on the basis of *three sets of variables*. First, we control for the fiscal cost of the crisis by including *the length of the banking crisis preceding the*

Chart 1

It takes time

Countries typically need six to eight years to work off government debt following an economic crisis, when the required reduction is 40 percent or less of GDP.

(duration, years)



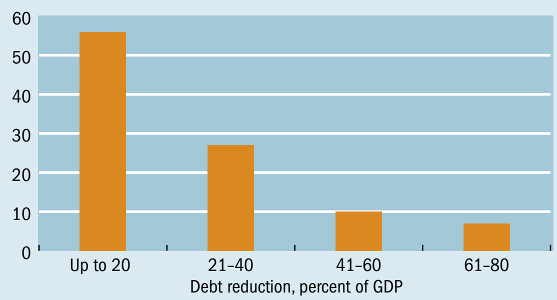
Source: Authors' calculations.
Note: On average, the crisis that triggered the buildup in debt lasted two years.

Chart 2

Hard to trim

Only 17 percent of the countries that faced a run-up in debt were able to reduce it by 40 percent of GDP or more after the crisis.

(percent of countries with postcrisis debt reduction)



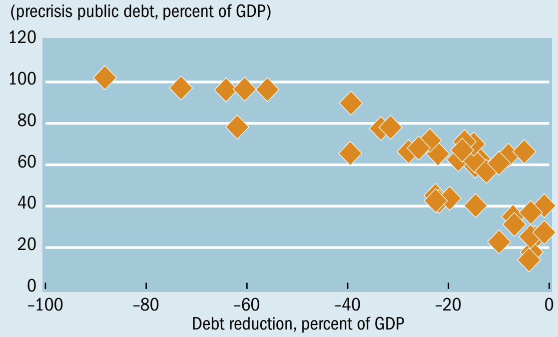
Source: Authors' calculations.

Chart 3

When it's bad to begin with

Larger debt reductions occurred mainly among countries whose debt as a percent of GDP was substantial at the start of a crisis.

(precrisis public debt, percent of GDP)



Source: Authors' calculations.

adjustment episode and the size of the debt accumulated during the crisis.

We also control for *the quality of fiscal adjustment* (defined as how much of it stems from expenditure savings, because studies suggest that expenditure-based adjustment is more durable). Unlike other studies, we allow interaction between the quality of fiscal adjustment and the size of that adjustment because, for countries with large adjustment needs, spending cuts alone may not generate the needed fiscal consolidation. To achieve large fiscal consolidation through spending cuts only, governments may need to rely on inefficient saving methods (such as limiting funds for public investment that could help support growth). This implies that the adjustment in these countries may need to be a balanced combination of spending cuts and revenue increases—a key hypothesis to be tested in the context of difficult postcrisis debt reduction.

We also control accompanying policies by including *the share of private investment, interest rates on deposits, and budget composition*.

Our analysis shows that successful debt consolidation is less likely when countries are hit by longer-lasting (and thus more severe) banking crises. This reflects typically higher uncertainty and permanent output losses that make fiscal consolidation more difficult and, in some cases, large structural fiscal imbalances accumulated before the crisis that must be reversed in a weaker economic environment.

Lowering public debt takes time. Countries typically need six to eight years or more to reduce an amount of debt equal to the increase in advanced economies during the recent crisis (see Chart 1). This means that to retain creditor confidence countries should adopt fiscal adjustment strategies early on and start implementing them as soon as economic conditions are suitable.

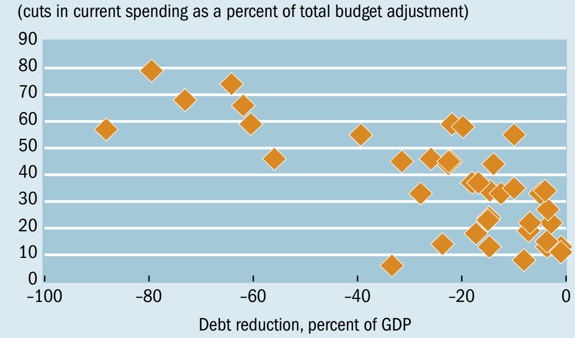
Evidence from previous postcrisis debt reductions shows that only 12 percent of countries were able to reduce their debt to precrisis levels. Only 17 percent of the countries achieved a debt reduction of 40 percentage points of GDP or more (see Chart 2). This highlights the difficulty of adjust-

Chart 4

Cutting spending counts

Debt reduction policies are in general more successful when they are based on cuts in current expenditures.

(cuts in current spending as a percent of total budget adjustment)



Source: Authors' calculations.
Note: Total adjustment could also include long-term spending cuts and tax increases.

ment in a postcrisis environment. Larger debt reduction was associated with high initial levels of debt, as problems with fiscal sustainability triggered forced budget consolidation (see Chart 3).

Two lessons

Policymakers should be aware of two issues when devising debt consolidation strategies:

• ***Cuts in low-priority expenditures facilitate fiscal adjustment:*** debt consolidation is in general more likely to succeed when based on cuts in current expenditures (see Chart 4). This also holds true for countries in which the debt increase is not related to a financial crisis. Why? Because curtailing spending on transfers (such as pensions, subsidies, and other entitlements) and wages reduces pressure on nondiscretionary spending, which tends to rise over time, and may also raise trend growth prospects. Curtailing this spending would not only generate short-term savings for the budget, it would also limit the momentum of public spending growth.

Constraining age-related spending, including on health care and pensions, could be particularly important in light of the demographic pressures that will accompany fiscal consolidation in many countries. In this respect, entitlement reforms that also have positive effects on growth should take priority. For example, raising the retirement age can stimulate private consumption in the short term, contributing to less-painful fiscal adjustment, while at the same time ensuring the pension system's medium-term financial viability. Increasing the share of public investment raises the likelihood of successful debt reduction by shifting the composition of the budget toward growth-friendly programs that can boost medium-term productivity through enhanced infrastructure.

• ***Raising additional tax revenues may also be needed:*** cutting spending may, however, be insufficient in countries with large adjustment needs. Unlike previous research on fiscal consolidation, our findings show that raising tax revenue is key to successful debt reduction in countries with large fiscal adjustment needs. This reflects the need to maintain a balance between expenditure savings and revenue-raising measures. The contribution of revenue to large consolidation is not dependent on the initial tax-to-GDP ratio: revenue reforms help achieve debt reduction even when the initial tax-to-GDP ratio is not low.

Measures to increase taxation should, however, be designed in a way that does not harm efficiency and minimizes distortion, particularly where taxes as a percentage of GDP are already high. Simplifying the tax system by reducing excessive tax rates and broadening the tax base could help enhance revenue collection while shifting the burden of taxes away from productive inputs. For example, financial sector and carbon taxation may help the budget while at the same time addressing efficiency concerns (see IMF, 2010).

Credible strategies

Our findings highlight the importance of credible fiscal adjustment strategies that anchor market expectations about fiscal sustainability. Fiscal policies that lack credibility can hinder debt reduction and lead to potentially self-fulfilling expectations about rising solvency risk. This is why measures to strengthen the fiscal framework—such as adopting, when needed, fiscal rules to guide budget policies and improving fiscal transparency through independent fiscal agencies—may benefit countries facing these challenges.

Other policies will strengthen fiscal efforts.

• When monetary policy establishes and maintains accommodative conditions and risk premiums are contained, debt reduction is more likely—a key lesson for countries exiting the crisis and preparing to unwind fiscal and monetary support.

• Pro-growth structural reforms (including product and labor market liberalization) always matter, but are even more essential during postcrisis fiscal consolidation: higher growth makes debt reduction easier to achieve and sustain.

We show that getting the mix of expenditure and revenue measures right can also help reduce credit risk premiums and foster growth, in addition to allowing a sustained improvement in the cyclically adjusted primary fiscal balance.

Policy implications

Successful debt consolidation is in general more likely when based on cuts in current expenditures but, when adjustment needs are large, raising taxes can result in more sustainable debt reduction. This reflects the need to maintain a balance between expenditure savings and revenue-raising measures in such instances to avoid inefficiency and help support ambitious consolidation plans. Higher taxation must, however, be handled carefully to protect economic efficiency and minimize distortions, particularly where taxes are already high. ■

Emanuele Baldacci is a Deputy Division Chief and Sanjeev Gupta is a Deputy Director, both in the IMF's Fiscal Affairs Department. Carlos Mulas-Granados is a Professor of Economics at Complutense University, Fellow of the ICEI Research Institute, and Executive Director of the IDEAS Foundation in Madrid.

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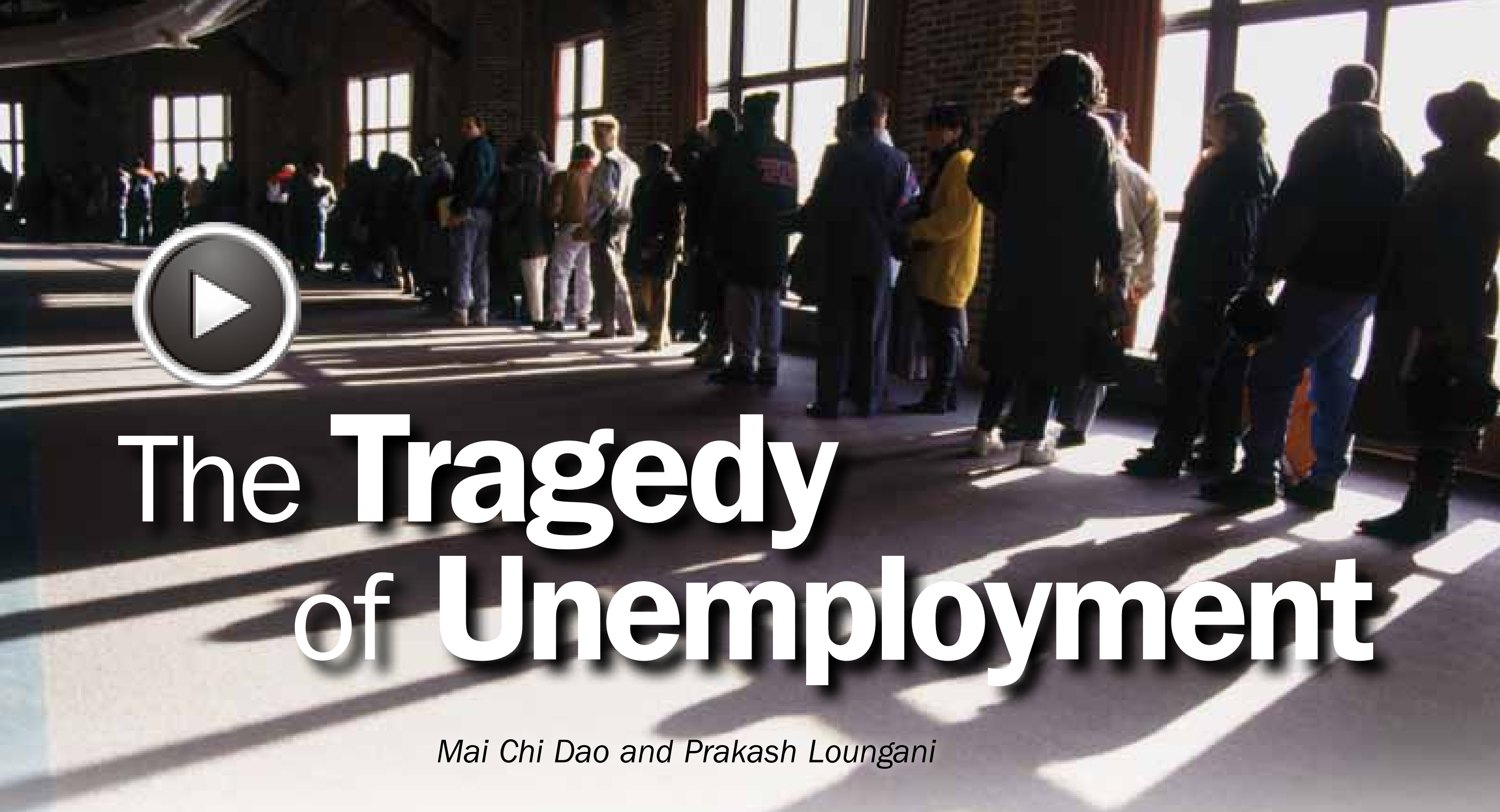


The Tragedy of Unemployment

Mai Chi Dao and Prakash Loungani

Governments can do more to alleviate joblessness and its human costs

THE world faces an unemployment crisis. Across the globe, an estimated 210 million people are unemployed, an increase of more than 30 million since 2007. Three-fourths of this increase has occurred in the advanced economies. The problem is particularly severe in the United States—the epicenter of the Great Recession and the country with the highest increase in the number of unemployed people. There are 7.5 million more people unemployed today than in 2007. And while the U.S. recession has been declared to have ended in June 2009, evidence from the past couple of recoveries shows that employment has taken quite a bit longer to recover than incomes (see Chart 1).

The so-called misery index, the sum of the inflation and unemployment rates, is now almost totally dominated by joblessness (see box). The human toll of the slow recovery in jobs in the United States and elsewhere could be very high. Studies have demonstrated that the costs to the unemployed include a persistent loss in earnings through career downgrading, reduced life expectancy, and lower academic achievement and earnings for their children. These costs are greater for those who have been unemployed longer.

There are many facets to joblessness. This article will look at

- the human cost of unemployment and how governments' policy responses during the Great Recession kept it from being even bigger;
- near-term policies to aid labor market recovery; and
- the challenge posed by the high level of long-term unemployment.

Human cost of unemployment

Research on the effects of past recessions gives us a good idea of the often high and persistent cost of unemployment for individuals and their families (see Dao and Loungani, 2010, for a survey).

Layoffs are associated with loss of earnings not just during the jobless episode but far into the future (see Sullivan and von Wachter, 2009). The losses are higher if the unemployment occurs during a recession. Studies of the United States and Europe show that even 15 to 20 years after a job loss during a recession, earnings of those who lost their jobs are 20 percent lower than those of comparable workers who kept their jobs. The adverse effects on lifetime earnings are most pronounced for unemployment episodes experienced by young people, especially following college graduation. In a recession, young workers tend to take worse jobs than they would during better times. And as they settle into family life and become less mobile, it is hard to recover from this "cyclical downgrading."

There is persistent and large loss of earnings in other countries as well—Germany,

Measuring misery

The misery index—the sum of the inflation and unemployment rates—gained popularity as an indicator of economic distress during the U.S. presidential election of 1980. Since that time, the index has declined in the United States and in advanced economies, in large part thanks to the taming of inflation (see Chart 2). Unemployment, however, has remained a problem, and its contribution to the misery index increased sharply during the Great Recession.

for example—and it is of similar magnitude. As the German example shows, even in countries with more generous welfare systems and lower earnings inequality than in the United States, workers are not shielded from lifetime earnings losses caused by job displacement.

The human toll is not limited to monetary losses: layoffs may also be associated with loss of health and life, according to recent studies. To rule out spurious associations—unhealthy individuals may, for example, be less productive and thus more likely to become unemployed—and other confounding factors, the studies use data sets that allow researchers to control for preexisting health, socioeconomic, family, and other background characteristics as well as the timing of health and job outcomes. Even after accounting for these factors, layoffs are associated with a higher risk of heart attack and other stress-related illnesses in the short term. In the long term, the mortality rate of laid-off workers is higher than that of comparable workers who do not lose employment. For the United States, the increased mortality rate due to joblessness is estimated to persist up to 20 years after the job loss and lead to an average 1- to 1.5-year lower life expectancy.

Job loss can reduce the academic achievement of children of the unemployed: one study found that children whose parents experienced job loss were 15 percent more likely than other children to repeat a grade. In the long term, fathers' income loss also reduces the earnings prospects of their children. In Canada, for instance, children whose fathers were displaced from their jobs were estimated to have annual earnings nearly 10 percent lower than similar children whose fathers remained employed. This relationship holds after controlling for other individual and family characteristics that might have an impact on earnings. In Sweden, lower parental income has been correlated with children's significantly higher mortality later in life, even after controlling for the children's own income and education.

These costs are likely to be higher, the longer a person is unemployed. Not only are the earnings losses greater, but people who are out of a job for a long time lose self-confidence and skills and become detached from the labor force. This in turn affects how they are viewed by prospective employers and reduces their chances of finding a job. Data from the U.S. Census Bureau show that a person unemployed for more than six months has only a 1-in-10 chance of finding a job in the subsequent 30 days. By contrast, someone unemployed less than a month has a 1-in-3 chance of finding employment. Long-term unemployment thus means cyclical unemployment can become entrenched as a structural phenomenon.

Governments to the rescue

Most countries mounted a strong policy response without which unemployment—and its attendant human costs—would have been even higher. Broadly speaking, that response had three parts:

- support for aggregate demand through monetary and fiscal policy action;
- short-time work programs and unemployment insurance benefits to ease the pain in labor markets; and
- hiring subsidies to limit layoffs and accelerate jobs recovery.

Central banks moved quickly to stimulate aggregate demand by lowering policy interest rates and then, as interest rates fell to near-zero levels and could be lowered no further, through quantitative easing—that is, direct purchase of long-term government assets—and other interventions.

Fiscal policy turned accommodative, and governments allowed recession-induced lower tax revenue to be reflected in higher cyclical fiscal deficits, rather than trying to cut spending to match the decline. In addition, many governments provided direct support to their financial sector—fiscal stimulus and the so-called bank bailouts (see "Stimulus Worked," in this issue of *F&D*).

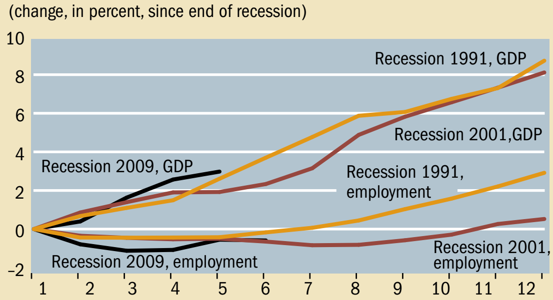
To ease the pain in labor markets, governments complemented monetary and fiscal policy actions with active labor market policies. One of the key policies was to provide government financial assistance for programs to encourage

Chart 1

Jobs lag during recoveries

Evidence from U.S. recoveries that began in 1991, 2001, and 2009 shows that employment takes much longer to revive than GDP.

(change, in percent, since end of recession)



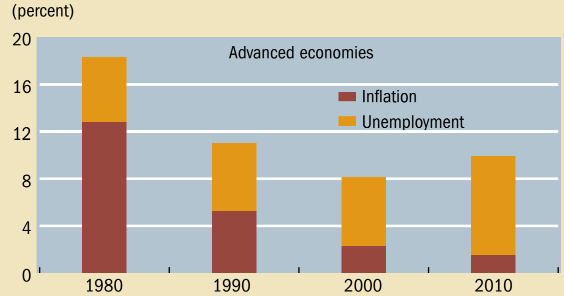
Sources: U.S. Bureau of Economic Analysis; and U.S. Bureau of Labor Statistics.

Chart 2

Measuring economic distress

The misery index—the sum of inflation and unemployment rates—is now dominated by joblessness, as major economies have tamed inflation.

(percent)



Source: IMF, World Economic Outlook database.

companies to retain workers but reduce their working hours and wages. Such short-time work programs can spread the burden of the downturn more evenly across workers and employers, reduce future hiring costs, and protect workers' human capital until the labor market recovers. During the Great Recession, such programs were extensively used in Germany, Italy, and Japan. Although it is too early to undertake a full assessment, these programs are credited with having played a crucial role in stemming unemployment in many countries. Governments also eased the pain of unemployment through provision of unemployment insurance benefits. Many countries had already extended the duration of these benefits; others extended it as the recession dragged on—in the United States, for example, unemployment insurance benefits were extended from 26 to 99 weeks. In recessions, the potential adverse effect of benefits on a job search effort is estimated to be very small (see Dao and Loungani, 2010).

The third part of the strategy was to use subsidies to directly speed up job recovery. It is difficult to design hiring subsidies that are effective: companies could end up with subsidies for jobs they would have created anyway or for jobs that should never have been created and should not be maintained in the future. However, in the midst of a deep recession, the costs of these inefficiencies were less severe than the costs of high unemployment. And steps that countries took to target subsidies toward those most adversely affected likely served to reduce the inefficiency costs. Subsidies were targeted to vulnerable groups such as the long-term unemployed and the young (in, for example, Austria, Finland, Portugal, Sweden, and Switzerland), hard-hit regions (as in Korea and Mexico), or specific sectors (such as services in Japan).

What next?

Over the coming year, the three-part strategy adopted during the crisis should remain in place. But the relative importance of the parts should shift over time as recovery takes hold and should differ across countries depending on their circumstances.

A recovery in aggregate demand is the single best cure for unemployment, and fiscal and monetary policies should, to the extent possible, remain supportive of such a recovery. The deficit-reduction plans that advanced economies have for 2011 imply an average decrease in the structural balance equivalent to 1¼ percentage points of gross domestic product (GDP). A more severe consolidation would stifle still-weak domestic demand.

Clearly, however, the fiscal situation varies across countries. The current debt-to-GDP ratio varies widely (see Chart 3). How much more fiscal space—that is, room to add debt—do countries have? To answer this question, Ostry and others (2010) define a "debt limit," which is the debt-to-GDP ratio beyond which a country's *normal* fiscal response to rising debt becomes insufficient to maintain debt sustainability. The normal response is estimated based on the country's historical taxing and spending record.

The difference between the debt limit and the projected ratio in 2015 provides an estimate of the fiscal space available to the country. Because the normal fiscal response is estimated with uncertainty, there is also uncertainty associated with the resulting estimates of fiscal space. In Chart 3, countries whose probability of having fiscal space of 50 percent of GDP or more is quite low are shown in red. Greece, Iceland, Italy, and Japan fall into this category. Countries whose probability of fiscal space of 50 percent of GDP or more is moderate are shown in black. Ireland, Spain, the United Kingdom, and the United States are in this category. These calculations suggest that, in many advanced economies, what is needed is credible fiscal tightening over the medium term, not a fiscal noose today.

Monetary policy remains an important policy lever to support aggregate demand. Inflation pressure is subdued—headline inflation in advanced economies is expected to remain at about 1½ percent in 2011. As a result, accommodative monetary policy can continue in most advanced economies. Moreover, if growth falters, monetary policy should be the first line of defense in many advanced economies. With policy interest rates already near zero in many economies, central banks may again need to rely more strongly on quantitative easing. Although these demand-stimulating measures seem necessary to ensure recovery in most advanced economies, their implications for international capital flows and emerging market countries' exchange rates and external balances must also be taken into account.

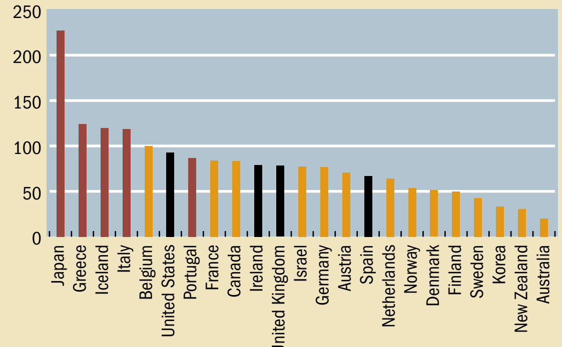
If the recovery takes hold, subsidies for short-time work and the various types of hiring subsidies introduced during the crisis could start to be phased out. Such subsidies put a strain on public finances and can give firms an incentive to free ride even when conditions improve. And if the fortunes of certain firms and industries are permanently affected, subsidies can

Chart 3

Ability to respond

The capability of a country to add debt—that is, its fiscal space—depends not only on its ratio of debt to GDP, but also its history of spending and taxing. Countries in red are constrained, those in black judged a little less so.

(public debt as a percent of GDP, 2010)



Sources: Authors' calculations based on IMF, World Economic Outlook database; and Ostry and others (2010).

Note: A red bar indicates a country's fiscal space is probably less than 50 percent of GDP; a black bar indicates a moderate possibility of fiscal space exceeding 50 percent of GDP.

obstruct reallocation of resources to other industries. The provision of unemployment insurance benefits should be tied to compulsory job training and community service, so that those who are unemployed remain attached to the labor force.

The challenge of long-term unemployment

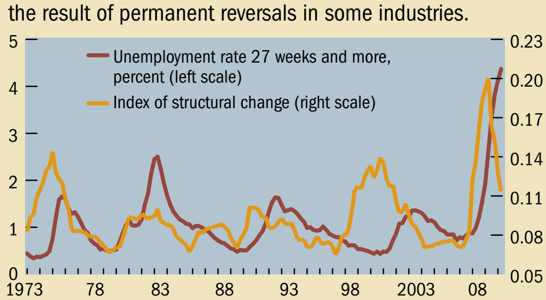
The proportion of the long-term unemployed—those out of work for 27 weeks or more—has increased in most advanced economies since the start of the Great Recession. In the few cases where it did not—such as in France, Germany, Italy, and Japan—long-term unemployment had been persistently very high even before the crisis. In the United States, the numbers of workers unemployed for 27 weeks or more (as a share of the total number of the unemployed) has risen during every recession since 1980, but the increase during the Great Recession was alarming: nearly half of all unemployed people have been out of work 27 weeks or more.

Much of the increase in long-term unemployment during the Great Recession may be a result of structural factors.

Chart 4

Declines in fortune

Much of the long-term unemployment in the United States is the result of permanent reversals in some industries.

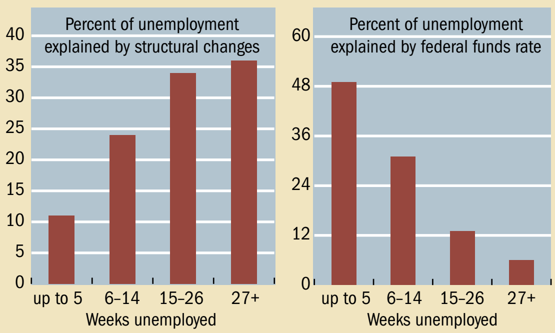


Sources: U.S. Bureau of Labor Statistics; and DataStream.
Notes: Long-term unemployment is 27 weeks or more. The structural change index uses stock returns in various industries. The greater the dispersion in stock returns across industries, which indicates the degree to which the relative fortunes of industries are expected to diverge, the higher the index value (between 0 and 1).

Chart 5

Intransigent unemployment

Changes in the federal funds rate, the traditional tool of Federal Reserve monetary policy, have more impact on short-term joblessness than on long-term unemployment.



Sources: U.S. Bureau of Labor Statistics; and authors' calculations.

This is because recessions can have very different impacts across industries. Some industries suffer and recover along with the overall economy. Others, such as some service industries—for example, health care—shrug off the effects of the recession. And some industries suffer a permanent decline. In many cases, these are industries that—in hindsight—had expanded too much before the recession. Examples of these are the high-tech industry prior to the 2000 dot-com bust and the construction sector ahead of the Great Recession.

Chart 4 shows an index of structural change in the United States using data on stock returns in various industries. The greater the dispersion of stock returns across industries—indicating the extent to which the industries' fortunes are expected to diverge—the higher the value of the index. Historically, the more intense the structural change that precedes or accompanies a recession, the higher the incidence of long-term unemployment. During the Great Recession, the index rose sharply and was matched by a steep rise in long-term unemployment. There is a similar increase in the intensity of structural change and the incidence of long-term unemployment in many other advanced economies (see Chen and others, forthcoming).

A recovery in aggregate demand, using monetary and fiscal policy, will lead to a decline in long-term unemployment. But there is evidence that recovery in aggregate demand takes too long to lift the boats of the long-term unemployed, and even then does not give them much of a lift. For instance, in the United States, movement in the federal funds rate, the traditional instrument of monetary policy, has more of an impact on short-term than on longer-term unemployment (see Chart 5, right panel). In contrast, the index of structural change is more strongly associated with long-term than with short-term unemployment (see Chart 5, left panel).

This suggests that tackling long-term unemployment will require that aggregate demand policies be supplemented with more targeted labor market policies, such as retraining, to put the long-term unemployed back to work. ■

Mai Chi Dao is an Economist and Prakash Loungani is an Advisor, both in the IMF's Research Department.

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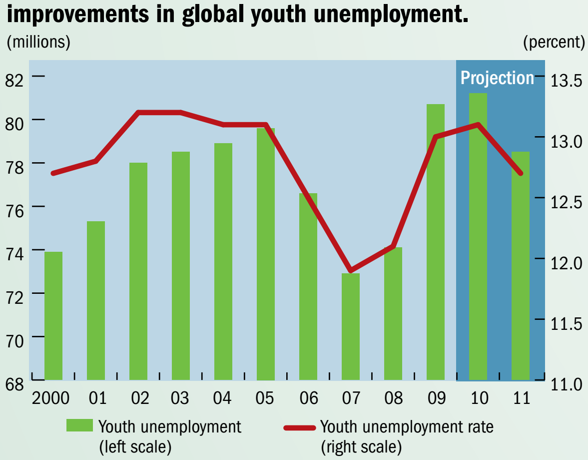
Youth for Hire

The global economic crisis has led to the highest youth unemployment rates ever

Rutgers University students apply for work, New Brunswick, New Jersey, United States.

YOUNG PEOPLE have been particularly vulnerable to unemployment during the global recession and the accompanying shrinking job market. In 2009, an estimated 81 million young people ages 15 to 24 were unemployed around the world—a record—and the number is expected to continue to increase in 2010, according to the International Labor Organization (ILO). The youth unemployment rate increased from 12.1 percent in 2008 to 13.0 percent in 2009—the largest-ever annual increase in the global rate. In 2009 alone, 6.7 million youths joined the ranks of the unemployed. This compares with an average annual increase of 191,000 in the 10 years before the crisis (1997 to 2007).

The 2008–09 economic crisis reversed the precrisis improvements in global youth unemployment.

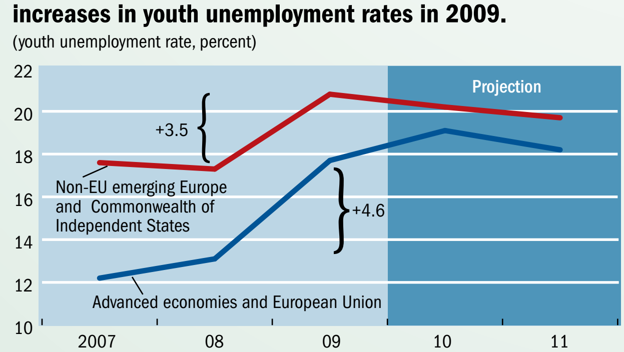


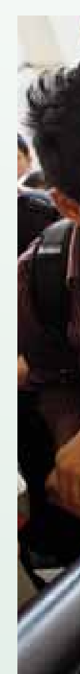
Young people have long been disadvantaged when it comes to finding work, for many reasons: they have less work experience; they have less knowledge about how and where to look for work; and they have fewer job-search contacts. The result is a global youth unemployment rate nearly three times higher than the adult unemployment rate—a ratio that has not changed significantly over time.

Youths in advanced regions most vulnerable

In advanced and some emerging economies—where the youth unemployment rates are much higher than the global rate—the crisis affects young people mainly in terms of rising unemployment and the social hazards associated with long-term job searches, discouragement, and prolonged inactivity. Many young people are taking any part-time employment they can find or feel trapped in a less than satisfactory job they fear leaving lest they fail to find another. Alternatively, some go back to school for another degree and hope for better economic times when they try to reenter the labor market. Governments in these regions are struggling to prevent a situation in which young people, having lost all hope of being able to work for a decent living, give up and settle for long-term dependence on state income support.

Advanced and emerging economies also saw record increases in youth unemployment rates in 2009.





Working but still poor in developing regions

In contrast, in developing economies—where 90 percent of the world's young people live and where social protection frameworks do not provide unemployment benefits that support job search—the unemployment statistics seem less dire because most youths have no choice but to work. The lowest-income regions—specifically sub-Saharan Africa, southeast Asia and the Pacific, and south Asia—continue to show the highest employment-to-population ratios, a reflection of the need to contribute to household income. Young men and women (in countries where the social norms accommodate women's participation in the job market) typically work in the informal economy, often in self-employed or occasional wage activities, such as seasonal farm work.

These are the young people trapped in what the ILO calls "decent work deficits"—those who work long hours, often under very difficult conditions, but still live in poverty. The ILO estimates that 152 million young people were living on less than $1.25 a day in 2008. This number is down from 234 million in 1998 but still represents a remarkable 28 percent of all young workers in the world. The majority of the young working poor lack even a primary-level education and are employed in the agricultural sector.

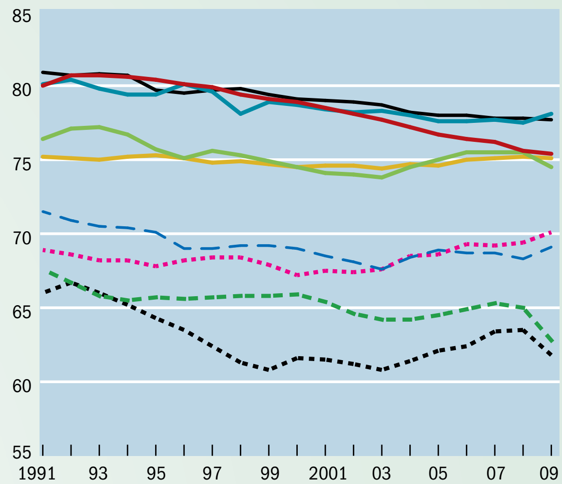
Better education needed

There is no one-size-fits-all solution to raising youth employment prospects. Continuing efforts are clearly needed in improved access to and quality of education to boost young people's chance for decent employment. Enrollment in education is increasing around the world and is reflected in part in the declining employment ratios of young men. Young women too are making gains in education, but with a lag. At the same time, there are some improvements in the gender gap as attitudes against the economic participation of young women slowly begin to change. More generally, additional means of improving decent work prospects for all young citizens include policies and national programs that encourage businesses to hire young people, promote youth entrepreneurship, and facilitate access to financial services. ■

Job seekers line up during a job fair in Jakarta, Indonesia.

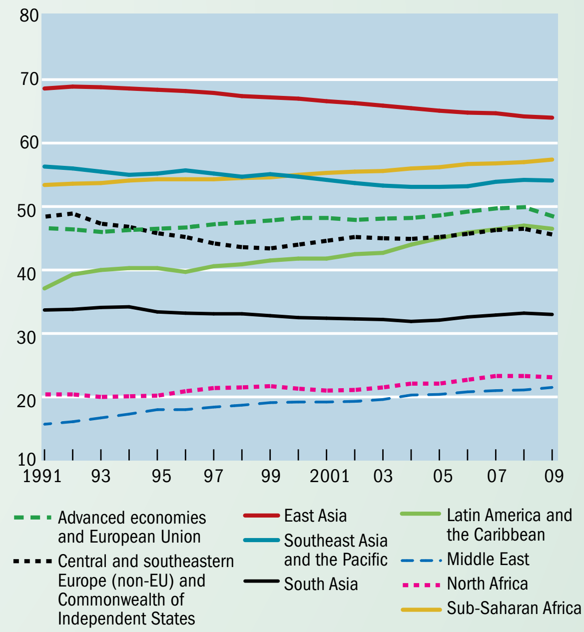
Employment ratios for young men—while declining worldwide—are higher in lower-income regions, where working poverty is pervasive.

(male youth employment-to-population ratio)



Young women's share in employment is slowly increasing in most regions, thus narrowing the gender gap.

(female youth employment-to-population ratio)



Prepared by Sara Elder, an Economist at the International Labor Organization. Text and charts are based on Global Employment Trends for Youth *(August), published by the ILO in 2010, and underlying data from the ILO's Trends Econometric Models (April 2010). The main report is available at* www.ilo.org/youth, *and the underlying data at* www.ilo.org/trends

Leveraging Inequality

Long periods of unequal incomes spur borrowing from the rich, increasing the risk of major economic crises

Michael Kumhof and Romain Rancière

THE United States experienced two major economic crises over the past 100 years—the Great Depression of 1929 and the Great Recession of 2007. Income inequality may have played a role in the origins of both. We say this because there are two remarkable similarities between the eras preceding these crises: a sharp increase in income inequality and a sharp increase in household debt–to-income ratios.

Are these two facts connected? Empirical evidence and a consistent theoretical model (Kumhof and Rancière, 2010) suggest they are. When—as appears to have happened in the long run-up to both crises—the rich lend a large part of their added income to the poor and middle class, and when income inequality grows for several decades, debt-to-income ratios increase sufficiently to raise the risk of a major crisis.

Shifting wealth

We looked at the evolution of the share of total income controlled by the top 5 percent of U.S. households (ranked by income) compared with ratios of household debt to income in the periods preceding 1929 and 2007 (see Chart 1). The income share of the top 5 percent increased from 24 percent in 1920 to 34 percent in 1928 and from 22 percent in 1983 to 34 percent in 2007 (we used fewer years before 1929 than before 2007 because the earlier data were highly distorted by World War I). During the same two periods, the ratio of household debt to income increased dramatically. It almost doubled between 1920 and 1932, and also between 1983 and 2007, reaching much higher levels (139 percent) in the second period.

In the more recent period (1983–2007), the difference between the consumption of the rich and that of the poor and middle class did not widen as much as the differences in incomes of these two groups. The only way to sustain high levels of consumption in the face of stagnant incomes was for poor and middle-class households to borrow (see Chart 2).

In other words, the increase in the ratios of debt to income shown in Chart 1 was concentrated among poor and middle-class households. In 1983, the debt-to-income ratio of the top 5 percent of households was 80 percent; for the bottom 95 percent the ratio was 60 percent. Twenty-five years later, in a striking reversal, the ratio was 65 percent for the top 5 percent and 140 percent for the bottom 95 percent.

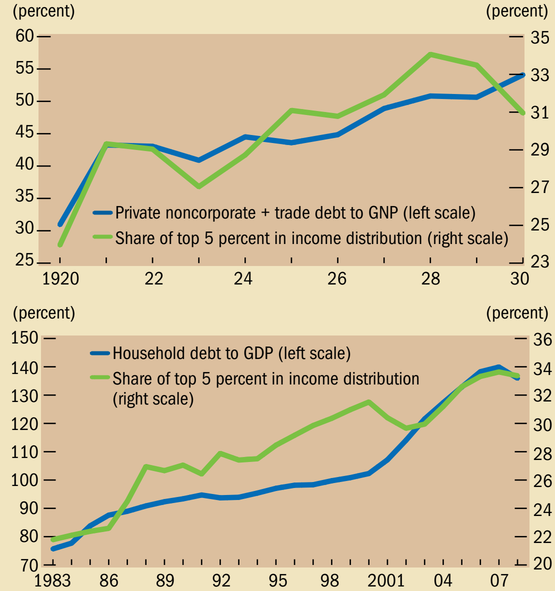
The poor and the middle class seem to have resisted the erosion of their relative income position by borrowing to maintain a higher standard of living; meanwhile, the rich accumulated more and more assets and invested in assets backed by loans to the poor and the middle class. Consumption inequality that is lower than income inequality has led to much higher wealth inequality.

The higher indebtedness of the bottom income group has implications both for the size of the U.S. financial industry and its vulnerability to financial crises. The bottom group's greater reliance on debt—and the top group's increase in wealth—generated a higher demand for financial intermediation.

Chart 1

Lending disposable income

As income inequality increases, the rich lend to workers, whose leverage increases.



Sources: U.S. Department of Commerce, *Statistical Abstract of the United States* (top panel); Picketty and Saez, 2003 (income shares, bottom panel); and Federal Reserve Board, Flows of Funds database (debt to GDP).

Note: Income excludes capital gains.

The only way to sustain high levels of consumption in the face of stagnant incomes was for poor and middle-class households to borrow.

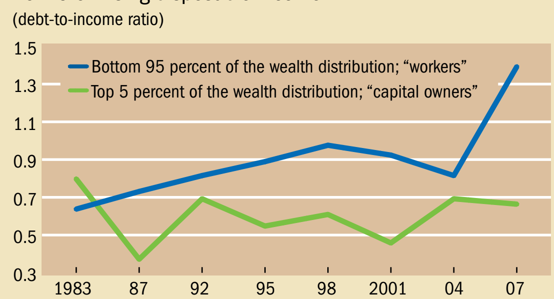
Between 1981 and 2007, the U.S. financial sector grew rapidly—the ratio of private credit to gross domestic product (GDP) more than doubled, from 90 to 210 percent. The financial industry's share in GDP doubled, from 4 to 8 percent. With increased debt, the economy became more vulnerable to financial crisis. When a crisis eventually hit in 2007–08, it brought with it a generalized wave of defaults; 10 percent of mortgage loans became delinquent, and output contracted sharply.

There are of course other possible explanations for the origins of the 2007 crisis, and many have stressed the roles of overly loose monetary policy, excessive financial liberalization, and asset price bubbles. Typically these factors are found to have been important in the years just preceding the crisis, when debt-to-income ratios increased more steeply than before. But it can also be argued, as in Rajan (2010), that much of this was simply a manifestation of an underlying and longer-term dynamic driven by income inequality. Rajan's argument is that growing income inequality created political pressure—not to reverse that inequality, but instead to encourage easy credit to keep demand and job creation robust despite stagnating incomes.

Chart 2

Increasingly indebted

Workers have been borrowing more as capital owners lend from their rising disposable income.



Source: Authors' calculations based on model simulations.

Modeling the facts

An economic model can clearly illustrate these links among income inequality, leverage, and crises. Our model has several novel features that reflect the empirical facts described above. First, households are divided into one income group at the top 5 percent of the income distribution (call them "capital owners") that derives all its income from returns on the economy's capital stock and from interest on loans and a second group composed of the remaining 95 percent ("workers"), who earn income in the form of wages. Second, wages are determined by a bargaining process between capital owners and workers. Third, all households care how much they consume, but capital owners also care about how much capital—physical capital and financial assets—they own. This implies that when capital owners' income increases at the expense of workers, they will allocate it to a combination of higher consumption, higher physical investment, and higher financial investment. The latter consists of increased loans to workers—whose consumption originally accounts for a very high 71 percent of GDP—giving them the means to consume enough to support the economy's production.

Chart 3

Borrowing from Peter to pay Paul

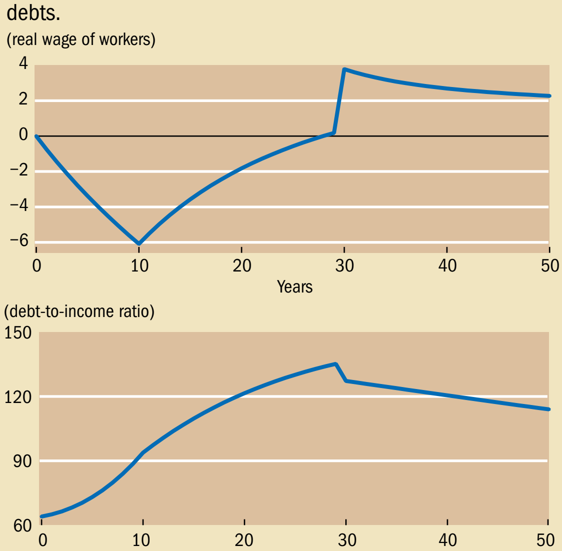
When workers' wages drop, they borrow more to maintain their consumption.

Source: Authors' calculations based on model simulations.

Chart 4

Averting a crisis

If workers' earnings are restored, they can pay off their debts.



Source: Authors' calculations based on model simulations.

Our model can be used to show what happens after the economy experiences a lengthy shock to the distribution of incomes in favor of capital owners. Workers adjust through a combination of lowering their consumption and borrowing to limit the drop in their consumption (see Chart 3). This gradually raises workers' debt-to-income ratio, which follows the pattern and magnitude documented in Chart 2. Workers' higher debt is made possible by the lending of capital owners' increased disposable income.

More saving at the top and more borrowing at the bottom mean consumption inequality increases significantly less than income inequality. Saving and borrowing patterns of both groups spur a need for financial services and intermediation. As a result, the size of the financial sector roughly doubles. The rise of poor and middle-class household indebtedness begets financial fragility and a higher probability of financial crises. With workers' bargaining power, and therefore their ability to service and repay loans, recovering only very gradually, loans continue to increase and the risk of a crisis persists. When the crisis does occur—assumed here to materialize after 30 years—there are large-scale household debt defaults on 10 percent of the existing loan stock, accompanied by an abrupt output contraction, as occurred during the 2007–08 U.S. financial crisis.

The model points to a number of ways the increase in debt-to-income ratios in the precrisis period could be more pronounced than shown in Chart 3. First, if capital owners allocate most of their additional income to consumption and financial investment rather than to productive investment, debt-to-income ratios increase much more. The reason is that capital owners are willing to lend at lower interest rates, thereby increasing debt, and the capital stock is lower, thereby reducing output and workers' incomes. Second, if the rate at which workers' bargaining power recovers over time is close to zero, even a financial crisis with substantial defaults provides little relief: debt-to-income ratios continue to increase for decades after the crisis, and a series of financial crises becomes very likely.

Policy options

There are two ways to reduce ratios of household debt to income.

The first is orderly debt reduction. What we have in mind here is a situation in which a crisis and large-scale defaults have become unavoidable, but policy is used to limit the collateral damage to the real economy, thereby leading to a smaller contraction in real economic activity. Because this implies a much smaller reduction in incomes for any given default on loans, it reduces debt-to-income ratios much more powerfully than a disorderly default. Still, a long-lasting trend toward higher debt-to-income ratios resumes immediately after the debt reduction, because workers continue to have a reduced share of the economy's income.

The second possibility, illustrated in Chart 4, is a restoration of workers' earnings—for example, by strengthening collective bargaining rights—which allows them to work their way out of debt over time. This is assumed to head off a crisis event. In this case, debt-to-income ratios drop immediately because of higher incomes rather than less debt. More important, the risk of leverage and ensuing crisis immediately starts to decrease.

Any success in reducing income inequality could therefore be very useful in reducing the likelihood of future crises. But prospective policies to achieve this are fraught with difficulties. For example, downward pressure on wages is driven by powerful international forces such as competition from China, and a switch from labor to capital income taxes might drive investment to other jurisdictions. But a switch from labor income taxes to taxes on economic rents, including on land, natural resources, and financial sector rents, is not subject to the same problem. As for strengthening the bargaining power of workers, the difficulties of doing so must be weighed against the potentially disastrous consequences of further deep financial and real crises if current trends continue.

Restoring equality by redistributing income from the rich to the poor would not only please the Robin Hoods of the world, but could also help save the global economy from another major crisis. ■

Michael Kumhof is a Deputy Unit Chief and Romain Rancière is an Economist, both in the IMF's Research Department.

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Faces of the Crisis Revisited

LAST year, *F&D* profiled six people from different countries, hit by the global economic crisis in different ways. As the recession recedes, we returned to find out how they have coped with the turmoil of the past year.

Changes wrought by the crisis have turned some lives upside down. In Japan, former auto worker Yoshinori Sato survives on welfare, while in Spain, where real estate agent Santiago Baena had once been doing so well, the housing sector is now saddled with billions of euros worth of foreclosed property. But even a financial crisis is of little concern if your country is slammed by the more immediate problems of natural disaster and epidemic, as in Haiti.

For others, adversity presented an opportunity for a fresh start. In Argentina, where the economy has since picked up, dockworker Gustavo Ramírez has become a trade union official. In Côte d'Ivoire, cocoa farmer Ignace Koffi Kassi was campaigning before the national elections and was too busy to speak with us. And in New York, Shital Patel has found a job—studying the job market.

We share some of their stories with you.

Yoshinori Sato lives on state support in Yokohama, Japan.

Japan

From Bad to Worse

JUST over a year ago, Yoshinori Sato did not believe his life could get worse. It did. When *F&D* profiled 51-year-old Sato in September 2009, he had recently lost his job as a temporary worker at Isuzu Motors Co. in Yokohama, Japan. The factory worker had been forced to vacate his company-owned apartment and was subsisting on welfare payments living apart from his family, who remain in his native Hokkaido.

Since then, Sato's situation has deteriorated. "It has been hard," Sato admits. He has faced health problems and has not seen his family since December—and his lawyers are pessimistic about the outcome of his suit against his former employer to regain his job. After rent, utilities, and transportation, Sato says he is left with about ¥30,000 ($367) a month for food and other expenses. He divorced his wife so that she too could claim state benefits, and the prospects for reuniting with his family look bleak. Sato is calm as he speaks, but it is clear that he is angry about his situation.

"We want to be together, but this legal battle is going to take a long time—probably more than a decade," he says.

Temporary workers have long been critical to the vehicle manufacturing industry. At the peak, an estimated 3.8 million workers fell into this category, with the government claiming the use of temporary staffers benefited both employers and workers, who gained greater job mobility. It quickly became clear that the greater advantage lay with companies, which were able to lay off employees more easily.

The economic crisis triggered by the collapse of investment banking firm Lehman Brothers in September 2008 has compounded the plight of temporary workers in the Japanese auto industry, which has suffered a sharp drop in demand. Sato says it is the workers who have borne the brunt of the downturn.

"Large corporations here had large savings and resources, so they were able to survive quite comfortably, but smaller enterprises and subcontractors were in a much more difficult situation," he points out, adding that even regular employees are now struggling.

"Some have been forced to retire early, others have had their wages cut, and some have even been laid off," he said. "Large corporations are still earning a profit, but workers' salaries are being reduced, and large Japanese companies are finding that they can't earn so much by producing here, so they are setting up their production facilities abroad."

"I have tried to get part-time jobs, but if I get a full-time job, then it might weaken my position in my legal case," says Sato, who instead occupies himself with union activities. He volunteers with the All Japan Metal and Machinery Workers' Union, speaking at meetings and offering advice to others who find themselves jobless.

Of the 12 people who filed the suit against Isuzu, some have found new jobs or are training for new positions but continue to seek compensation. Some, like Sato, get by on welfare payments. Sato, however, is the only one seeking reinstatement.

Sato says he is committed to his lawsuit against Isuzu and the government, and that means he will probably have to finally give up on his marriage.

"I have told my wife that if she wants to have a fresh start, if she finds a good partner and wants to remarry, then that would be OK with me," he said. "I would be happy for her." ■

By Julian Ryall, a freelance journalist working in Tokyo.

Argentina

A New Vocation

GUSTAVO Ramírez today acts like someone other than the dockworker whose living standard declined at the height of the world trade collapse in 2009.

Last year Ramírez, along with most of his coworkers at the Port of Buenos Aires, found himself working a reduced schedule when the Great Recession hit the docks of the Argentine capital.

Even then, although his income was lower and things were tighter for his wife and four daughters, Ramírez took a philosophical approach to the harder times. He said in an interview with *F&D* last year that he was able to use the newly free time to do volunteer work for the dockworkers union, an activity he found quite satisfying.

Today world trade has picked up markedly and Argentine shipping is again bustling. As a result, most of Ramírez's coworkers have experienced a big pickup in hours—and a big pickup in pay.

Things are looking better for dockworkers at the Port of Buenos Aires—and for Ramírez too. But Ramírez no longer works on the docks. He became a union official.

After three years of working on contract at the port, the days he spent volunteering during his forced free time persuaded him to run for union office late last year and work full time on union issues. He won the election and today is in charge of communications for the Single Argentine Port Workers Union.

He says he has found his place in the world. "I've always liked politics. I'd been searching for opportunities for activism." He said he found that opportunity when he began working at the port.

Like most emerging market countries, Argentina withstood the global crisis better than the advanced economies and is now showing signs of recovery. Exports grew by 18 percent in the first six months of 2010, for example.

Ramírez, 38, says the pay in his new job is not very different from what he earned when he started working at the port—but higher than it was last year, when Ramírez's work schedule was cut from about 24 days a month to 14 or 15 days. Many

Gustavo Ramírez became a union official in Buenos Aires, Argentina.

of his 1,500-odd former colleagues almost certainly earn more than he does today. The sharp boost in their take-home pay is a result of the recovery that began in late 2009.

"Working hours at the port have increased over the past year. Today the average net [monthly] wage for a contract worker is about 6,000 pesos [about $1,500], compared with half that last year," reflecting mainly an increase in hours worked and not the 30 percent pay hike the union won this year, he said.

Even though Ramírez has not enjoyed the pay increase his former coworkers received, things are better than a year ago. His family has been able to rent a larger apartment and can now go to the movies or eat at a restaurant "every so often," he said.

But income is not the driving force in Ramírez's life. "I used to be a total skeptic, but then it dawned on me that I had a choice: either go out and combat reality in a positive way and find my place in the world or close myself in at home and leave the world to tear itself apart. When I set out to face the world, I did so from a different perspective. When you're young you believe in the utopia of revolution, but as you grow up you start to understand the processes the country is going through. This year I regained hope," he said. ■

By Florencia Carbone, a journalist with La Nación *in Buenos Aires.*


Claude Bruno had been sending remittances from New Jersey, United States, to his cousin, Francette Picard, in Haiti.

Haiti

No Respite

HAITI is often said to be one of the most unfortunate places on earth. This year's events in the small Caribbean nation seem to bear that out. Hard on the heels of the global financial crisis that threatened the remittances Haitians rely on, the new year socked the poorest country in the Western Hemisphere with a devastating earthquake in January.

Francette Picard, a Haitian single mother of two featured last year in *F&D*, was one of thousands of victims caught up in the disaster's maelstrom. Now Haiti faces another catastrophe: a cholera epidemic. *F&D* has been unable to locate either Picard or her daughters.

Even before the earthquake, like scores of other Haitians, Picard, 58, was struggling to make ends meet—aided by occasional remittances of $30 to $60 from her cousin Claude Bruno, a 60-something-year-old dishwasher at a rehabilitation facility in New Jersey.

Bruno last spoke to his cousin some five months ago and knows she survived the earthquake. Whether for financial reasons or because of the earthquake, Picard moved out of her home and, the last Bruno heard, was living in one of the tent cities set up around the country to house the newly homeless.

The relocation of the 1.5 million people the earthquake left homeless remains the most pressing humanitarian challenge, according to Jacques Bouhga-Hagbe, the IMF's resident representative in Haiti. "The initial response to the emergency situation [following the earthquake] was good, but the transition to a reconstruction phase has been slow," he said.

To the surprise of many—and unlike remittances to other parts of the world—money sent home by Haiti's sizable diaspora held up well in the wake of the global financial crisis, showing "remarkable resilience," according to IMF economist Aurelie Martin.

Haitians abroad—mostly in the United States—send home 22 percent of the country's gross domestic product (GDP), or about $1.5 billion every year, according to IMF data. "Before the earthquake, remittances were the single largest source of foreign currency for the country," says Martin. But they have been bumped to No. 2 by earthquake relief.

Remittances to Haiti jumped in the aftermath of the earthquake and then leveled off. The IMF says they were up by 7 percent as of September 2010, compared with the preceding year.

And that money is now needed more than ever.

The world responded to the earthquake—which caused damage of about 120 percent of Haiti's GDP—with an outpouring of funds and humanitarian support. For example, the IMF has provided $114 million in emergency financing and forgiven Haiti's $268 million in outstanding loans for reconstruction.

But even with donor help, the country is grappling with the scale of the catastrophe, and the need to provide food, housing, clean water, and sanitation to its 8 million people is straining the country's limited resources. Even before the disaster, 80 percent of the population lived on $2 or less a day, according to the United Nations.

The lack of clean drinking water and adequate sanitation contributed to a cholera outbreak. At *F&D* press time, the Haitian authorities were struggling to contain a looming epidemic, which has already claimed more than 1,000 lives and sparked violence against UN peacekeepers, whom many Haitians blame for the outbreak.

Meanwhile 2,000 miles away, Claude Bruno watches events unfold back home. He continues to work at the nursing home in New Jersey, saving money from his earnings to send back to his relatives and hoping that Haiti can find a way out of the maze of its successive misfortunes. Those misfortunes have also exacted a heavy personal price on Bruno: he lost five family members in the January earthquake, including one of his children. ■

By Niccole Braynen-Kimani, an Editorial Assistant, and Hyun-Sung Khang, a Senior Editor, both on the staff of Finance & Development.

United States

Life's Labors

Shital Patel found a new job as an economist in New York, United States.

SHITAL Patel was until recently a New York City unemployment statistic. Now it's her job to study them.

Patel has become an economist in the research department of the New York State Department of Labor, where she is part of a team that monitors the ups and downs of the New York City job market. She spent more than a year unemployed after investment bank Morgan Stanley let her go in May 2008.

So when anxious job hunters sit before Patel in a room at the Labor Department's Manhattan headquarters to listen to her brief them on the city's employment and economic prospects, she knows whereof she speaks.

"I've been through it, so I just tell them, 'I've been in your shoes, and it all works out; you just have to remain positive because there are jobs out there,'" said Patel.

What a difference a year makes.

In a rags-to-not-quite-riches story that could have come straight out of Hollywood, Patel was "discovered" by her new employer when she walked through their doors to apply for her unemployment benefits.

Part of the application included handing over a copy of her résumé and attending a presentation by the staff of the Department—the very one Patel now gives to the ranks of the newly unemployed in the city.

Patel's qualifications and skills came up in a search of the Department's database after officials began looking for someone with a background in economics and financial experience, said Jim Brown, a labor market analyst with the Department and now Patel's new boss.

Patel applied for the job and was selected above a number of applicants.

"We talk to a wide variety of audiences, so we were looking for someone with both analytical and presentation skills who was comfortable discussing data in less technical ways," said Brown.

One of Patel's responsibilities is talking to people at companies that are planning layoffs and giving them the outlook for jobs in their industry across New York state.

According to the state Department of Labor, the city's unemployment rate for September this year was 9.3 percent, just below the then-prevailing national rate of 9.6 percent. The rate varies across New York City's five boroughs, reaching a citywide high of 12.5 percent in the Bronx.

The human cost of the global economic crisis is staggering, and worldwide unemployment hovers around 210 million people, according to the International Labor Organization's latest estimate.

Patel, 33, reflects on the big changes over the past two years, from the shock and grief experienced after she lost her job, to the new meaning she has found in helping people who are going through a similar ordeal.

Her commute is a 15-minute walk to work from her apartment in Greenwich Village to her office in Tribeca, and Patel arrives at a job where she feels appreciated by her colleagues as well as by the job seekers she helps. Best of all, Patel has job security, something she never had in her Wall Street career.

"I am so much more relaxed and healthier—I am out of the office at 6 p.m. and no longer tied to a BlackBerry," said Patel.

The one downside Patel freely admits is financial; she is paid much less than she made when she worked for an investment bank.

There is also pressure from some of her friends, who expect the ambitious and talented Patel to return to the banking world. She has to explain she enjoys her new life, and feels fortunate to be working again.

"My mother always says that I'm lucky, and she's right," said Patel. ■

By Jacqueline Deslauriers, an Assistant Editor on the staff of Finance & Development.

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I certify that the statements made by me above are correct and complete.
Jeremy Clift, Editor-in-Chief

Bad News Spreads

Rabah Arezki, Bertrand Candelon, and Amadou N.R. Sy

When government debt is downgraded, the ill effects can be felt across countries and financial markets

THE recent European sovereign debt crisis was concentrated in a few countries, but its effects were felt in financial markets throughout the euro area. Following downgrades of credit ratings for countries such as Greece, Ireland, Portugal, and Spain, sovereign bond spreads widened, the costs of insuring sovereign debt (as measured by credit default swap—CDS—spreads) rose, and stock markets well beyond the affected countries felt the pressure (see chart).

The resulting debate over the role of credit rating agencies during crises and the interdependence of different financial markets has focused on changes in sovereign debt ratings. These measure the likelihood that a government will fail to meet its financial obligations and whether these changes have spillover effects across countries and markets in a highly integrated environment, such as the euro area, which includes 16 European economies.

The financial intertwining of European economies over the past decade has created unique conditions for the study of the effects of rating news on financial markets, but the issue is not unique to Europe. The current debate surrounding the agencies that assign credit ratings echoes discussions during the Asian financial crisis of 1997–98, when sovereign debt problems hopscotched from economy to economy.

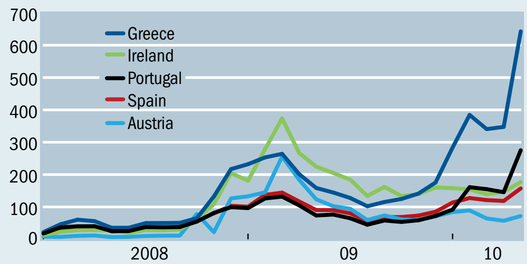
Unfortunately, there has been little research on the spillover effects of rating news. Gande and Parsley (2005), using data on bond spreads for emerging markets from 1991 to 2000, found that when one country's rating is downgraded it has a significant negative effect on the sovereign bond spreads of other countries. In more integrated financial markets, however, the shock of a rating downgrade is likely to have effects beyond bond markets. Indeed, more recent studies (for example, Ehrmann, Fratzscher, and Rigobon, 2010) analyze the transmission of shocks across markets and countries and find evidence of substantial international spillovers, both within and across asset classes, affecting, for example, money, bond, and equity markets as well as exchange rates.

Kaminsky and Schmukler (2002) provide some evidence that changes in sovereign debt ratings and outlooks affect financial markets in emerging economies. They find that

Fear spreads

When Greece's credit rating was downgraded in early 2010, not only did the cost of insuring Greek debt soar, so did the cost of insuring debt from other countries that were not downgraded.

(spread on credit default swaps, basis points)



Source: DataStream.

Note: A credit default swap (CDS) is a contract in which the buyer pays what is the equivalent of an insurance premium (called the spread) to the seller, which guarantees a specific debt will be paid in the event the borrower defaults. Although a CDS is often purchased by the holder of the debt, neither party to a CDS transaction need be involved in the underlying transaction. A basis point is 1/100th of a percentage point.

sovereign ratings affect not only the instrument being rated (bonds) but also stocks.

We examine the impact of rating news on CDS markets, but also consider systematically the potential spillover effects within the structure of different asset market classes (Arezki, Candelon, and Sy, 2010). We compiled a database that includes daily European sovereign CDS spreads and stock market indexes—including subindexes for banking and insurance equities—during 2007–10.

Our approach is designed to capture the effects of credit rating agencies' news while taking into account the structural interdependence of financial markets. It allows us to identify which markets and countries are affected by any given sovereign rating downgrade. In addition, we are able to isolate the spillover effect of rating news on different asset classes across countries after controlling for the tendency for large fluctuations to be followed by similar ones.

The main finding is that a sovereign rating downgrade influences financial markets not only in the country affected, but also in other euro area countries. The direction and magnitude of the effect of the rating news depend on where the credit rating news originates. For instance, downgrades of Greek sovereign debt systematically affected all euro area countries, resulting in higher costs for insuring sovereign debt (measured by CDS spreads) and pressure on stock markets, even if the credit rating of the other countries was unchanged. In contrast, downgrades of eastern European economies affected only euro area countries to which they were financially linked.

The nature of the interdependence of stock market performance and the cost of insurance against sovereign default (CDS spreads) varies from country to country. This suggests that sovereign rating news affects economies through a variety of channels, and the point of entry in one may be different than in another. For example, in Spain, an increase in CDS spreads on sovereign debt led to a decline in the stock market index—including the insurance and banking subindexes. But a change in the stock market index did not significantly affect CDS spreads in Spain. In contrast, in the Netherlands, an improvement in the stock market led to a reduction in CDS sovereign spreads. But in Italy, the effect went in both directions: better stock market performance led to a reduction in CDS spreads, and a higher CDS sovereign spread hurt stocks. Differences in market interdependence within countries can be explained by differences in the economy's structure, including differences in public sector involvement in the economy.

The type of rating news also matters. Credit rating agencies typically signal their intention to consider rating changes. For example, the three major credit rating agencies—Fitch, Moody's, and Standard & Poor's (S&P)—all use a negative "outlook" notification to indicate the potential for a downgrade within the next two years (one year in the case of speculative-grade credit ratings). We find that the average effect of downgrades on CDS spreads is larger than the effect of revisions of the outlook (when a rating is not changed but a possible change is signaled).

Financial markets may be myopic because they focus narrowly on downgrades. The downgrade of one country may convey new information about other countries (such as on financial linkages). It could also prompt market participants to reassess the fundamentals of countries with similar characteristics (such as fiscal deficits and indebtedness) or trigger herd behavior. The less-uniform response to outlook revisions could be related to the rating agency itself: either the market does not understand what the agency is trying to communicate when it ventures an opinion on the future, or the market doesn't react because it places little store in the agency's opinion.

Of course, the explanation could be simpler. In rules-based investing, holders of sovereign debt might be forced to sell if there is a downgrade, but not in the event of a revised outlook. Similarly, rating-based regulation constrains the European Central Bank—which must reject downgraded debt as collateral for a loan to a financial institution, but could accept it in the case of an outlook revision.

Moreover, which credit rating agency issues the rating news trumps the news itself. S&P outlook revisions are more likely to spill across countries than those of the other two major agencies. In contrast, rating downgrades that emanate from Moody's and Fitch tend to spill across countries more than S&P downgrades. Financial markets are indeed selective in the way they react to the rating news from different rating agencies, perhaps because of differences in the credibility of credit rating agencies. Other differences related to the communication strategy of rating agencies can also explain the difference in market reactions.

This evidence of spillover effects indicates that bad news does spread, but the transmission process is complex. The news can move rapidly from country to country and market to market, with varying effects both across countries and markets. The complexity of transmission complicates the design of regulation and the conduct of surveillance, so it is important that regulators understand how bad news spreads and what happens when it does. ■

Rabah Arezki is an Economist and Amadou N.R. Sy is a Deputy Division Chief, both in the IMF Institute. Bertrand Candelon is Professor of International Monetary Economics at Maastricht University.

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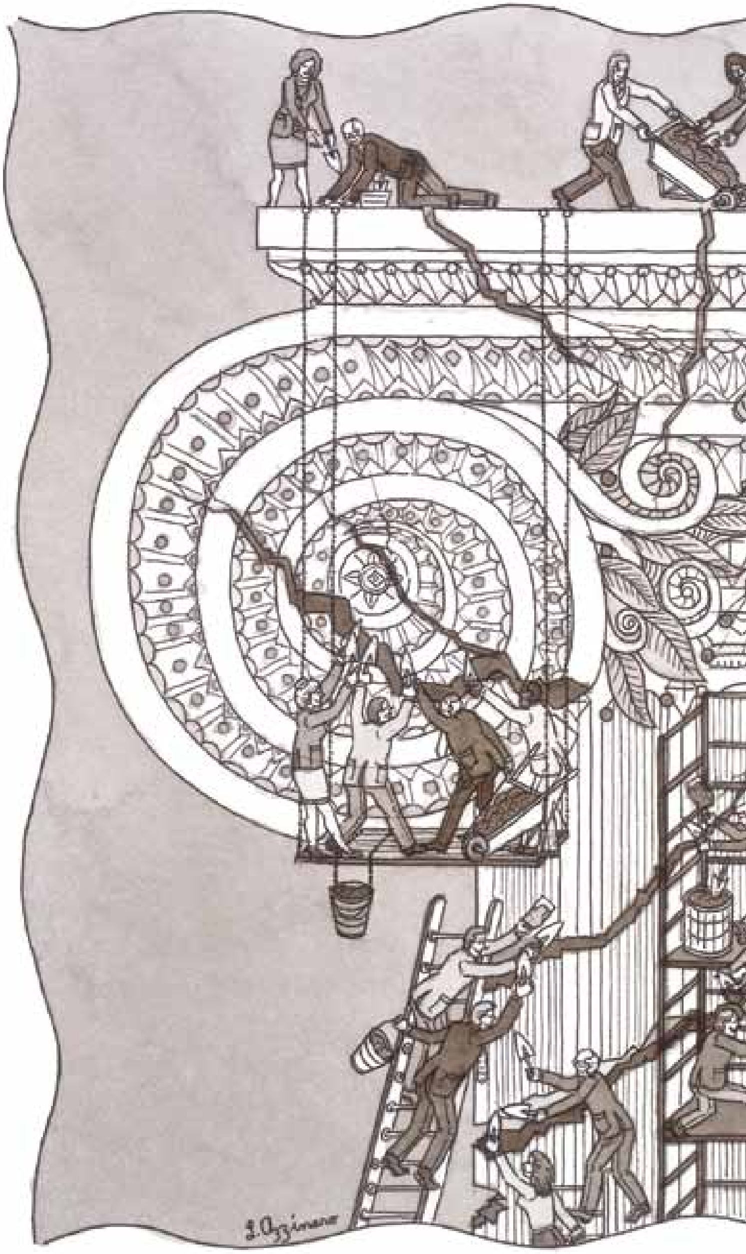
Risky Business

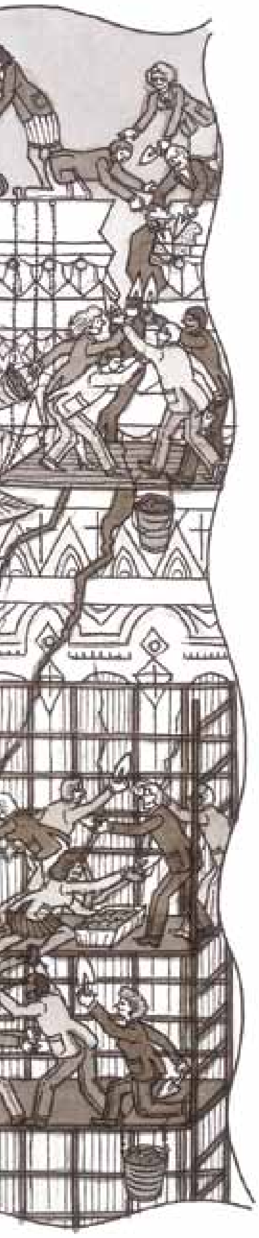
Global banks will adapt to the new international rules on capital and liquidity, but at what cost to investors and the safety of the financial system?



İnci Ötker-Robe and Ceyla Pazarbasioglu

THE recent crisis revealed the significant risks posed by large, complex, and interconnected banks of all types and the fault lines in their regulation and oversight. Over the past two decades, financial institutions in advanced economies expanded significantly and increased their global outreach. Many moved away from the traditional banking model—taking deposits and lending at the local level—to become large and complex financial institutions (LCFIs). These global financial titans underwrite bonds and stocks, write and sell credit and other derivatives contracts, and engage in securitization and proprietary trading within and across borders. When they fail, as did the Lehman Brothers investment bank in 2008, their downfall can lead to plummeting asset prices and turmoil in financial markets and threaten the whole financial system.

International banking reforms, under what is commonly known as Basel III, will require banks to hold more and better-quality capital and liquid assets. The effect of these reforms will vary across regions and bank business models: banks with significant investment activities will face larger increases in capital requirements, and traditional commercial banks will be relatively less affected. The Basel III regulations will likely have the strongest impact on banks in Europe and North America.



These more stringent rules will affect LCFIs' balance sheets and profitability. Banks will in turn adjust their business strategies, as they attempt to meet the tighter requirements and mitigate the effects of the regulatory reforms on their profitability. A key issue for policymakers is to ensure that the changes in banks' business strategies do not result in a further buildup of systemic risk in the shadows of less-regulated or unregulated sectors (such as hedge funds, money market funds, special purpose vehicles) or in locations with less-onerous regulatory standards.

Tighter capital and liquidity rules

The new rules, approved by the leaders of the Group of Twenty advanced and emerging economies in November 2010, require, among other things

- higher and better-quality bank capital—mainly common equity—that can absorb greater losses during a crisis;
- better recognition of banks' market and counterparty risks;
- a leverage ratio to limit excessive buildup of debt alongside the capital requirement;
- tighter liquidity standards, including through a liquid asset buffer for short-term liquidity stresses and better matching of asset and liability maturities; and
- buffers for conservation of capital.

Our analysis of a sample of 62 LCFIs from 20 countries and covering three business models—commercial, universal, and investment banks—suggests that banks with significant investment banking activities, which derive earnings primarily from trading, advisory, and asset management income, will experience larger declines in regulatory capital ratios, mostly because of higher market risk weights for trading and securitization activities (see Chart 1).

Banks' derivatives, trading, and securitization activities will be subject to tighter capital requirements as of end-2011 and, as a result, will be more costly. The goal is for tighter liquidity and capital requirements to ensure better coverage of the risk associated with those activities.

Universal banks, whose activities range from lending to investment banking, insurance, and other services, will also be affected by a combination of increased risk weights associated with their trading business and deductions from their capital as a result of their insurance business and minority interests related to third-party shareholdings in consolidated subsidiaries within a banking group.

Traditional commercial banks whose principal source of income is lending activity (see Chart 2) will be the least affected, thanks to their simpler business focus and the gradual phase-in period.

Across regions, the regulations will have a greater effect on European and North American banks, reflecting the large concentration of universal banks in Europe and the impact of higher risk weights on trading and securitization activities.

Shaping banks' business

Investment banking activities will also face regulatory reform initiatives beyond the Basel requirements that will raise their need for capital. The *securitization business* is subject to the U.S. Financial Accounting Standards Board's new accounting rules, which require originators to consolidate some securitized transactions onto bank balance sheets. Moreover, the 5 percent risk-retention rule for all securitization tranches aims (for example, under the Dodd-Frank Act recently signed into law in the United States) will compel their originators to keep some skin in the game. Combined with higher Basel risk weights, these reforms are expected to limit the desirability and profitability of the securitization business.

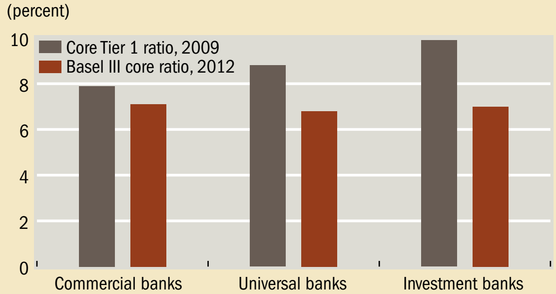
Similarly, the *derivatives business* will be affected by the global proposals made by the Financial Stability Board—an

Chart 1

The cost of risk

The reduction in core capital ratios will hit investment banks hardest.

(percent)



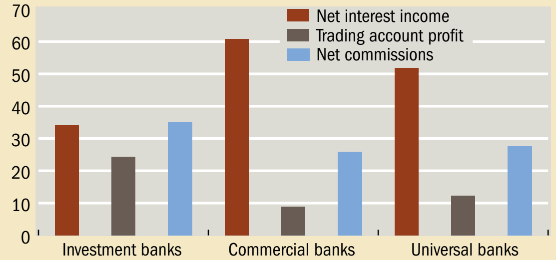
Sources: Company reports; Fitch database; and authors' estimates based on data for sample large and complex financial institutions.

Chart 2

Making money

Net interest income is the main component of all banks' revenues, especially those of commercial banks.

(end-2009, percent)



Sources: Company reports; Fitch database; and authors' estimates based on data for sample large and complex financial institutions.

international group of central bankers and regulators—on exchange trading and central counterparty clearing of over-the-counter (OTC) derivatives. Moreover, national initiatives, such as the U.S. requirement to move some banks' derivatives business to separately capitalized nonbank subsidiaries, will have an impact. These regulations will affect investment banks and universal banks that are most active in derivatives business, while attempting to limit, through various exemptions, adverse effects on legitimate transactions, such as hedging.

The cost and profitability of the *trading business,* which boosted investment bank revenue in 2009, are also affected by higher Basel risk weights for the trading book and various global and national proposals (including the Volcker rule in the United States, which limits proprietary trading and investment in, or sponsorship of, private equity and hedge funds) and market infrastructure reforms that regulate OTC derivatives trading.

Basel III also affects banks with a universal banking focus. Banking groups undertaking a combination of *commercial and investment banking* activities will be affected by reform measures that target investment activities or systemically important institutions, including reforms that propose to break up banks or prohibit certain activities. While limiting these activities may not be costly from an economic perspective, the reduced ability to benefit from diversification and compensate low-margin activities with investment income could reduce banks' ability to generate retained earnings, which add to a bank's capital requirements and its resilience to adverse economic shocks.

Rules galore

Groups that carry out *insurance and banking* business under one roof, such as under the European *bancassurance* model, will feel the combined impact of the new Basel rules and Solvency II, an updated set of rules for European Union insurance firms set to take effect in late 2012. These will likely lower the capital benefits associated with this model—an intended consequence of the Basel reform measures. Partial recognition of insurance participation in common equity may help smooth out the real-sector implications for banking systems that rely heavily on the *bancassurance* model.

Globalized banks with a diversified set of business lines may also be affected by national-level structural reform proposals, including stand-alone subsidiarization (SAS) and living wills (that is, recovery and resolution plans for large banks that map out how to safely wind down institutions in case of failure). These reforms, by encouraging simpler and more streamlined corporate structures, may limit the diversification benefits of groups with different business lines. The key objective of the two proposed reforms is easier and less-costly resolution of large banking groups as a result of compartmentalized risk and individual group parts that are more resilient to shocks. By establishing effective firewalls between various parts of a banking group, SAS may affect the group's ability to manage liquidity and capital and may hurt its ability to sustain a diversified corporate structure. This may have a greater impact on global banks with a centralized business model than on those with a decentralized or retail orientation.

Surviving by adapting

The combined effect of the various reform measures will therefore depend on how financial institutions react to the additional costs imposed on them—whether by shrinking their assets, repositioning across business lines, transferring the costs to customers through changes in margins and spreads, or restructuring their cost base and lowering dividends paid to shareholders.

Ultimately, the impact of the reforms on LCFIs will depend on the flexibility of their business model and how they adjust to the changes. Banks with a major investment banking focus could restructure their activities to reduce the effects of the regulatory reforms. With their flexible balance sheet structures, they can capture the most profitable segments to generate robust cash flows and earnings, buy or sell assets with relative ease, shift their operations rapidly, and manage capital by shrinking assets and repositioning their portfolios away from the most capital-intensive assets.

Such adjustments in business strategies could, however, have unintended consequences that increase systemic risk. As risky activities become more costly (for example, derivatives and trading activities, some types of securitization, and lending to high-risk borrowers), this business may shift to the less-regulated shadow banking sector. The risk to the financial system, however, may remain, given the funding and ownership linkages between banks and nonbanks.

Although supervision could help contain this vulnerability, its ability to do so may be limited without a widening of the scope of regulation. Moreover, absent careful global coordination of the implementation of tighter rules, some businesses may be prompted to move to locations with weaker regulatory frameworks to minimize regulatory costs. This may affect the capacity to monitor and manage systemic risk.

Safeguards are needed to mitigate the new rules' unintended consequences and minimize the danger to banks' ability to support economic recovery. Most important, supervisors must understand banks' business models and have increased oversight in order to monitor and limit excessive risk taking. Stronger market infrastructure and risk management by financial institutions should accompany these efforts. Policies and their implementation need to be coordinated among national authorities and standard setters, given the global reach of many of these institutions. ■

İnci Ötker-Robe is a Division Chief and Ceyla Pazarbasioglu is an Assistant Director, both in the IMF's Monetary and Capital Markets Department.

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Trusting the Government

Marc Quintyn and Geneviève Verdier

Confidence in government is the key to financial development

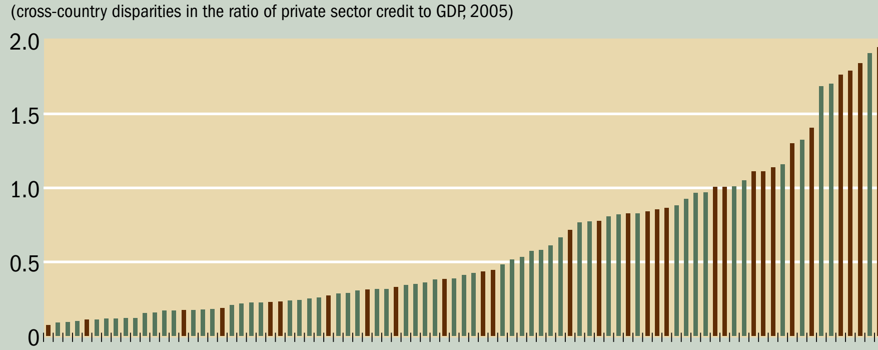
THE epicenter of the recent financial crisis was in countries with the most developed financial systems, raising questions about the advantages of such systems. But there is still broad consensus that financial development—the creation of a financial system that ensures effective intermediation between saving and investment via banking, insurance, and stock and bond markets—contributes to economic growth and a better standard of living.

To reap the benefits of deep and well-functioning financial markets, many countries liberalized their financial systems in the hope of jump-starting financial development. Industrialized countries led the reform efforts in the 1970s, followed by many middle- and low-income countries. However, efforts to stimulate the financial sector have had uneven results: liberalization has fostered financial development in a number of countries, but financial systems in a majority of countries have remained small and underdeveloped by most standards. In some cases, short-term surges in financial development even led to severe financial crises following liberalization. These varied outcomes (see chart) prompted a decades-long search for policies and institutional features conducive to financial development.

Deepening financial markets

The degree of financial development, as measured by the amount of credit available in an economy, varies widely across countries.

(cross-country disparities in the ratio of private sector credit to GDP, 2005)



Source: Authors' calculations based on World Bank, *World Development Indicators*.
Note: Bars reflect a representative sample of countries; red bars represent countries that have experienced an acceleration episode lasting 10 years or more.

We have found that financial liberalization is a necessary but not sufficient condition for financial development (Quintyn and Verdier, 2010). Our research concludes that financial development depends not only on the prevailing macroeconomic environment, policy design, and principles such as property rights and contract enforcement, but especially on the quality of the political systems that uphold these principles. Political institutions that keep politicians' actions in check reassure savers, investors, and borrowers that their property rights will be protected.

From repression to liberalization

Post–World War II attempts to use the financial system as an engine for economic growth were characterized by direct state intervention to channel funds to sectors designated as crucial for development. This strategy was popular in low- and middle-income countries and was employed to some degree even in several advanced economies. In its extreme form, such government-led strategy relied on state-owned banks and a host of administrative controls on financial institutions (including interest rate controls, credit ceilings,

Political institutions that keep politicians' actions in check reassure savers, investors, and borrowers that their property rights will be protected.

directed credit, and strict limits on entry into the sector). Far from yielding the expected economic growth and development outcomes, it had perverse effects, including suboptimal allocation of capital and widespread corruption, and it discouraged saving.

This strategy, baptized "*financial repression*" by authors such as McKinnon (1973) and Shaw (1973), was gradually abandoned by the early 1970s. It was replaced by *financial liberalization:* elimination of administrative controls on financial institutions (including on interest rates); privatization of state-owned banks and authorization of more private banks; entrance of foreign banks into the domestic sector; and (later in the process) capital account openness. The ultimate goal of these measures was a competitive financial system that could allocate financial resources to the economy based on risk and return. Financial liberalization required a new approach to prudential supervision, to ensure that the financial institutions' risk management was on a sound footing.

Many countries have since embarked on this type of liberalization, with mixed results. In fact, if anything, the gap between countries with developed financial systems—as measured by bank credit to the private sector as a share of gross domestic product (GDP), a common yardstick of financial development—and "laggards" has been growing since the 1990s. For a better indication of banks' role as intermediaries of financial resources, we prefer to use private sector credit as a measure rather than other criteria, such as bank deposits to GDP. Admittedly, private sector credit does not take into account other features of financial sector development, such as the quality of financial services or stock market development. However, since most financial systems are dominated by banks, and private sector credit data are readily available for a wide range of countries, we opted for this variable, which, we believe, captures broad developments in most of the world.

Keeping a promise

Faced with these disappointing outcomes, one strand of research points to the prevailing legal system among institutional factors crucial to financial development. For example, common law supports financial development, because it protects individuals from the state more than other legal traditions do (La Porta and others, 1998).

Other researchers have looked at the degree to which countries *effectively* protect property rights (Acemoglu and Johnson, 2005). Inherent in each financial transaction is the promise of future repayment. Economic agents willingly engage in financial transactions if this promise is backed by a credible enforcement mechanism—that is, if their property rights are effectively protected. Hence, the argument goes, sustained financial development will take place only if all parties involved believe that promises will be honored.

This finding, however important, raises the question of the ultimate source of *effective* protection of property rights. A number of authors argue that political institutions are crucial: essentially, only governments can ensure that protection is not simply written into law, but is carried out effectively. Economic agents must trust that the political system will give those in power the incentive to enforce property rights. Financial development may be best served if governments are strong enough to effectively protect property rights and willing to keep their own power in check to prevent abuse (Haber, North, and Weingast, 2008; and Keefer, 2008). This delicate equilibrium rests on political actors' willingness to submit to a system of checks and balances. Trust in government will result in increased financial activity. According to this view, the quality of a country's political institutions is the ultimate determinant of financial development. We found that most long-lasting episodes of financial deepening have indeed occurred in countries with high-quality and stable political institutions.

Accelerating financial development

To test the hypothesis, we analyzed developments in the ratio of private sector credit to GDP. We looked at a sample of 160 high-, middle-, and low-income countries during 1960–2005 and identified 209 periods of accelerated financial development—defined as annual growth in the ratio of private sector credit to GDP of more than 2 percent for at least five years. We applied a centered three-year moving average that allowed us to avoid "accidents" or random one-year changes.

The episodes of financial acceleration ranged in length from 5 years (the imposed minimum) to as long as 22 years. Based on criteria established in the literature, we divided the acceleration periods into short ones (lasting between 5 and 10 years) and long, sustained ones (longer than 10 years). Of the 209 episodes, only 48—just over one-fifth—were long. Most countries that now have highly developed financial systems experienced a sustained acceleration at some point during the past 50 years. But that by itself is no guarantee of success; reversals occurred in a number of countries.

To test our political institutions hypothesis, we compared the prevailing economic and institutional conditions at the start of short-term accelerations and sustained accelerations. We examined whether, and how, a given set of factors—macroeconomic variables, financial liberalization, and types of political institutions—affect acceleration. Macroeconomic variables include GDP growth and inflation. Financial liberalization is captured by an index. The quality of political institutions is reflected in a polity index (Polity IV Project)that ranges from –10 (autocratic regimes) to +10 (democratic regimes).

We found that the determinants of financial acceleration vary between short and long episodes. Favorable macroeconomic conditions increase the likelihood of all types of acceleration. The same is true for financial liberalization. When a country takes measures to liberalize its financial system, it has a significant and large impact on the probability of all types of acceleration.

The big difference is in the impact of the political institutions variable. Our results strongly support the view that political institutions matter, suggesting that countries with checks and balances in their political system—that is, more democratic regimes—are more likely to experience sustained financial development. In contrast, we find that the polity variable has a significant and negative effect on the probability of a short acceleration period. This suggests that countries with political systems with high democratic content are also less likely to experience short-lived financial development.

To further investigate the impact of political stability on financial development, we also considered the effect of the durability (length in years) of the political regime. The results show that the durability of a democratic regime—a combination of stability and high-quality political institutions—greatly increases the probability of a sustained period of financial development.

Pushing the pedal

The drivers of short accelerations and longer accelerations vary.

	Accelerations lasting 5 to 10 years	Accelerations lasting more than 10 years
Macroeconomic		
Real economic growth	+	+
Financial		
Financial liberalization	+	+
Bank supervision	–	+
Political institutions		
Polity	–	+
Durability, democracy	–	+
Durability, autocracy	+	–
Other		
Credit/GDP ratio	–	–
GDP per capita	+	+

Source: Authors' calculations.
Note: Plus (minus) sign indicates positive (negative) correlation between the variable and financial acceleration.

Fertile ground

We found that countries with weaker political institutions are more likely to experience temporary surges in financial development. In contrast, countries with political institutions that include checks and balances are more likely to experience genuine long-lasting financial deepening following financial liberalization. Durable democratic regimes—those that offer a combination of stability and high-quality political institutions with players subject to checks and balances—offer the most fertile ground for financial deepening.

Durable democratic regimes . . . offer the most fertile ground for financial deepening.

Financial liberalization is a strong impetus for financial acceleration, but it is not enough for sustained deepening of the financial sector. This requires financial liberalization measures supported by a political environment that instills trust—trust that financial promises will be enforced and that the government will not overrule property rights. Such trust stems from the quality of the political institutions and their durability. ■

Marc Quintyn is a Division Chief in the IMF Institute, and Geneviève Verdier is an Economist in the IMF's African Department.

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Customers at the Dubai Islamic Bank in Dubai, United Arab Emirates.

Good for Growth?

The spread of Islamic banking can spur development in countries with large Muslim populations

Patrick Imam and Kangni Kpodar

IN Islamic countries, many of them poor and not highly developed, large segments of the Muslim population do not have access to adequate banking services—often because devout Muslims are unwilling to put their savings into a traditional financial system that runs counter to their religious principles (see box). Islamic banks seek to provide financial services in a way that is compatible with Islamic teaching, and if Islamic banks can tap that potential Muslim clientele, that could hasten economic development in these countries.

There is evidence of close correlation between financial sector development and growth. Countries whose financial systems offer a variety of services—including banking and insurance—tend to grow faster. Banks, whether Islamic or traditional, play a fundamental economic role as financial intermediaries and as facilitators of payments (King and Levine, 1993). They also help stimulate saving and allocate resources efficiently.

Globally, the assets of Islamic banks have been expanding at double-digit rates for a decade, and Islamic banking is an increasingly visible alternative to conventional banks in Islamic countries and countries with many Muslims. Our study identifies the sources of Islamic banking's expansion and ways to stimulate its continued growth. Knowing what drives the development of Islamic banking will help developing countries in Africa, Asia, and the Middle East catch up.

The rise of Islamic banking

Four decades ago, Islamic banking emerged on a modest scale to fill a gap in a banking system not attuned to the needs of the devout. Two events were crucial to its development. First, the early 1960s appearance in rural Egyptian villages of microlending institutions following Islamic banking principles demonstrated the feasibility of Islamic banking. These experiments thrived and spread to Indonesia, Malaysia, and sub-Saharan Africa.

Second, top-down support following the 1975 establishment of the Islamic Development Bank in Jeddah, Saudi Arabia, further spurred diffusion of Islamic banking by centralizing expertise. In its infancy, Islamic banking required much interpretation of Shariah law by Islamic scholars. In the first few years, basic implementation tools—such as legislation allowing such banks to be set up and the training of staff—were key ingredients for the spread of Islamic banking. And the past few years have seen rapid innovation, most recently improved regulation of liquidity management and accounting.

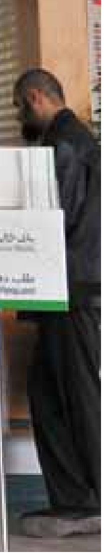
Similarly, the development of *sukuk* (Islamic bonds) has revolutionized Islamic finance in recent years: Islam prohibits conventional fixed income interest-bearing bonds. Harnessing sophisticated financial engineering techniques, sukuk are now a multibillion-dollar industry.

Rising oil prices since 2000 were also a catalyst, leading to a massive transfer of resources toward the large oil-producing countries, which have been more inclined to adopt Islamic banking. During the past decade, Islamic banking industry assets grew at an average 15 percent annually, and more than 300 Islamic institutions claim total assets of several hundred billion dollars. Two-thirds of Islamic banks are in the

Features of Islamic banking

Islamic banks serve Muslim customers, but are not religious institutions. They are profit-maximizing intermediaries between savers and investors and offer custodial and other traditional banking services. The constraints they face are, however, different and are based on Shariah law. Four features are unique to Islamic banking:

- **Prohibition against interest (*riba*)** is the major difference between Islamic and traditional banking. Islam prohibits *riba* on the grounds that interest is a form of exploitation, inconsistent with the notion of fairness. This implies that fixing in advance a positive return on a loan as a reward for the use of one's money is not allowed.
- **Prohibition against games of chance (*maysir*) and chance (*gharar*):** Islamic banking bars speculation—increasing wealth by chance rather than productive effort. *Maysir* refers to avoidable uncertainty; for example, gambling at a casino. An example of gharar is undertaking a business venture without sufficient information.
- **Prohibition against forbidden (haram) activities:** Islamic banks may finance only permissible (halal) activities. Banks are not supposed to lend to companies or individuals involved in activities deemed to harm society (for example, gambling) or prohibited under Islamic law (for example, financing construction of a plant to make alcoholic beverages).
- **Payment of some of a bank's profits to benefit society (*zakat*):** Muslims believe in justice and equality in opportunity (not outcome). One way to do this is to redistribute income to provide a minimum standard of living for the poor. *Zakat* is one of the five tenets of Islam. Where *zakat* is not collected by the state, Islamic banks donate directly to Islamic religious institutions.



Middle East and North Africa, with the rest mainly in southeast Asia and sub-Saharan Africa. But even in countries with many Islamic banks, they are overshadowed by conventional banks. In the Gulf region, Islamic banks—in terms of their assets—account for one-quarter of the industry (see chart). Elsewhere, their share is in the single digits.

Islamic banking and development

The rise of Islamic banking has contributed to economic development in two main ways. One key benefit is *increased financial intermediation*. In Islamic countries and regions, large segments of the population do not use banks. The Islamic world, as a whole, has a lower level of financial development than other regions—in part because conventional banks do not satisfy the needs of devout Muslims. This "underbanking" means savings are not used as efficiently as they could be.

Moreover, because Islamic banking requires borrowers and lenders to share the risk of failure, it provides a *shock-absorbing mechanism* that is essential in developing economies. These economies—whether in the Middle East, Africa, or east Asia—are often large, undiversified commodity producers (mainly of oil) subject to boom-bust cycles and the vagaries of export and import price changes. In addition, most tend to have fixed or highly managed exchange rates, so the exchange rate is less able to absorb shocks. A mechanism that allows the sharing of business risk in return for a stake in the profits encourages investment in such an uncertain environment and satisfies Islam's core tenet of social justice.

How Islamic banking spreads

Islamic banking is likely to continue to grow, because many of the world's 1.6 billion Muslims are underbanked; understanding how Islamic banking spreads will help guide the formulation of policy recommendations. To that end, we estimated the factors behind the diffusion of Islamic banking around the world using a sample of 117 countries during 1992–2006. We also tested for whether it substitutes for—or complements—conventional banking.

We found, unsurprisingly, that the probability of increased Islamic banking in a given country rises with the share of Muslims in the population, income per capita, the price of oil, and macroeconomic stability. Proximity to Malaysia and Bahrain (the two main Islamic financial centers) and trade integration with Middle Eastern countries also make diffusion more likely.

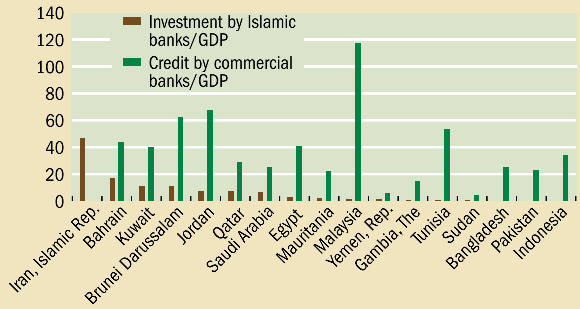
Interest rates negatively affect the diffusion of Islamic banking, reflecting the implicit benchmark they pose for Islamic banks. Although pious individuals may have accounts only with Islamic banks, other consumers allocate their savings based on interest rates set by conventional banks. High interest rates hinder the diffusion of Islamic banking by raising the opportunity cost for the less pious (and individuals from other denominations who are increasingly attracted to Islamic banking) to put their savings in Islamic banks.

Some results, however, were unanticipated. First, Islamic banks spread more rapidly in countries with established banking systems. Islamic banks offer products not delivered by conventional banks and thus complement rather than substitute for conventional banks.

Islamic versus conventional banks

Islamic banks have a greater share of bank assets in the Gulf region than elsewhere.

(average 1992–2006, percent of GDP)



Sources: Bankscope, Financial Development and Structure Database; and authors' calculations.

Second, we found that the quality of a country's institutions, such as the rule of law or the quality of the bureaucracy, was not statistically significant in explaining the diffusion of Islamic banking. This is not true for conventional banking. Because Islamic banking is guided by Shariah, it is largely immune to weak institutions: disputes can be settled within Islamic jurisprudence.

Third, the September 11, 2001, attacks on the United States were not an important factor in the diffusion of Islamic banking. These events simply coincided with rising oil prices, which appear to be the actual driver of Islamic banking.

Policy implications

During the past decade, Islamic banking has grown from a niche market into a mainstream industry, and has likely helped drive growth in the Islamic world by drawing underbanked populations into the financial system and allowing risk sharing in regions subject to large shocks.

Even though our findings suggest little need for institutional reform, policy changes can still boost the spread of Islamic banking. Encouraging regional integration through free-trade agreements, maintaining a stable macroeconomic environment that helps keep interest rates low, and raising per capita income through structural reforms will lead to further expansion. The spread of Islamic banking is not, however, a panacea—it is merely one of many elements needed to sustain growth and development. ■

Patrick Imam is an Economist in the IMF's Monetary and Capital Markets Department and Kangni Kpodar is an Economist in the IMF's African Department.

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Put to the Test

Islamic banks were more resilient than conventional banks during the global financial crisis

Maher Hasan and Jemma Dridi

People line up for an ATM in Rabat, Morocco.

THE recent global crisis has renewed interest in the relationship between Islamic banking and financial stability—and, more specifically, the resilience of the Islamic banking industry during crises. Some argue that the lack of exposure to the types of loans and securities associated with the losses conventional banks experienced during the crisis—because of the asset-based and risk-sharing nature of Islamic finance—shielded Islamic banks from the crisis. Others contend that Islamic banks relied on leverage and took on significant risks, much like their conventional counterparts, making them vulnerable to the "second-round effects" of the global crisis.

Our study looks at the actual performance of Islamic banks and conventional banks in countries where both have significant market shares, and addresses three broad questions. Did Islamic banks fare differently from conventional banks during the financial crisis? If so, why? And what challenges for Islamic banks has the crisis highlighted?

Using bank-level data covering 2007–10 for about 120 Islamic and conventional banks in eight countries—Bahrain, Jordan, Kuwait, Malaysia, Qatar, Saudi Arabia, Turkey, and the United Arab Emirates (UAE)—we focused on changes in four key indicators: profitability, bank lending, bank assets, and external bank ratings.

The Islamic banking model

The central concept in Islamic finance is *justice*, which is achieved mainly through the sharing of risk. Stakeholders are supposed to share profits and losses. Hence, charging interest is prohibited.

While conventional intermediation is largely *debt based* and allows for *risk transfer*, Islamic intermediation, in contrast, is *asset based* and centers on *risk sharing* (see table). "Asset based" means that an investment is structured on exchange or ownership of assets, placing Islamic banks closer to the real economy than conventional banks, which can create products that are mainly notional or virtual.

During the boom period of 2005 to 2007, Islamic banks' profitability was significantly higher than that of conventional banks. During this period, real GDP growth for countries in our sample averaged 7.5 percent a year before decelerating to 1.5 percent during 2008–09. If this profitability was the result of greater risk taking, one would then expect a larger decline in profitability for Islamic banks during the crisis (defined in our study as beginning at end-2007).

We found that factors related to Islamic banks' business model helped contain the adverse impact on this group's profitability in 2008. In particular, smaller investment portfolios, lower leverage, and adherence to principles of *Shariah* (Islamic law)—which precluded Islamic banks from financing or investing in the kind of instruments (such as collateralized debt obligations and credit default swaps) that adversely affected their conventional competitors—all contributed to better results for Islamic banks than conventional banks that year.

In 2009, however, weaknesses in risk management practices in some Islamic banks led to a larger decline in profitability than that seen in conventional banks. The weak 2009 performance in some countries was associated with sectoral and name concentration—that is, too much exposure to any one sector or borrower. In some cases, the regulatory author-

Risk Sharing and Risk Transfer

Islamic Banks' Risk Sharing	Conventional Banks' Risk Transfer
Sources of funds: Investors (depositors) share the risk and return with Islamic banks. The return is not guaranteed and depends on the bank's performance.	**Sources of funds:** Depositors transfer the risk to the conventional bank, which guarantees a prespecified return (interest).
Uses of funds: Islamic banks share the risk in *mudharabah* (participation financing or trust financing) and *musharakah* (equity financing) contracts and finance the purchase of assets or services in most other types of contracts.	**Uses of funds:** Borrowers pay interest independent of the return on their project. Conventional banks transfer the risk through securitization or credit default swaps. Financing is debt based.

ities exacerbated the problem by exempting certain banks from concentration limits. (However, this concentration was limited to a few countries.)

While Islamic banks' profitability over the business cycle (2005–09) was, on average, higher than that of conventional banks, the difference between the cumulative impact (2008–09) of the crisis on the profitability of the two groups was insignificant.

Contributor to stability

Islamic banks maintained stronger credit growth than conventional banks in almost all countries in the period studied—on average, twice that of conventional banks. This suggests that Islamic banks' market share is likely to continue to increase—but also that Islamic banks made a greater contribution to macroeconomic and financial stability by making more credit available. Interestingly, while for most banks internationally, strong credit growth was followed by a sharp decline in credit once the crisis hit, this was not the case for Islamic banks. Because high credit growth is sometimes achieved at the expense of strong underwriting standards, we identified this as an area for supervisors to monitor.

The growth of Islamic banks' assets likewise proved strong. We found that, on average, their asset growth was more than twice that of conventional banks during 2007–09, but it started decelerating in 2009, indicating that Islamic banks were less affected than conventional banks by deleveraging. The slower asset growth during 2009 could be attributable to the weaker performance of Islamic banks that year or to the fact that liquidity support in the form of government deposits is more easily directed to conventional banks.

Our findings were corroborated by external rating agencies' reassessment of Islamic banks' risk, which was generally found to be more favorable than—or similar to—that of conventional banks (with the exception of the UAE).

Challenges must be addressed

While the global crisis gave Islamic banks an opportunity to show their resilience, it also brought to light some important issues that will have to be addressed if Islamic banks are to continue growing at a sustainable pace.

Absence of a solid infrastructure for liquidity risk management. While Islamic banks rely more on retail deposits than conventional banks and hence have more stable sources of funds, they face fundamental difficulties when it comes to liquidity management, including

- a shallow money market due to the small number of participants; and
- the lack of instruments that could be used as collateral for borrowing or discounted (sold) at the central bank discount window.

Some Islamic banks have responded by running an overly liquid balance sheet (that is, having more cash-like assets that generate a lower rate of return than loans and many types of securities), thereby sacrificing profitability. Islamic financial institutions carry 40 percent more liquidity than their conventional counterparts (Khan and Bhatti, 2008). This approach to liquidity mitigated risks during the crisis, but it is not an ideal solution in normal circumstances. The establishment of the International Islamic Liquidity Corporation in October 2010 was a step toward enhancing Islamic banks' ability to manage international liquidity. But such efforts need to continue.

More generally, monetary and regulatory authorities should ensure that the liquidity infrastructure is neutral to the type of bank (for example, by developing sovereign *sukuk*, or Islamic bonds, in addition to conventional bonds and certificates of deposits) and strong enough to address the problems highlighted during the global crisis.

Need for appropriate institutional arrangements for the resolution of troubled financial institutions. This is especially relevant for Islamic banks, given the absence of precedents. A mechanism for cooperation between regulators within and across jurisdictions for the resolution of Islamic banks is essential to contain spillovers beyond national boundaries.

Lack of harmonized accounting and regulatory standards. This proved a key problem for regulators and market participants during the crisis—one exacerbated by the lack of standard financial contracts and products across institutions. The standards for Islamic banks' operations continue to be fragmented, despite initiatives by the Accounting and Auditing Organization of Islamic Financial Institutions and the Islamic Financial Services Board to create international industry guidelines.

Insufficient expertise. Expertise in Islamic finance has not kept pace with the rapid growth of the industry. Islamic bankers, regulators, and supervisors need to be familiar with both conventional finance and the different aspects of Shariah, given the increasing degree of sophistication of Islamic financial products. The shortage of specialists also inhibits product innovation and could hinder the effective management of risks particular to the industry.

In the recent global crisis, Islamic banks proved their mettle. But the crisis has led to greater recognition of the ways in which they still need to develop. As financial regulatory reform presses ahead on a global level, now is the time for the Islamic banking regulators to address the industry's challenges. ■

Maher Hasan is a Deputy Division Chief in the IMF's Monetary and Capital Markets Department, and Jemma Dridi is a Senior Economist in the IMF's Middle East and Central Asia Department.

This article is based on the authors' IMF Working Paper 10/201, "The Effects of the Global Crisis on Islamic and Conventional Banks: A Comparative Study."

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What Are Externalities?

What happens when prices do not fully capture costs

Thomas Helbling

CONSUMPTION, production, and investment decisions of individuals, households, and firms often affect people not directly involved in the transactions. Sometimes these indirect effects are tiny. But when they are large they can become problematic—what economists call externalities. Externalities are among the main reasons governments intervene in the economic sphere.

Most externalities fall into the category of so-called *technical externalities;* that is, the indirect effects have an impact on the consumption and production opportunities of others, but the price of the product does not take those externalities into account. As a result, there are differences between private returns or costs and the returns or costs to society as a whole.

Negative and positive externalities

In the case of pollution—the traditional example of a *negative externality*—a polluter makes decisions based only on the direct cost of and profit opportunity from production and does not consider the indirect costs to those harmed by the pollution. The social—that is, total—costs of production are larger than the private costs. Those indirect costs—which are not borne by the producer or user—include decreased quality of life, say in the case of a home owner near a smokestack; higher health care costs; and forgone production opportunities, for example when pollution harms activities such as tourism. In short, when externalities are negative, private costs are lower than social costs.

There are also *positive externalities,* and here the issue is the difference between private and social gains. For example, research and development (R&D) activities are widely considered to have positive effects beyond those enjoyed by the producer—typically, the company that funds the research. This is because R&D adds to the general body of knowledge, which contributes to other discoveries and developments. However, the private returns of a firm selling products based on its own R&D typically do not include the returns of others who benefited indirectly. With positive externalities, private returns are smaller than social returns.

When there are differences between private and social costs or private and social returns, the main problem is that market outcomes may not be efficient. To promote the well-being of all members of society, social returns should be maximized and social costs minimized. Unless all costs and benefits are internalized by households and firms making buying and production decisions, market outcomes can lead to underproduction or overproduction in terms of a society's overall condition (what economists call the "welfare perspective").

Consider again the example of pollution. Social costs grow with the level of pollution, which increases as production increases, so goods with negative externalities are overproduced when only private costs are involved and not costs incurred by others. To minimize social costs would lead to lower production levels. Similarly, from a societal perspective, maximization of private instead of social returns leads to underproduction of the good or service with positive externalities.

Taxation and externalities

Neoclassical economists recognized that the inefficiencies associated with technical externalities constitute a form of "market failure." Private market–based decision making fails to yield efficient outcomes from a general welfare perspective. These economists recommended government intervention to correct for the effects of externalities. In *The Economics of Welfare*, British economist Arthur Pigou suggested in 1920 that governments tax polluters an amount equivalent to the cost of the harm to others. Such a tax would yield the market outcome that would have prevailed with adequate internalization of all costs by polluters. By the same logic, governments should subsidize those who generate positive externalities, in the amount that others benefit.

The proposition that technical externalities require government regulation and taxation to prevent less than optimal market outcomes was intensely debated after Pigou's seminal work. Some economists argued that market mechanisms can correct for the externalities and provide for efficient outcomes. People can resolve the problems through mutually beneficial transactions. For example, a landlord and a polluter can enter into a contract under which the landlord agrees to pay the polluter a certain amount of money in exchange for a specific reduction in the amount of pollution. Such contractual bargaining can be mutually beneficial. Once the building is less exposed to pollution, the landlord can raise rents. As long as the increase in rents is greater than the payment to the polluter, the outcome is beneficial for the landlord. Similarly, as long as the payment exceeds the loss in profit from lower pollution (lower production), the polluting firm is better off as well.

The possibility of overcoming the inefficiencies from externalities through bargaining among affected parties was first discussed in 1960 by Ronald Coase in “The Problem of Social Cost” (among the works that earned him a Nobel Prize in economics in 1991). For bargaining solutions to be feasible, property rights must be well defined, bargaining transaction costs must be low, and there must be no uncertainty or asymmetric information, when one actor knows more than the other about the transaction.

Against this backdrop, optimal government intervention might be the establishment of institutional frameworks that allow for proper bargaining among parties involved in externalities. Property rights—specifically intellectual property rights, such as patents—allow a firm to earn most if not all the returns from its R&D. But it is easier to assign property rights for innovations and inventions. When it comes to basic or general research, property rights are more difficult to define, and government subsidies typically are needed to ensure a sufficient amount of basic research.

Public goods

Problems in defining property rights are often a fundamental obstacle to market-based, self-correcting solutions, because the indirect effects of production or consumption activity can affect so-called *public goods*, which are a special kind of externality. These goods are both *nonexcludable*—whoever produces or maintains the public good, even at a cost, cannot prevent other people from enjoying its benefits—and *nonrival*—consumption by one individual does not reduce the opportunity for others to consume it (Cornes and Sandler, 1986). If the private benefits are small relative to the social benefit but private costs to provide them are large, public goods may not be supplied at all. The importance of the public good problem has long been recognized in the field of public finance. Taxes often finance governments’ delivery of public goods, such as law and order (Samuelson, 1955).

The public good problem is especially notable in environmental economics, which largely deals with analyzing and finding solutions to externality-related issues. Clean air, clean water, biodiversity, and a sustainable stock of fish in the open sea are largely nonrival and nonexcludable goods. They are free goods, produced by nature and available to everybody. They are subject to no well-defined property rights. As a result, households and firms do not place enough value on these public goods, and efficient market outcomes through bargaining typically are not feasible. In other words, environmental issues often face a collective action problem.

High transaction costs and problems related to uncertainty are other obstacles that prevent parties involved in technical externalities from internalizing costs and benefits through bargaining solutions. Uncertainty problems are far reaching. In fact, the well-known *moral hazard* is a form of externality in which decision makers maximize their benefits while inflicting damage on others but do not bear the consequences because, for example, there is uncertainty or incomplete information about who is responsible for damages or contract restrictions. An often-used example is a situation in which an insured entity can affect its insurance company’s liabilities but the insurance company is not in a position to determine whether the insured is responsible for an event that triggers a payout. Similarly, if a polluter’s promised preventive actions cannot be verified because of a lack of information, bargaining is unlikely to be a feasible solution.

Today, the most pressing and complex externality problem is greenhouse gas (GHG) emissions. The atmospheric accumulation of greenhouse gases from human activity has been identified as a major cause of global warming. Barring policies to curb GHG emissions, scientists expect this problem to grow and eventually lead to climate change and its accompanying costs, including damage to economic activity from the destruction of capital (for example, along coastal areas) and lower agricultural productivity. Externalities come into play because the costs and risks from climate change are borne by the world at large, whereas there are few mechanisms to compel those who benefit from GHG-emitting activity to internalize these costs and risks.

The atmosphere, in fact, is a global public good, with benefits that accrue to all, making private bargaining solutions unfeasible. Identifying and agreeing on policies for internalization of the social costs of GHG emissions at the global level are extremely difficult, given the cost to some individuals and firms and the difficulties of global enforcement of such policies (Tirole, 2008).

Externalities pose fundamental economic policy problems when individuals, households, and firms do not internalize the indirect costs of or the benefits from their economic transactions. The resulting wedges between social and private costs or returns lead to inefficient market outcomes. In some circumstances, they may prevent markets from emerging. Although there is room for market-based corrective solutions, government intervention is often required to ensure that benefits and costs are fully internalized. ■

Thomas Helbling is an Advisor in the IMF’s Research Department.

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Poorest Economies Can Export More

Advanced and emerging economies can make it easier for the least developed countries to sell more products abroad

Katrin Elborgh-Woytek and Robert Gregory

A MAJOR contributor to widespread poverty is the lack of integration of poorer economies into the global economy. Although trade is only part of the solution, were poorer economies able to sell more goods to advanced and emerging economies, they would benefit mightily.

But exporters in poorer economies face obstacles both abroad and at home. Access to foreign markets is frequently limited by import barriers, while inadequate infrastructure and weak domestic policies often frustrate producers seeking to compete abroad. As a consequence, exports of the poorest countries have remained far below potential. The 49 poorest, or "least developed," countries (LDCs; see box) account for nearly 1 percent of global gross domestic product (GDP) but less than 0.5 percent of global non-oil exports—a level virtually unchanged over the past 15 years (see chart). Only 1 percent of advanced economies' imports come from LDCs.

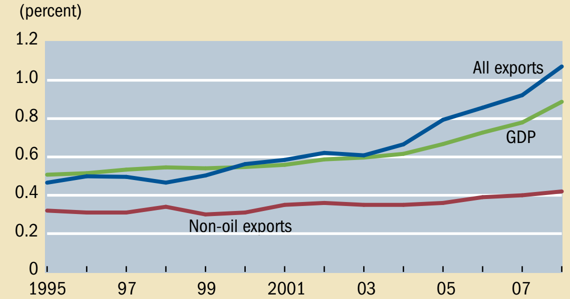
There are steps the poorest economies themselves could take to boost exports—such as reducing the often prevailing antitrade bias in their trade, tax, customs, and exchange rate regimes; issuing more transparent trade and customs regulations; and taking steps to improve such key service sectors as communications and transportation (see World Bank, 2010).

But the poorest exporting economies would benefit considerably if emerging as well as advanced economies gave them better opportunities for trade, which would improve their growth and productivity prospects (see Elborgh-Woytek, Gregory, and McDonald, 2010). There are a number of steps better-off countries could take to boost poor economies' export potential. Some of them are well known to policymakers—in particular, concluding the current World Trade Organization (WTO) trade-negotiation talks, known as the Doha Round. Wide-ranging multilateral trade liberalization could spur growth and foster secure and open global

Below potential

Although the poorest 49 countries account for about 1 percent of global GDP, they supply less than 0.5 percent of global non-oil exports.

(percent)



Source: IMF, *Direction of Trade Statistics*, 2010.

trading. Poorer countries would gain from successful Doha Round conclusion through better access to advanced and emerging export markets.

Although broad-based multilateral trade liberalization is the ultimate policy target, there are less-obvious intermediate avenues—such as the extension and improvement of duty-free and quota-free (DFQF) trade preferences both by advanced and emerging economies—that could add nearly $10 billion a year to the coffers of poorer economies. These preference systems are designed to offset for the poorest countries some of the high trade barriers in sectors such as light manufacturing and agriculture—areas in which LDCs are likely to export.

Main avenues of integration

There are three main avenues for the more advanced and emerging economies to help integrate LDCs into the global economy:

- Remove all tariffs and quotas on products from LDCs.
- Make the rules that determine whether a product is deemed to originate from an LDC more flexible and consistent—including relaxing so-called cumulation rules, which govern the extent to which inputs from other countries affect compliance with rule-of-origin requirements for LDC exporters.
- Tilt preference benefits more specifically toward poorer economies.

First, if *advanced and emerging markets ended all duties and quotas on LDC exports*, the effect would be sizable. Major emerging market countries' preference benefits to LDCs could be very valuable and help them improve their export performance. Exports from LDCs to Brazil, China, and India grew by an annual average of more than 30 percent during 1999–2009, and these three countries account for a third of all LDC exports. In 2008, China overtook the European Union as the largest single importer of LDC products, buying 23 percent of their exports. With substantial reforms since the 1990s, these emerging markets have reduced average tariff rates for nearly all trade partners to about 11 percent, but tariffs remain some 6 percentage points higher than those of the major advanced economies' markets.

The share of exports from LDCs that are eligible for preferential treatment has increased from 35 percent in the late 1990s to over 50 percent today. However, preference programs vary considerably in product and country coverage, with sometimes significant gaps in coverage and high administrative costs. Gaps in preference programs of emerging market economies are usually wider than those in industrialized countries' programs, reflecting their relatively recent development. High tariffs remain concentrated in agriculture and labor-intensive low-wage manufactures, the sectors in which LDCs have a comparative advantage and where 90 percent of their non-oil exports are concentrated.

In the 2000 United Nations Millennium Declaration, advanced economies committed to "a policy of duty- and quota-free access for essentially all exports from the least developed countries." Following up on this commitment, WTO members agreed in the 2005 Hong Kong Ministerial Declaration that developing countries "in a position to do so" should make the same commitment. In practice, many advanced and emerging market economies have agreed to allow DFQF market access for LDC products under at least 97 percent of tariff lines. While the difference between 97 percent and 100 percent may seem insignificant, many LDCs export so few product categories that even a small number of exclusions can sharply limit the benefits of trade preference programs.

Exports would grow significantly

If all exports from developing countries were exempt from tariffs and quotas, LDC exports to both advanced and emerging markets would grow significantly—on the order of $10 billion a year, or about 2 percent of their combined GDP (Laborde, 2008; and Bouët and others, 2010). Broadening the coverage of preferences by major advanced markets could generate increased exports from LDCs of about $2.2 billion a year, or about 6 percent of net official development assistance from industrial countries to LDCs. The potential increase is even larger for exports to emerging markets—about $7 billion a year in additional exports (Bouët and others, 2010). Although the positive impact on LDCs would be sizable, the negative effect on advanced and emerging economies would be tiny because of the low level of LDC exports.

Second, if better-off economies were to *make rules of origin more flexible*, LDCs would benefit too. Rules of origin determine whether a good "originates" in a country that benefits from a preference system. The rules specify the minimum amount of economic activity that must be undertaken in the country benefiting from the preference and whether inputs from other countries count toward this minimum. Rules of origin differ widely across countries' preference programs. They are frequently based on the amount of value added in the preference-eligible country or on the transformation a good undergoes in that country (measured by a change in tariff classification). These rules strongly influence where an

The least developed countries

The United Nations identifies 49 countries as "least developed," meaning that they are extremely poor, have structurally weak economies, and lack the capacity for growth.

Africa: Angola, Benin, Burkina Faso, Burundi, Central African Republic, Chad, Comoros, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, The Gambia, Guinea, Guinea-Bissau, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Rwanda, São Tomé and Príncipe, Senegal, Sierra Leone, Somalia, Sudan, Togo, Uganda, Tanzania, and Zambia.

Asia: Afghanistan, Bangladesh, Bhutan, Cambodia, Kiribati, Lao People's Democratic Republic, Maldives, Myanmar, Nepal, Samoa, Solomon Islands, Timor-Leste, Tuvalu, Vanuatu, and Republic of Yemen.

Western Hemisphere: Haiti.

LDC buys its inputs, which affects the overall economic consequences of a preference program.

To qualify for a preference program, LDC exporters must often limit input sourcing to suppliers in their own country or those from the country granting the preference—even if it would be cheaper to buy inputs elsewhere. This can be difficult for less-diversified LDCs, which depend on intermediate goods, processes, or patents from other countries. Rules of origin can also be a source of distortion, if exporters turn to less-efficient, more costly input sources to qualify for preferences. Moreover, the administrative burden of meeting complex rules of origin can be substantial, costing as much as 3 percent of export value (Hoekman and Özden, 2005). As a result, perhaps a quarter to a third of eligible imports do not gain preference, and some trade that might have benefited from better-designed preferences is likely never undertaken.

Permitting more flexible sourcing

More liberal rules of origin allow producers to source inputs flexibly. Such rules implicitly acknowledge LDCs' low capital intensity and lack of horizontal or vertical integration. Under China's preference program, for example, origin (and thus preference benefits) can be conferred on a product based either on a minimum local value-added threshold *or* a change in tariff classification—implicit acknowledgment that the product is different and the LDC has added value. India's low 30 percent value-added threshold gives potential LDC exporters flexibility in sourcing their inputs.

Moreover, better-off countries could make it even easier to stimulate trade among LDCs if their rules of origin specifically allowed preference-eligible countries to buy inputs from other preference-eligible countries. If these so-called cumulation provisions allowed inputs from two or more countries to be counted together, it would make it easier for the preference-eligible country to meet the minimum requirements under the rules of origin. In contrast, narrow or restrictive cumulation provisions rules do not allow the use of inputs from other countries, often fragmenting established cross-border production relationships. Cumulation provisions therefore determine how easily preference beneficiaries can trade among themselves, using intermediate goods or processes that originate in other countries.

Permitting wider cumulation would assuredly mean that LDCs could meet the rules of origin more easily and at lower cost and would also encourage south-south trade. Allowing the poorest countries to source inputs from all LDCs and other developing countries while remaining eligible for preferences would provide the added flexibility needed for effective use of preference programs.

Tilting toward developing countries

Finally, both advanced and emerging economies could *tilt their preference benefits more specifically toward the poorest developing countries*. Some advanced economy market preference programs favor a wide range of developing countries, not necessarily the poorest. Advanced economies also often have regional trade agreements that grant preferences to the countries in the pact. The combination of regional and less-focused preference programs reduces the effective preference margin available to LDCs. In those cases, phasing out benefits to more developed countries over time could be considered, taking into account the impact both on exporters and importers. Graduation provisions, which determine when an economy is no longer eligible for preferential treatment, should always be transparent and predictable, with ample notice of withdrawal. In the interest of predictability, preferences for LDCs should be renewed well in advance, allowing time for investors to make decisions accordingly.

In setting out changes in trade preference programs for the poorest economies, emerging markets may play a more important role than advanced economies, most of which have had such programs for many years. Several major emerging economies have introduced and expanded LDC trade preferences, but coverage remains selective. Because they are at an earlier stage of implementation than those of advanced economies, these preference programs have room to grow, albeit at a pace consistent with the remaining development needs of the emerging economies that are the new preference providers. It may take longer for emerging economies to phase in the proposed changes, but the key direction for expansion and improvement of their programs is broadly similar to that of advanced economies. Because adjustment pressure is likely limited to a narrow range of product categories—in which there could be direct competition with LDC exports—some emerging economies may need several years to implement these LDC benefits. ■

Katrin Elborgh-Woytek is a Senior Economist and Robert Gregory is an Economist, both in the IMF's Strategy, Policy, and Review Department.

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Trade Impact

The Great Recession seriously disrupted international trade, but some were hit harder than others

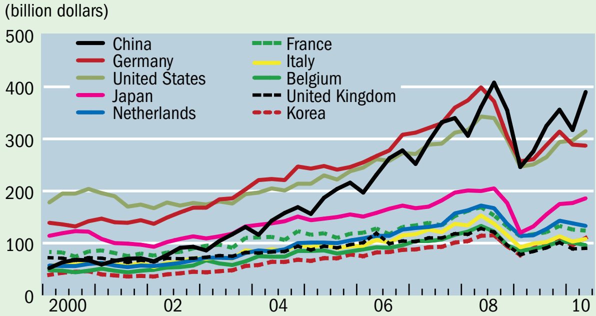
WORLD exports grew substantially from 2000 to 2008, particularly among the world's top three exporters—China, Germany, and the United States. In China, for example, exports grew by nearly 700 percent during the period, paralleling the rapid growth of its economy. This growth came to a halt as a result of the 2008–09 financial crisis. Between October 2008 and March 2009, foreign sales by the top 10 exporters—which account for about 50 percent of world exports—dropped by 34 percent. But since then exports have rebounded rapidly. By the second quarter of 2010, the top 10 exporters had recovered 55 percent of their decline during the crisis.

The growth in world imports that preceded the Great Recession was equally impressive. During 2000–08, the top 10 importers—who bought about 50 percent of world imports—increased their foreign purchases by 51 percent, with the United States the clear leader. As with exports, the financial crisis caused a significant drop in imports of 35 percent during the same six-month period—October 2008 to March 2009. But there was a similar sharp rebound in imports. By the second quarter of 2010, the top 10 importers had recovered 58 percent of the crisis-induced decline.

Trade among the top 10 exporters and importers and other country groups reveals some wide variations. When broken down by destination region, sales by the top 10 exporters to emerging Europe fell the most during the acute crisis period. Exports to advanced economies, Africa, and developing Asia were affected the least, although the declines were still significant.

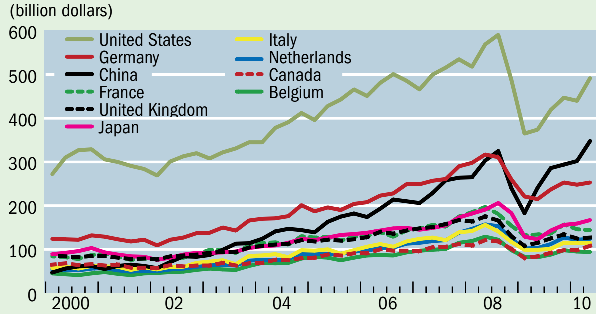
Foreign sales by the top 10 exporters grew substantially from 2000 to 2008 but dropped significantly as a result of the 2008–09 crisis.

(billion dollars)



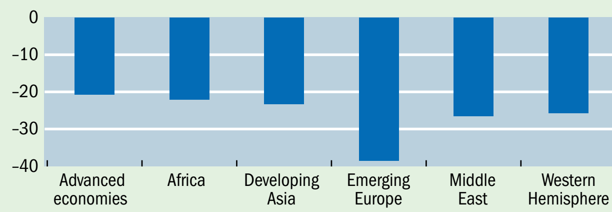
The 2008–09 financial crisis also caused a significant drop in imports of the top 10 importers.

(billion dollars)



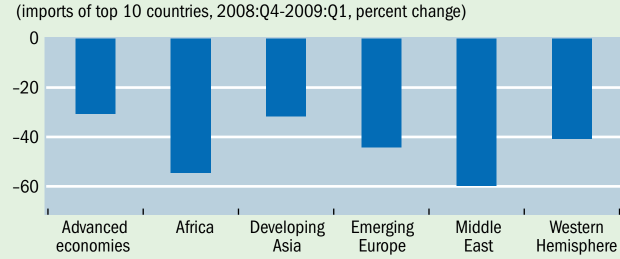
Sales by the top 10 exporters to emerging Europe fell the most during the acute crisis period.

(exports of top 10 countries, 2008:Q4–2009:Q1, percent change)



Purchases from the Middle East by the top 10 importers saw the biggest drop during the crisis.

(imports of top 10 countries, 2008:Q4-2009:Q1, percent change)



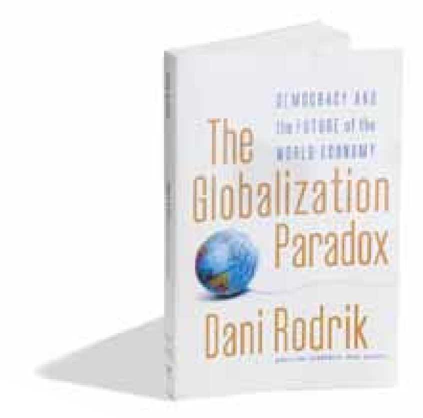
Turning to imports by the top 10 importers, those from the Middle East fell the most in late 2008 and early 2009, followed closely by those from Africa, while imports from advanced economies and developing Asia declined the least.

About the database

The data are from the Direction of Trade Statistics database, which contains 100,000 time series covering bilateral and multilateral merchandise trade data for more than 180 countries. Exports and imports are presented on an f.o.b/c.i.f. basis in U.S. dollars. The data are reported by country authorities, the United Nations, or Eurostat. When data are not reported, estimation is undertaken using historical and/or partner data. The database is available at www.imf.org/external/data.htm

Prepared by Kim Zieschang with assistance from Alex Massara, both of the IMF's Statistics Department.

Globalization on a Diet



Dani Rodrik

The Globalization Paradox

Democracy and the Future of the World Economy

W.W. Norton & Company, New York and London, 2011, 288 pp., $26.95 (cloth).

Dani Rodrik is a long-standing critic of the existing international order. His excellent new book is a sequel to an earlier book about the often disruptive impact of international trade on national labor markets and social policies. The new book develops and extends this theme to include financial globalization. There is also a discussion about the democratic legitimacy of the existing international order. Rodrik concludes by considering how the world economy might be reformed.

The author's target is not globalization as such. He robustly defends both capitalism and globalization, because they have the potential to generate rapid economic development if properly harnessed. His target is "hyper-globalization," which involves the comprehensive elimination of barriers to trade and finance, together with severe constraints on the freedom of national governments to intervene in their domestic economies. This is the program promoted for several decades by "market fundamentalists" in the economics profession and within certain international institutions.

Rodrik objects to the fundamentalist approach on two levels. First, such a program rests on a crude version of economic theory that rarely applies in practice and runs counter to historical experience. During their take-off phase, the majority of today's developed economies actively promoted industrialization through the use of measures such as capital controls, subsidies, and restrictions on imports and foreign direct investment. The same is true of China and India in the recent past and even to some extent today. Such policies do not guarantee success, but few poor countries have taken off without them.

There is also national sovereignty to consider. Even if the program advocated by the fundamentalists is correct, there is no justification for imposing it on supposedly sovereign governments. Every country has the right to be wrong, so long as it does not cause serious harm to others. The international system needs rules, but these should be flexible and give national governments extensive freedom to experiment. This was the case under the old Bretton Woods system, which in its heyday was a stunning success in promoting economic growth and reconciling national autonomy with international order.

Market fundamentalism often accompanies the view that nation states are outmoded—that they are being undermined by global communications and market forces, and their role will be progressively supplanted by supranational institutions. The logical end of this process is world government. Rodrik is skeptical that world government is feasible. He is even more skeptical about its desirability:

"There is simply too much diversity in the world for nations to be shoehorned into common rules, even if those rules are somehow the product of democratic processes. Global standards and regulations are not just impractical; they are undesirable. The democratic legitimacy constraint ensures that global governance will result in the lowest common denominator, a regime of weak and ineffectual rules. We then face the big risk of too little governance all round, with national governments giving up on their responsibilities and no-one else picking up the slack."

Rodrik concludes that the alternative to world government is to strengthen the nation state. To this end he proposes seven principles for global reform that would restore much of the policy autonomy for individual countries that has been lost since the demise of Bretton Woods.

These principles are attractive, although they raise some tricky questions about implementation. For example, principle 7 states that "nondemocratic countries cannot count on the same rights and privileges in the international economic order as democracies." China is not conventionally classified as a democracy, since it is a one-party state without free elections. Yet the country has achieved miracles in terms of growth and poverty reduction. To penalize China because it is not a democracy might put this achievement in jeopardy. It would also be asking for trouble. China will quite soon have the largest economy in the world and would not take kindly to this kind of interference.

This raises a more general question. What is the political constituency for Rodrik's proposed reforms? The Bretton Woods system and the free market system that replaced it were both shaped by the United States and its richer allies in line with their priorities at the time. With Brazil, China, India, and other economic giants looming on the horizon, the world balance of power is shifting. Without the support of these future superpowers, no proposal for reform can succeed. It will be interesting to see what kind of reception Rodrik's ideas have in these countries.

Robert Rowthorn

Emeritus Professor, University of Cambridge

Strength in Reserve

Barry Eichengreen

Exorbitant Privilege

The Decline of the Dollar and the Future of the International Monetary System

Oxford University Press, New York, 2011, 224 pp., $27.95 (cloth).

Barry Eichengreen's new book couldn't be more timely: on September 15, 2010—the second anniversary of financial services firm Lehman Brothers' collapse—the Bank of Japan's intervention to drive down the yen sparked a wave of reactions in Korea and Brazil and intensified the standoff between China and the United States over the value of the renminbi. A new round of currency wars broke out, and many fear that 1930s-style moves to push currencies down will lead to trade protectionism, economic nationalism, and increased international tension.

Eichengreen opens with an older question—not so much about the manipulation of weak currencies for trade advantages as the advantages of strength. How does the United States benefit from the dollar's role as the world's major reserve currency? What is the "exorbitant privilege" that French politicians have lambasted since the 1960s? Can there be only one major reserve currency?

Eichengreen's responses to these questions are elegant and pithy. He convincingly argues that it is not the status of a reserve currency that gives great power status; instead, the role of safe haven follows great power preeminence. Investors—whether private or official—are prepared to accept lower returns for investing in the United States simply because it is a secure country, with a well-understood and -enforced rule of law. As its great power preeminence fades and the catch-up effects of technical diffusion erode its economic superiority, a more multipolar currency system is likely to replace the dollar's hegemony.

Eichengreen explains how a specific policy initiative led to the dollar's quick rise as a major world currency. One of the purposes of the monetary reforms following the 1907 financial crisis was to enable U.S. merchants to use dollar acceptances instead of sterling bills via London to finance international trade. The Federal Reserve System was established to support the new financial center. By the 1920s, the dollar was a major reserve currency, and the immediate aftermath of World War I showed that a multicurrency system could work. Eichengreen also chronicles the rise of a new challenger, the euro.

New global currencies—first the dollar, then the euro—can emerge quickly, as did the deutsche mark in the late 1960s and 1970s. Eichengreen sees the renminbi as a possible major reserve currency, but argues that the Chinese leadership is not yet ready for financial liberalization. He considers China closer to late 1960s Japan (which struggled against moves that would lead to internationalization of the yen) than to the Federal Republic of Germany.

Could something besides existing currencies be an international medium of exchange? Eichengreen examines and dismisses the likelihood of a return to gold or the use of some other commodity standard. A more intriguing and currently fashionable idea is increased use of the IMF-created international reserve asset, the Special Drawing Right (SDR). Created in 1969 to supplement member countries' official reserves, its value is based on a basket of four key international currencies, and SDRs can be exchanged for freely usable currencies. But Eichengreen is skeptical about the feasibility of using the SDR as the common international medium of exchange. He describes the case for a global currency as "compelling in the abstract," but impossible in practice. "As long as there is no global government to hold it accountable for its actions, there will be no global central bank."

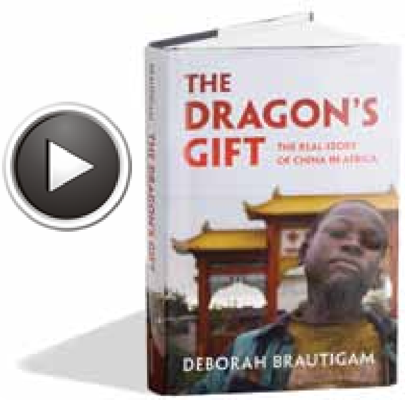
The section on a global currency seems at odds with the discussion of the emergence of the euro, which is after all issued by a central bank neither controlled by nor responsible to any government. The euro grew out of a sustained attempt at monetary cooperation in the face of unease about the global situation. Episodes of dollar weakness fueled creation of the euro: strains and then a breakup of the par value system in the early 1970s and U.S. currency mismanagement in the late 1970s and early 1990s. European cooperation was subject to the same problems that Eichengreen says confront a world basket currency. During the 1980s, the Europeans tried to promote private use of the European Currency Unit (ECU—a sort of precursor to the euro). Bonds and credits were issued in ECUs, but the market for a synthetic currency proved too shallow to survive the dramatic exchange rate crises of the early 1990s.

A final section examines the possibility of a swift dollar collapse, most plausibly, according to Eichengreen, as a result of an uncontrolled U.S. fiscal deficit. He argues that the 2010 euro crisis has already set euro area countries on a course of fiscal consolidation, whereas there is little political backing in the United States for similar reforms.

Harold James

Professor of History and International Affairs, Princeton University

The Misunderstood Dragon



Deborah Brautigam

The Dragon's Gift

The Real Story of China in Africa

Oxford University Press, Oxford, New York, 2009, 397 pp., $23.96 (cloth).

China is making a huge splash in Africa and in discussions about African economies, less because of the sheer size of China's aid, trade, and investment than because of the rapid increase in all three. African governments, civil society organizations, donors, and international organizations have reacted with a mix of enthusiasm, suspicion, and concern about the benefits and costs of Chinese economic engagement with Africa.

Deborah Brautigam's latest book is not the first to take on this topic, but it stands out in its efforts to convey the experience of China in Africa from a Chinese perspective, including both official and unofficial sources, on and off the record. Professor Brautigam is supremely qualified to write such a book: she has studied Chinese and worked extensively both in China and Africa for more than two decades, and much of her work has focused on Chinese-African economic relations.

The Dragon's Gift's strength is its extensive and varied array of interviews with Chinese government officials in Africa, Chinese factory managers, and other Chinese, African, and third-country participants and observers. Through these interviews, she conveys a rich sense of Chinese perceptions of how their own experience could benefit African countries. She also offers a snapshot of Chinese and African perceptions of Chinese aid and investment projects in Africa, including its successes, frustrations, and failures. Among the topics covered are cultural tensions between Chinese managers and African workers over work hours and wages, frustrations on the African side about the high number of Chinese managers and workers brought in for aid and investment projects compared with those of Western donors and investors (albeit at substantially lower cost for Chinese than Western expatriate staff), and mutual recriminations about who is responsible for failures in transfers of technical and managerial expertise.

Professor Brautigam repeatedly and convincingly makes the case that Chinese economic involvement in Africa is often misunderstood. In particular, she notes that there is often confusion between Chinese corporate investment through state-owned entities and foreign aid to Africa, that Chinese policy is explicitly focused on *mutually beneficial* opportunities for south-south cooperation. She also cites press reports and speeches that are often misunderstood (for example, as a result of errors in translating numbers or confusion between U.S. dollar amounts and renminbi figures).

The Dragon's Gift points out that reports of China's aid, trade, and investment flows to Africa are often overstated, sometimes in alarmist terms. It also explains that trade between China and Africa has been growing rapidly, albeit from a low base. She tries to address many other hot-button issues that dog China's economic engagement with Africa, including corruption (making the somewhat novel point that the direct transfer of aid from the Chinese state to the Chinese entities selected to carry out investment projects in Africa—often the funds never even leave China—limits opportunities for African officials to divert funds).

However, the book's strength is closely tied to its main weakness. Given that Professor Brautigam's focus is in large part on Chinese aid and the activities of state-owned enterprises, her book is very heavily and inevitably anecdotal. This stands in contrast to the more data-driven (but more trade- and investment-focused) approach taken by the 2007 study by Harry G. Broadman of the World Bank, *Africa's Silk Road*.

For example, the author is forced to adopt an anecdotal approach when she attempts to estimate 2007 Chinese aid flows to Africa. Her estimates include (1) a 2001 figure for China Eximbank's global concessional lending, (2) use of the annual growth rate of overall concessional foreign aid loans from a 2005 annual report to extrapolate the 2007 figure from 2001 numbers, and (3) a late-2003 report of discussions between a Chinese official and African ambassadors that mentions the share of aid to Africa over the preceding four years. Obtaining similar data for any other major donor would be a simple matter of looking up a published figure, but the author repeatedly notes that the Chinese government treats quantitative information on foreign aid, contract terms, and most other relevant data as state secrets.

Given these repeated difficulties, the author's criticisms of Chinese government transparency are surprisingly few and mostly implicit. She quotes the old academic saw "The plural of 'anecdote' is not 'data'" but proceeds to say that anecdotes will have to do until better information is available. Nevertheless, the reliance on press reports and interviews remains a frustration to readers.

Thomas Dorsey
Advisor, IMF Strategy, Policy, and Review Department

BOOK REVIEWS

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