



**FINANCE AND DEVELOPMENT**

**SEPTEMBER 2017**

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profiled P.30**

**Health in a time  
of austerity P.42**

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A surreal illustration of a large Earth globe resting on a grassy hill. A group of diverse people are pushing the globe up the hill. In the background, there are pine trees, a sunset sky with clouds, a crescent moon, and a flock of birds flying. A single leaf is falling in the air.

# Global Cooperation

## An Uphill Battle

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The world must address complex global problems amid growing skepticism about the benefits of multilateralism.

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## Global Cooperation— An Uphill Battle

**THIS ISSUE OF *F&D*** looks at what is arguably the clearest challenge the world faces: how to address complex global problems amid growing skepticism about the benefits of multilateralism and continued global integration.

Ten years after the global financial crisis, voter dissatisfaction with rising inequality and lack of meaningful jobs has led some countries to focus on more inward-looking policies. As Princeton professor and IMF historian Harold James points out in his overview of the postwar economic order, this seems to include its main architects—the United Kingdom and the United States. The stakes are high. The changing geopolitical environment could undermine the world's already limited ability to manage such important issues as global money and trade flows, climate change, international terrorism, money laundering, pandemics, and migration.

International taxation has proved particularly vexing. The inability to agree on a common approach to rethink a framework that dates to the 1920s has allowed multinational companies to exploit tax competition among countries, writes the IMF's Michael Keen. Tobias Adrian and Aditya Narain, also of the IMF, argue that despite important strides in international regulatory collaboration, calls to roll back some reforms must be resisted to keep the global financial system safe and sound. Fintech, the brave new world of financial services, holds much promise, but provides an even greater regulatory challenge for governments around the world. Finally, with international groups of criminals often two steps ahead of national law enforcement, the terror-crime nexus cannot be fought effectively without stronger international collaboration, argues Douglas Farah of IBI Consultants.

We also focus on health issues that include why investing more in women's health and education will boost economic development and how in an age of austerity, targeted changes in taxes and subsidies can improve public health without overburdening public budgets. **FD**

**CAMILLA LUND ANDERSEN**, Editor-in-Chief



### ON THE COVER

Global cooperation often feels like a Sisyphean task—as soon as we make progress in one area, we seem to regress in another. Illustrator Michael Waraksa's September 2017 *F&D* cover contrasts those who believe in cooperation with those who want to walk away from it.

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## Saying Goodbye



**ON A MORE PERSONAL NOTE**, *F&D* is also not immune to big changes. **Marina Primorac**, managing editor for the past eight years, will retire from the IMF later this year. Under Marina's editorial leadership, the magazine has gone from strength to strength. Marina helped position *F&D* at the forefront of cutting-edge issues and always ensured high-quality editing and layout, including most recently a redesign. She will be sorely missed. We will also be saying goodbye to **James Rowe**, *F&D*'s senior editor for the past decade. A former *Washington Post* economic journalist, Jim would construct and deconstruct articles until he was satisfied we had achieved the highest level of readability and relevance for *F&D*'s readers. He will be hard to replace. **FD**

## Coming Soon!

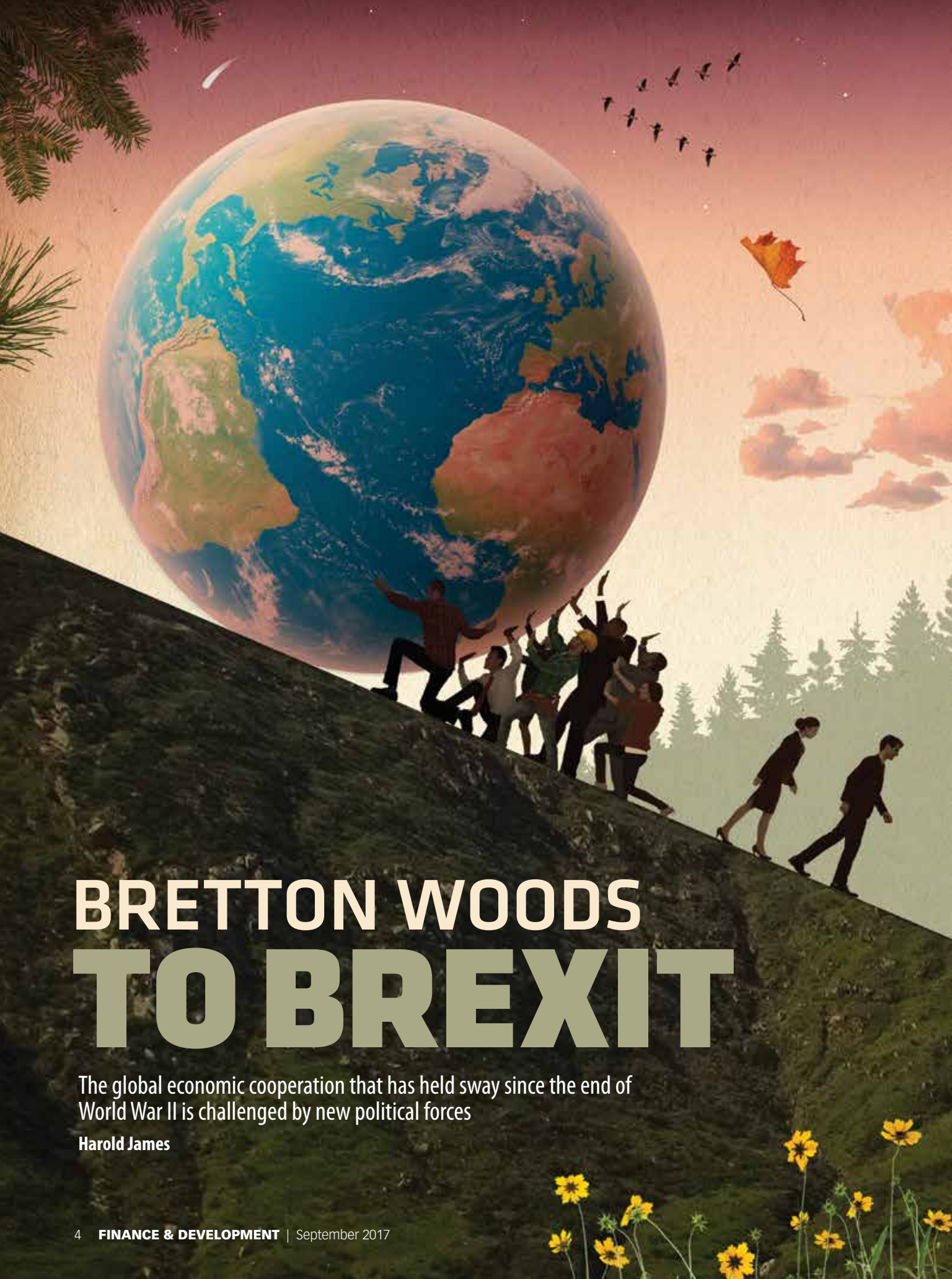
# IMF Annual Report 2017

## Promoting Inclusive Growth



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# BRETTON WOODS TO BREXIT

The global economic cooperation that has held sway since the end of World War II is challenged by new political forces

Harold James

**T**he British vote to leave the European Union and the election of Donald Trump as president of the United States have brought a new style of politics—not just in the United Kingdom or the United States, but for the world. The developments of 2016 constitute a major challenge to the liberal international order constructed after the defeat of Nazism in 1945 and strengthened and renewed after the collapse of the Soviet system between 1989 and 1991.

The United States and the United Kingdom were the main architects of the post-1945 order, with the creation of the United Nations systems, but they now appear to be pioneers in the reverse direction—steering an erratic, inconsistent, and domestically controversial course away from multilateralism. Other countries, meanwhile, for various reasons are incapable of assuming that global leadership, and the rest of the world likely would not support a new hegemon in any event.

The postwar system created at the Bretton Woods, New Hampshire, conference in 1944 should be credited with economic growth, a reduction in poverty, and the absence of destructive trade wars. It built a comity that encourages to this day cooperation on issues as diverse as taxation, financial regulation, climate change policy, and terrorism financing.

The central postwar concern was international financial stability. The United States and the newly created International Monetary Fund were at the center of a system that sought to maintain that stability by linking exchange rates to the dollar, with the IMF the arbiter of any changes. But today exchange rates are largely set by market forces; the IMF has morphed into a combination of crisis manager, global economic monitor, and policy consultant; and US dominance may be replaced by new powers, such as China and the European Union, even as domestic political forces seem to be tugging the United States away from international engagement.

What changes are needed to adjust today's world to the changed geography of economic development, to a transforming geopolitical environment, and to large and potentially unstable financial flows?

In 1944 and 1945 a multilateral liberal world order was built, largely at the initiative of, and in accordance

with, the perceived interests of one power: the United States. Forty-four countries were formally present at Bretton Woods, but US and British policymakers steered the negotiations. The essential vision involved multilateralism that benefited everyone. The Soviet Union, which participated in Bretton Woods, did not ratify the agreement, in part because it was suspicious of the American motivation, and in part because it did not want to supply the data that was a requirement of membership in the IMF.

### **Endless imbalances**

How countries adjust when they spend more on foreign purchases than they earn from abroad was particularly contentious—and the debate about international order was shaped by lessons drawn from the unsuccessful attempt to create a stable order after World War I, when pressure on deficit countries to adjust produced harmful worldwide deflation and then depression. The IMF was devised to prevent currency wars and competitive devaluations, which had been the 1930s' response to deflation.

Most countries in 1944 and 1945 could reckon that they would import more than they would export for a long time and that the United States would have semipermanent trade surpluses. That's because the United States was not only a major supplier of food for a world ravaged by war, it was also the only really substantial producer of a wide range of engineering and machine tool products since industrial capacity in Germany and Japan was destroyed. That meant that most countries would have to scramble to come up with enough dollars to buy needed imports.

The grand compromise reached by delegates to Bretton Woods appeared evenhanded: a country could be deemed to have a "scarce currency"—the US dollar—and the United States would accept full responsibility if there was a "fundamental disequilibrium." Other countries would then be allowed to impose trade and exchange restrictions to reduce exports from the country with the currency that was misaligned.

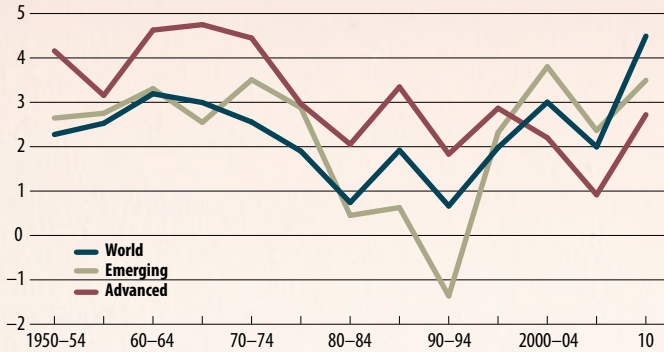
But in practice, the voting arrangements of the new IMF gave the United States the power to block a hostile decision as to whether dollars were in fundamental disequilibrium or "scarce" when other countries couldn't get enough of them. Moreover, by the 1960s, the feared US surpluses

Chart 1

### Growing smartly

In the quarter century after World War II real (after-inflation) per capita GDP increased substantially in both advanced and emerging market economies. In the late 1990s, there was a dramatic catch-up by emerging market economies.

(five-year average real growth rate, G-K dollars, percent)



Source: The Maddison Project.

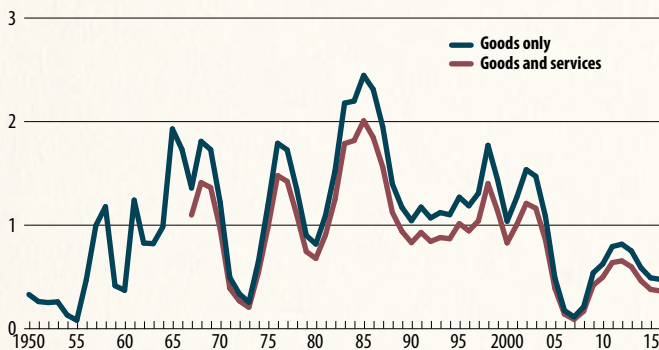
Note: The G-K dollar is a hypothetical currency that has the same purchasing power as the US dollar had at a given point in time.

Chart 2

### Less ammunition

The resources of the IMF have steadily grown smaller as a percentage of world income, trade, and financial flows.

(use of IMF credit and loans in relation to value of trade in goods and services, percent)



Sources: IMF, World Economic Outlook database, April 2017, and *International Financial Statistics*; and IMF staff calculations.

Note: The data for the total world trade value of goods and services start in 1967.

had disappeared, and even before that so had worries about new permanent and pernicious world deflation. That's because the United States recycled its surpluses through military expenditures and foreign direct investment, which allowed much of the rest of the world to catch up.

Overall, the first 25 years after Bretton Woods were generally benign: US-inspired multilateralism helped everyone. There was growth, stability, and catch-up. In the Bretton Woods period, all countries grew. In the late 1990s, in the new era

of globalization, there was a dramatic catch-up by emerging market economies (see Chart 1).

In France, the postwar decades are usually called the 30 years of glory. But 30 is an exaggeration. Things looked shaky by the late 1960s for the global financial system. The mechanism of generally fixed but adjustable exchange rates collapsed between 1971 and 1973. The world experienced an inflationary surge with unstable capital flows, and democracy and political stability were threatened.

### New issues for multilateralism

Multilateralism was inventive, though, in dealing with the new issues. The leading industrial countries in 1975 (France, Germany, Italy, Japan, United Kingdom, United States) convened at Rambouillet, France. It was the ancestor of modern Group of Seven (G7) summits, which added Canada in 1976 (and indirectly of the broader Group of 20)—and successfully dealt with inflationary developments and the political challenge that came when oil prices skyrocketed after the Organization of the Petroleum Exporting Countries cut production in 1973 following the Arab-Israeli war. Influential voices in the United States initially pushed for a military solution to the oil cartel's challenge. But advanced economies ultimately adopted an alternative vision, largely driven by US Secretary of State Henry Kissinger, using private flows of money to bring the oil producers into the system. That achieved political stability, but at the price of financial volatility generated by very large capital flows as oil producers deposited in large multinational banks their massive profits, which the banks then lent to countries to enable them to pay the higher oil price.

The IMF developed new financing facilities for developing economies hit by the higher oil prices and the recession they caused. But when bank-driven capital flows stopped—first for particular countries and then in a general Latin American debt crisis in 1982—the IMF embarked on a new life. No longer was it the overseer of fixed exchange rates; it morphed into a crisis manager, coordinating rescue operations that depended on IMF loans, country reform programs, and new money from the lending banks.

Multilateralism was also at the core of managing a cautious, rule-bound, and fundamentally orderly transformation of formerly state-planned (Soviet-style) economies in the 1990s. The 1990s, and the



evident failure of central planning, also marked a turning, in that multilateral institutions realized that in the middle of a complex political and social upheaval, it was important to speak to a wide range of interests: opposition parties, trade unions, civil society groups. Other issues apart from purely economic ones started to be central to multilateral efforts, such as the quality and effectiveness of government and the level of corruption and transparency.

The results of the changes are ambiguous: the surges of private capital flows contributed to substantial growth, a redistribution of the geographical focus of economic activity, and the lifting of billions of people out of extreme poverty. But capital-driven globalization was also volatile and unstable, and the resources of multilateral institutions appeared smaller in relation to world income, trade levels, and financial flows than in the earlier era (see Chart 2).

### Asian crisis

The major intellectual challenges to reconfigured and decentralized multilateralism occurred with the Asian crisis in 1997–98 and then, in a different form, in the response to the global financial crisis that began in 2008 and hit the old rich industrial countries, in particular Europe, especially hard. The outcome of the Asian crisis was interpreted widely in crisis countries, but also by some influential economists and theorists in the United States, as the imposition of US views and US interests. In one interpretation, the severity of the crisis that followed from a sudden stop of capital market flows, and the imposition of adjustment programs, allowed Western institutions to acquire significant holdings in a dynamic region at bargain basement prices. At the beginning of the crisis, Japan had pushed for an Asian Monetary Fund, but that idea was killed by US opposition.

Some large Asian countries decided that they never again wanted to be dependent on the IMF and moved to self-insure by building up foreign exchange reserves—which required large current account surpluses. The logic of this argument created a good cover story for a mercantilist export promotion drive that depended on countries holding down the value of their currencies by fixing (or pegging) their currencies, usually to the dollar. As current account imbalances soared, the structural flaw that had dominated the Bretton Woods negotiations reemerged: large current account surpluses,

this time mainly for oil exporters and China, and, in a turned table, large deficits in the United States and some other industrial countries.

China also pushed for the creation of regional facilities to support countries with balance of payments and other problems—both as a version of the original Asian Monetary Fund proposal from the 1990s and as a substitute for the global institutions. The Chiang Mai Initiative started in 2000 with a series of bilateral swap arrangements between 10 southeast Asian countries plus China, Japan, and South Korea that allowed a country in need of a

## Each big challenge also produced regional initiatives aimed at financial and economic governance.

foreign currency to borrow it from another member of the initiative (though there have been no swaps yet). The 2008 global crisis intensified the regional push: in 2010 the Chiang Mai arrangements were enhanced, and new institutions began, notably the New Development Bank (popularly called the BRICS bank) in 2013 and the Asia Infrastructure Investment Bank in 2016.

Some lessons emerge from the increasingly decentralized governance of the international system. Each major challenge—the 1970s inflation and oil price shocks and the recent global crisis—produced some new approaches to multilateral cooperation and coordination: the G5 in 1975 and the G20 advanced and emerging market economies in 2008. In each case, however, a productive initial meeting was followed by a process of routinization that sapped the urgency and the capacity to generate major breakthroughs and policy improvements.

Each big challenge also produced regional initiatives aimed at financial and economic governance. The European Monetary System, an attempt to build a regional Europeanized version of the Bretton Woods system, was a response to the currency chaos of the 1970s. The Asian crisis led to a move for greater Asian integration. In Europe, the European Stability Mechanism, created in 2012 to fund EU interventions in member countries in crisis, is also likely to develop into a European Monetary Fund.

The buildup of the proliferation of regional answers raises the question of how regional and



## 1944

Bretton Woods Conference creates IMF and World Bank, establishing a system of stable exchange rates linked to the dollar, which in turn was linked to gold.



## 1971-73

Bretton Woods arrangement of relatively stable exchange rates breaks down, starting with Aug. 15, 1971, US decision to sever link between dollar and gold.



## 1975

G5 meeting in Rambouillet, France, endorses private recycling of massive oil producer profits.

global institutions can work together effectively. One long-standing objection to a world based on regional arrangements was that it would be helpless in the face of impacts or spillovers from one area to another: the Asian crisis for instance spread to Russia and Brazil. Another problem involves countries on the periphery of regional blocs that feel increasingly vulnerable. How then can nations coordinate the interaction between the provision of financial facilities—where regional resources are increasingly important—and the design of policy, which has global ramifications?

### Design questions

There were three distinct ways multilateral governance institutions operated in the era of postwar stability. The first was in *a judicial or quasijudicial role in arbitrating disputes between countries*. There are many cases that look as if they require arbitration: trade disputes and—often associated with trade disputes—whether currencies are unfairly valued to produce a subsidy for exporters.

The new emphasis on sovereignty—in the United Kingdom and elsewhere in Europe where “sovereignists” confront “globalists”—pushes back against this type of arbitration. In the past, the United States has used the World Trade Organization’s dispute settlement mechanism to justify keeping trade open.

Currency misalignment was a much more difficult issue for international settlement, and in the most important cases—with Japan in the 1980s and China in the 2000s—the IMF backed away from formal declarations that a currency was deliberately undervalued.

The second style of multilateralism involved *institutions acting as sources of private advice*

*to governments on policy and on the interplay between policy in one country and in the rest of the world:* explaining and analyzing feedback and spillovers and offering policy alternatives. That sort of consultation—rather than a formal arbitration procedure—was the main vehicle for discussion of currency undervaluation issues in the 2000s. The essence of this kind of advice is that it is private. The outcome may be changes in behavior or policy but the outside world will not understand the reason or the logic that compels the better behavior.

The third was as *a public persuader with a public mission*. Former British Prime Minister Gordon Brown liked to use the phrase “speaking truth to power” with regard to the advice of multilateral institutions, such as the IMF or World Bank. There is increasing recognition of the limits of secret diplomacy and behind-the-scenes advice. Societies cannot be moved without genuine consensus that they are moving in the right direction. The backlash against globalization is fed by a climate of suspicion: experts, economists, international institutions are not trusted. During the 2000s, the G20 and the IMF moved to public assessments of how policy spillovers affected the world—and in particular examined the multilateral dimensions of trade imbalances and their various causes, including monetary policy stances and structural and demographic developments.

This public style of action looks more appropriate in an age of transparency—when information technology seems less secure, when secrets leak, when WikiLeaks flourish. Today it is unwise to assume that anything is secret.

The accessibility of information presents a fundamental dilemma. Policy advice is invariably quite



## 1982

Mexico, then most other Latin American countries, face severe crises repaying debt, much of which was incurred to pay higher oil bills. Debt problems thrust the IMF into new role as crisis manager.

## 1997

Asian financial crisis begins in Thailand and spreads to many Asian countries. Again IMF is at the center of managing crises.

## 2008

Global financial crisis begins. In November 2008, first meeting of the Group of 20 advanced and emerging market economies is held in Washington.

complicated. Spillovers and feedback require a great deal of analysis and explanation and cannot easily be reduced to simple formulas.

### Accessible information

Should international institutions be more like judges, or priests and psychoanalysts, or persuaders? The traditional roles by themselves are no longer credible. But multilateral institutions will also find it impossible to take on all three roles simultaneously. Judges do not usually need to embark on long explanations as to why their rulings are correct. If they act as persuaders, maintaining a hyperactive Twitter account, they merely look self-interested and lose credibility. But if they are secretive—like the World Bank’s International Centre for Settlement of Investment Disputes—they may be more efficient (as measured by the gains from their rulings) but will lose legitimacy.

It is easy to see why the institutions that built the stability of the post-1945 order might be despondent in the face of apparently insuperable challenges. It is hard to apply fundamental and widely shared principles such as human dignity and sustainability to the minutiae of policy. But the institutions might harness the new technologies to successfully mediate disputes that threaten to divide but also to impoverish the world.

In the postcrisis world, ever larger and more updated amounts of data are available. In the past, we had to wait months or years for accurate assessments of the volume of economic activity or trade. Data on a much broader set of measurable outcomes, including measures of health and economic activity, are now available in real time. Managing and publishing those data in accessible

and intelligible ways can be critical to forming the debate about the future and about the way individuals, societies, and nations interact. Instead of a judge, multilateral institutions can become purveyors of the costs and benefits of alternative policies. They need to work on ways of letting data speak.

Some of the issues to be addressed are new, or appear in new forms, and are global public goods: defense against diseases that spread easily in an age of mass travel, against terrorism, against environmental destruction. In each case, the availability of large amounts of detailed information, available quickly, is essential to coordinate an effective response: for instance, where there is pollution and how it affects health and sustainability and where and why it originates. Even large countries cannot find the right response on their own.

Some of today’s problems were already identified at Bretton Woods: How can countries avoid unsustainable current account deficits, which make them vulnerable to shocks and reversals of confidence on the part of capital markets? How can large surpluses that impose a deflation risk on the rest of the world be reduced? Regional agreements cannot find an answer to these problems. Simple global answers are also impractical and unlikely to sustain consensus. Instead, large amounts of data hold the key to effective action, identification of precisely how the financing of external imbalances is achieved, and the circumstances that make a major external imbalance harmful and destabilizing. Much more than in 1944 and 1945, governance will depend on information. **FD**

**HAROLD JAMES** is a professor of history and international affairs at Princeton University and IMF historian.



# FALSE PROFITS

Avoidance by multinationals and competition between governments are forcing a rethink of the international tax system

**Michael Keen**

**T**he League of Nations did not have a Facebook page. Its staff didn't Google or order online from Amazon. A century ago foreign direct investment involved tangible things like railways and oil wells. Royalties meant charges on coal and the like, not payment for the use of brand names or patents. Multinational enterprises did not dominate world trade.

Things have changed. The international economy has seen the rise of multinationals and the growth of trade in services and global capital flows. Intangible assets such as patents and telecom licenses have become central to modern

business, and digital technology offers opportunities to do business in a country with little if any physical presence there. These changes raise tax issues unimaginable in the 1920s. Yet the framework established by the League of Nations still dominates how we tax multinationals.

The stresses placed on that framework have increased over the last decades, bringing it close to the breaking point—perhaps beyond.

Two problems—distinct but related—are at the heart of those stresses. One is tax avoidance by multinationals: the use of legal ways to shift profits from where they will be taxed at a high rate

ART: ISTOCK / JANE KELLY

to where they will be taxed at a low one. The other is “tax competition” between governments: the use of low rates or other favorable tax provisions to make themselves more attractive for real investment and less vulnerable to avoidance activities that shift paper profits abroad (making other countries correspondingly less attractive and more vulnerable).

### A quick guide

International taxation is horrendously complicated (a serious problem in itself). Here is a quick account of how the system for taxing multinationals works.

At the heart of how countries determine the taxable profits of companies within a multinational group is the principle of “arm’s length pricing.” This means calculating the profits earned by each such company by valuing any transaction it has with other companies in that multinational group by using prices at which unrelated parties would have undertaken that transaction. Each country then taxes the profits allocated in this way to any member of the group that is either legally established or has a clear and reasonably sustained physical presence there (in the jargon, a “permanent establishment”). This establishes the tax base in what is often called the “source” country.

At a second step, under “worldwide” taxation, the country in which the parent company is resident for tax purposes also taxes income earned by its affiliates abroad, though it will often give a credit for taxes paid there. This practice, however, has become rarer in recent years. It still applies in the United States, but (as in other countries using a worldwide system) tax is payable only when earnings are repatriated in the form of dividends. This is one reason US companies have more than \$2 trillion in unrepatriated earnings. But many countries instead have “territorial” systems, meaning they effectively exempt business income earned abroad. So current arrangements for the taxation of business income across the world look much like a system of source-based taxation.

There has not been much conscious design in these arrangements. There is no World Tax Organization to forge and apply common rules (though World Trade Organization rules do constrain some aspects of tax policies). Countries often define aspects of their tax relations through bilateral tax treaties (more than 3,000 of them), and there are various guidelines for applying arm’s length pricing. These modest elements of multilateralism have

been supplemented in the past few years by efforts to contain some of the most outlandish avoidance devices, through the G20/OECD Base Erosion and Profit Shifting (BEPS) project (more on this below). But governments and multinationals still have plenty of room to maneuver. And many developing economies and civil society organizations see the current system as driven by the interests of the most advanced economies.

### Games companies play

The arm’s length principle has a logical rationale. In theory, it subjects multinationals to the same tax treatment as a series of independent firms doing the same things. The trouble is that multinationals can exploit that principle by doing things that independent firms would have no reason to do.

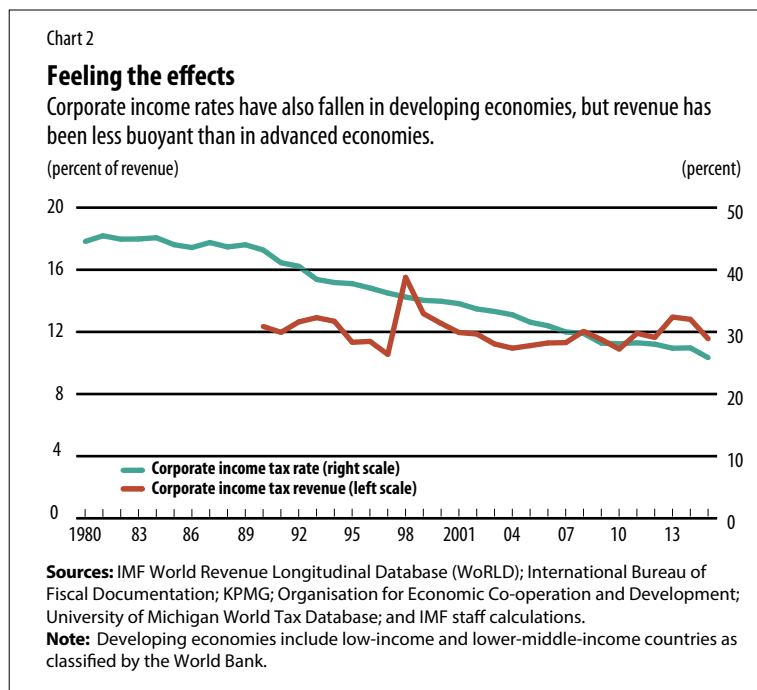
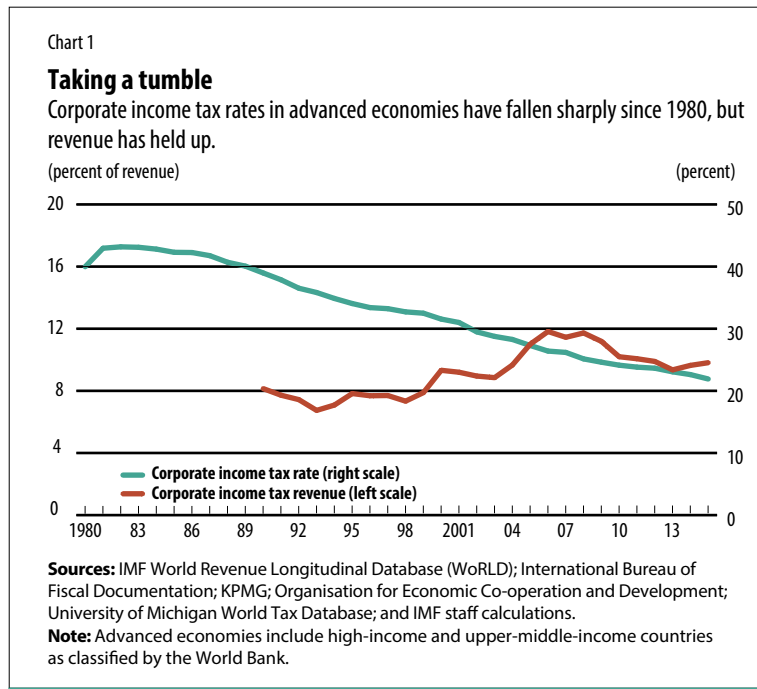
One example can stand for many. Multinationals can try to manipulate the prices (“transfer prices”) at which they transact within the group to reduce their

**If countries set tax policy ignoring the adverse effects on others, they will end up collectively worse off.**

overall tax liability—setting artificially low transfer prices, for instance, for sales from affiliates in high-tax jurisdictions to those where taxes are low. The problem for the tax authorities is then to find or construct arm’s length prices at which to value these transactions. And that has become increasingly tough, as trade within multinationals has grown not only in volume but has come to center on hard-to-value items. One example is the sale to an affiliate in a low-tax jurisdiction of an as-yet-unexploited patent whose arm’s length value is unclear (though the company likely has a shrewder idea than the tax administration).

There is plenty of evidence that profit shifting is extensive. Estimates for the United States put the loss at between one-quarter and one-third of total corporate tax revenue in 2012 (Clausing 2016). Losses elsewhere may well be larger—and are of particular concern in developing economies, which get a higher proportion of their total revenue from corporate taxes and have fewer alternative revenue sources to fall back on.

The BEPS project has made progress in addressing many of the most egregious forms of tax



avoidance. Covering 15 wide-ranging areas (such as limiting interest deductions and improving dispute resolution), it has delivered four minimum standards to which the G20 encourages all countries to commit. (One, for example, aims to limit abuse of tax treaty provisions.) Implementation

of the project’s standards is now supported by the Organisation for Economic Co-operation and Development’s “Inclusive Framework,” to which over 100 countries belong.

The project does not change the fundamental structure of the international tax system. Even its strongest advocates have described it as firefighting. It remains to be seen whether the fires have caused damage that can be repaired and fixed with a lick of paint—or have left a fundamentally unsafe structure that, sooner or later, will have to be rebuilt.

### Games governments play

The most obvious sign of intense international tax competition is the rapid decline of corporate tax rates around the world (see Charts 1 and 2). Strikingly, revenues in advanced economies have on average held up, probably in large part because of an increasing share of capital in national incomes.

But it is not just headline rates that matter. Governments are adept at finding ways to manipulate many other aspects of their tax systems to attract real investment or paper profits rerouted by tax avoidance. Governments seemingly outraged by low effective payments often sound like Captain Renault in the movie *Casablanca*, claiming to be “shocked” by the discovery of gambling in Rick’s bar.

So what’s wrong with such competition between governments? There are those who indeed welcome tax competition as a way of limiting “wasteful” public spending. But even leaving aside the fact that “wasteful” is in the eye of the beholder, this “starve the beast” argument has been heard less often since the crisis of 2008, with many governments strapped for revenue. The central problem, in any case, is that tax competition is a particularly inefficient way to limit the tax take.

This is because self-seeking national tax policies spill over in harmful ways. If a country makes its tax system more attractive, it increases its tax base by attracting more real investment or inward profit shifting, which, from its national perspective, is a good thing. But, by the same token, the tax base in other countries is likely to go down—a bad thing for them. If each country sets its own tax policy ignoring the adverse effects on others, they will end up collectively worse off than if they had cooperated. What underlies this problem, ultimately, is the mobility of the tax base—with source-based taxation under the arm’s length principle being

especially vulnerable, given the ease of shifting not only real investments but, through avoidance of various kinds, paper profits.

The BEPS project does not address the fundamental forces that drive tax competition. Its mantra has been to mend the 1920s system by establishing taxation “where value is created.” That sounds something like source taxation, which as just seen is especially prone to damaging competition. Moreover, while making avoidance harder limits one vulnerability, it may worsen the other. Governments tolerate or even encourage avoidance as a way by which firms that are especially able to move their activities or shift their profits abroad can reduce their tax bills. If clamping down on avoidance makes that harder, they may well use other tax devices to protect their tax base—for example, by further lowering tax rates.

### What is to be done?

While the BEPS project is an impressive attempt to mend the international tax system, few if any see it as a fundamental solution. So reform remains on the agenda. Some proposals retain key concepts of the 1920s system. One, for instance, is to widen the notion of a “permanent establishment” to recognize that, in this digital age, companies can do considerable business in a country without having much of a physical presence there.

More fundamental changes are also being suggested. The European Commission, for instance, has revived a proposal to allocate a multinational’s profit across participating EU countries not by arm’s length pricing but by a mechanical formula, reflecting for instance the extent of its sales, assets, and employment in each country. The advantage of such “formula apportionment” is that it makes transfer prices between the participating countries irrelevant for tax purposes. It is not, however, immune from tax competition—governments would have an incentive to attract whatever is included in the formula so as to bring a larger share of the multinational’s profits into its tax base.

In the United States, the “destination-based cash flow tax,” which would exempt exports from taxation and tax imports, has received a lot of attention recently. If all countries adopted it, transfer prices would become irrelevant for tax purposes (because the prices attached to exports and imports have no impact on tax liability in any country). And because consumers generally don’t relocate in response to differences in rates of tax on consumption, this

type of tax is much less vulnerable to erosion by international competition.

Even if one could conceive of an ideal alternative to the 1920s system, implementing it would raise difficult coordination problems. Overall, countries should gain from coordinating their approach to corporate taxation. But there is a problem: a group of countries that agrees to raise tax rates becomes more vulnerable to being undercut by others. That is, countries that coordinate can expect to gain from doing so, but those that stay outside stand to gain even more.

Still, competition itself could lead to an efficient form of coordination. One consequence of replacing a standard corporate tax with a destination-based cash flow tax, for example, is fewer profit-shifting problems for a country adopting it but more for everyone else. This is because setting a high price for exports from the country with a destination-based cash flow tax will not affect tax liability there (receipts from exports, remember, are then exempt). It will, however, reduce tax liability in countries retaining a traditional corporate tax (imports there being deductible against tax). And that would put great pressure on those others to adopt a destination-based cash flow tax too.

That brings us to a last but fundamental issue. Both formula apportionment and the destination-based cash flow tax would transform how tax revenue is allocated across countries. With a destination-based system, tax revenue accrues to the countries where final consumption takes place. That is quite different from the idea that it should accrue to the country of production. Resource-producing countries, for example, are unlikely to see such an allocation of revenue as acceptable. As with all tax issues, a key question in rethinking the international tax system is ultimately: Who should get the money? **FD**

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# Safe and Sound

International financial regulators help ensure the safety and soundness of diverse financial systems

**Tobias Adrian and Aditya Narain**

**T**he 2008 financial crisis gave urgency to the multilateral effort to create a safer and stronger global financial system. Since then, policymakers have largely succeeded in the task of ensuring that the biggest international banks are more resilient to adverse shocks, reducing the risk of another financial crisis as severe as the last one. But policymakers face a new challenge: resisting pressure to roll back reforms.

Now that the postcrisis system is in the final stretch of implementation, policymakers are starting to evaluate possible unintended consequences of the reforms. The key focus will be to ensure that the significant increase in capital and liquidity of major banks around the world will not be undermined. If international regulatory standards can be adapted to apply across a wide range of banks and banking systems, it will also help get greater traction and support for the reforms.

Enhanced regulatory standards have made large international banks more resilient by requiring

them to have more loss-absorbing capacity—more capital—and more cash-like assets to meet financial obligations—more liquidity. Banks are also subject to more intense supervision, required to be well prepared to manage risks to their well-being (such as a recession), and expected to have high-quality corporate governance.

If they do get into trouble, there are now international agreements on how they should be restructured or closed (resolved, in regulatory parlance) and who should bear the losses of their failure and in what manner. Progress is also being made in agreeing on how to deal with risks to the broader financial system, such as those posed by so-called shadow banks, which are not regulated like banks but engage in many bank-like activities, such as gathering funds and making loans.

## **Taking stock**

Market participants and policymakers have noted some possibly unintended consequences of the new,



postcrisis regulations. In response, several multilateral organizations are evaluating the economic impact of financial reforms. In most cases, the benefits far outweigh the costs. However, in some cases, some readjustments to regulatory reforms might lower the costs without reducing the benefits. Among the institutions that are evaluating the impact of the reforms is the Financial Stability Board (FSB), which monitors the global financial system and makes recommendations about measures to maintain its stability. The FSB includes finance ministries and central banks from about 25 countries and international financial institutions such as the Bank for International Settlements, the IMF, and the World Bank.

The bodies that promote international cooperation and develop standards in financial regulation—such as the FSB and the Basel Committee for Banking Supervision, which is made up of bank regulators—must also concern themselves with the universal applicability of the standards they set. These standards come in various forms—minimum standards, guidance, principles, codes and good practices, to name a few. Members of both groups represent economies—mostly advanced and some emerging—where banks are important but often only part of a complex financial system. But the guidance on banking supervision and regulation that the FSB and the Basel Committee produce is equally relevant for the many emerging market and developing countries whose economies are largely bank based.

### Global relevance

The Basel bank supervisory and regulatory standards were initially designed for internationally active banks and were aimed at establishing a level playing field by setting minimum standards for each member country. These standards reflected the best practices in then-member jurisdictions and sought to provide a degree of assurance about the effectiveness of national supervisory regimes and the soundness of national banking systems.

Following the financial crisis, the standards have focused especially on institutions deemed important to the global system and whose failure could have disruptive effects in many countries. Much of the postcrisis reform agenda has been aimed at reducing the likelihood of failure of such systemically important institutions and minimizing losses to taxpayers if they do fail. An important part of these efforts has been enhanced cooperation among

national supervisory authorities to help coordinate action in both normal times and crises.

Because most of the world's countries are not represented in the discussions on the design of these standards, some policymakers and others question the global relevance of the benchmarks. Moreover, because they focus on internationally active and systemically important institutions, their suitability for less sophisticated financial systems, or even for less systemic institutions in the more advanced economies, has been questioned. This critique has led to vigorous discussions about the need for proportionality in the application of financial regulation—that is, the need to ensure that the standards are suitable to the financial system and/or the financial institution.

## Following the financial crisis, the standards have focused on institutions deemed important to the global system.

The standard setters have made several efforts to enhance the global relevance and acceptance of these norms at all levels of supervision and regulation.

First, to incorporate a range of experience in their work, both the FSB and the Basel Committee expanded their membership following the crisis to include several emerging market economies. They also invite representatives of regional groupings of supervisors to their meetings. The Basel Committee (named for the Swiss city in which it is based) is making greater use of a consultative group of supervisors from nonmember countries, regional and thematic groups, and international organizations with broader membership (such as the IMF) as a sounding board for some of its initiatives.

Second, some of the key standards provide a menu of approaches that range in complexity, allowing countries to select the one to apply to their banks or groups of banks. The best example of this is the standard known as Basel II, which prescribes the minimum amount of capital. The level of capital is based on the amount of risk a bank faces. The Basel II standard offers four approaches for credit risk capital—simplified, standardized, foundation, and advanced. It offers three approaches for operational risk and two for market risk. This standard is based on the philosophy that simpler systems and institutions could move to more complex approaches as their operations evolve. In addition, several elements

in Basel II allow countries to choose either to be exempted from the standard or use a simpler method.

### **Core principles**

Third, around the time of the Asian financial crisis, which began in 1997, the Basel Core Principles for Effective Banking Supervision were developed as a global standard for prudential regulation and supervision of banks. The international financial community endorsed them during the annual meeting of the IMF and World Bank in October of that year. The principles, which have been revised twice, lay out expectations based on internationally accepted good practices and minimum standards. They cover a range of interrelated topics, including requirements for the entry, exit, and operations of banks; the powers, responsibilities, independence, and accountability of supervisors; and guidance on prudential standards and for managing the various types of risks banks face. These principles are designed to apply to a range of jurisdictions and are

complex systems, yearn to make sense of the constant introduction of new standards and revisions of older ones. The increased focus on systemically important institutions since the global crisis has magnified those concerns. Banks not deemed to be systemic worry that some of these regulations are cascading down to them, even though the regulations are not always suited to the simpler size and plain-vanilla business models of smaller institutions. This has led to calls to implement key regulations in a manner proportionate to the risks posed by nonsystemic banks, but there has not been any internationally agreed approach on how to do this.

In some jurisdictions, such as the United States, supervisors have crafted tiered regimes that use asset size and complexity to determine the rigor of both supervisory and regulatory approaches. Further proposals under discussion aim to lower the regulatory burden on community banks in the United States. This issue of proportionality is also under discussion in Europe, where smaller savings and regional banks

## **Efforts have been made to adapt Basel guidance to so-called microfinance institutions that specialize in making small loans to underserved people.**

a key component of the assessments carried out by the IMF and the World Bank when they periodically review countries' financial sectors.

Fourth, efforts have been made to adapt Basel guidance to so-called microfinance institutions that specialize in making small loans to underserved people. This is part of a broader effort at financial inclusion—bringing into the financial system people and firms that have not had access to financial services, including banking.

Finally, there have also been serious attempts in recent years to simplify the regulatory framework, based on the experience born of the crisis that complex rules were hard to implement and supervise. This simplification would have contributed to more universal application but would have come with a loss of risk sensitivity. This trade-off, and of course the complex nature of some financial activities, makes a one-size-fits-all approach difficult to achieve.

Despite the efforts to make standards relevant to diverse institutions and financial systems, national supervisors, especially those dealing with less

complain about the excessive compliance costs they incur in reporting under these regimes—both to supervisors and to the public—even though they are not systemic institutions. At the same time, supervisors on both continents are treading carefully, realizing that even difficulties in small institutions can collectively lead to systemic problems. That is what happened in the savings and loans crisis in the United States in the 1980s. Some supervisors also worry that with their resources now focused on systemically important banks, they may be unable to monitor smaller firms as well as they did in the past.

### **Proportionality**

The issue of proportionality is also playing out across countries. On the one hand, developing economies with less complex financial systems would like to view some of these standards as aspirational—that is, ones that their financial system could eventually meet. On this count, they would like to better tailor the standards to be relevant to their national situation. On the other hand, officials in developing economies worry that if they do not meet the standards as

written, investors might incorrectly take a dim view of the soundness of their institutions—which would increase the cost of access to international markets. Toward this end, officials in developing economies seek advice on identifying the standards and good practices relevant to them to provide greater assurance of financial stability. They also want to know how to prioritize implementation in keeping with limits on their resources. These officials seek to develop a strategy, path, and timeline to help them fully implement the standards as their financial systems increase in complexity and sophistication.

Here, the IMF plays an important role by providing technical assistance on financial sector stability and market development to more than 100 countries every year through both long-term resident advisors and short-term expert visits. Nearly half of the assistance in financial sector areas focuses on strengthening banking supervision and regulation—by helping countries adopt good practices and international standards that are applicable, and at times by adapting them to local conditions. The

IMF, together with the World Bank, also helps countries with legislative and institutional reforms, safety nets, accounting and auditing, and corporate governance frameworks to help prepare them to implement more complex standards.

With postcrisis regulatory reforms largely completed, providing greater clarity on the issue of their proportionate application across banks that are not systemically important should now find a place on the agenda of standard-setting bodies and international forums. Providing this clarity will add to the universal appeal of the reforms and reduce calls for their rollback. This effort, together with providing good guidance to emerging market and developing economies on how to identify and implement standards and practices best suited to their national context, requires the active interest and involvement of the global community. **FD**

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I N T E R N A T I O N A L M O N E T A R Y F U N D





# The Terror-Crime NEXUS

How international groups of criminals and militants team up to move money around the world

Douglas Farah

**D**eep in the jungles of Suriname, miners work a primitive sluice to extract flecks of gold from the tons of red clay soil they dig from the ground, using mercury that poisons nearby waterways. The men, who are unprotected by labor laws and often must bribe local officials to work the mines, earn about \$50 a week—a paltry sum compared with the \$24,000 middlemen will earn from the gold they mine.

In contrast to the labor-intensive methods employed by the miners, the middlemen who move the gold to the world market use communications encrypted with applications like WhatsApp and Signal. Some of the gold is overinvoiced to launder the proceeds of other illegal activities. Some appears as exported from other countries to hide its origin or mask the movement of cocaine and heroin. And some winds up in the Dubai Gold Souk in the United Arab Emirates, where its value can easily be converted to bitcoins, dollars, or euros.


The illicit gold mines of Suriname, a former Dutch colony north of Brazil, show how criminals are marrying age-old methods with digital-era technology that helps them avoid detection as they move cash and commodities around the world. Wielding sophisticated software, they turn gold on

one continent into cryptocurrencies on another in multimillion-dollar transactions that leave no trace in the world's formal financial system. The growth and global scope of their activities highlight the need to improve cooperation among the world's regulators and law enforcement agencies.

## Logging, mining

Gold is just one source of illicit revenue, which also includes proceeds from the sale of narcotics, illegal logging, and theft of minerals and cultural property. The sums involved are staggering. A 2017 report from Washington, DC-based Global Financial Integrity estimated the turnover of 11 primary illicit markets at \$1.6 trillion to \$2.2 trillion annually. The drug trade is the most lucrative, earning \$426 billion to \$652 billion, while illegal mining is estimated to yield \$12 billion to \$48 billion. The report states that “transnational crime will continue to grow until the paradigm of high profits and low risks is challenged.”

While law enforcement authorities have scored some successes in stemming such flows, governments, in a reactive mode, are at best capturing a few frames of the illicit finance movie as it rolls by. As a 2015 World Economic Forum study on illicit economies notes, “Criminal organizations



have not only exploited gaps in capacity and policy, they have been ahead of the curve in their use of technology and sophisticated instruments and schemes. . . . Indeed, the very forces that enable globalization and that underpin secure, private trans-national commerce are the same as those that also now make us less secure.”

Customs inspections are one major point of vulnerability. Governments typically inspect only about 5 percent of the cargo passing through their ports for fear of disrupting global supply chains. They rely instead on technology, intelligence, and international partnerships to detect illegal shipments.

Transnational criminal groups sometimes form lucrative partnerships with guerilla or terrorist organizations. Over a period of six years, the Revolutionary Armed Forces of Colombia, or FARC, and criminal groups used an array of pawnshops to move 47 tons of illegally mined gold worth \$1.4 billion to global refineries, including some in the United States. US law enforcement found that Hezbollah, a Lebanon-based Islamic militant group, was laundering large sums of money through one of the main refineries on the Arabian peninsula that received the gold.

Gold has emerged as the medium of choice because it's both lucrative and can be converted into cash relatively easily. “Cocaine typically takes six months to produce and requires considerable knowledge, while an illegal mining operation in the Colombian jungle can extract two kilograms of gold a week,” according to a 2013 Bloomberg story. A kilogram of cocaine sold for the equivalent of about \$2,570 in the jungle, while a kilogram of gold could fetch many times that amount.

### **Intensified efforts**

Law enforcement and multinational organizations are stepping up efforts to deal with the growing complexity of illegal money flows. Interpol set up the Illicit Markets sub-crime directorate, and the US Treasury is using its broad powers to punish banks that launder money through the US banking system. The United Nations adopted numerous resolutions related to illicit financing and established the Convention against Transnational Organized Crime in 2003 and the Convention against Corruption in 2005, among others.

The Paris-based Financial Action Task Force, founded in 1989, sets global standards to fight

money laundering and terrorism financing and monitors countries' progress in implementing its recommendations. The IMF and World Bank offer technical assistance and training in setting up necessary laws to combat illicit flows and develop relevant policies and legislation. Over the past 15 years, the IMF has helped shape domestic and international policies to combat money laundering and the financing of terrorism. The organization also analyzes such policies at a global and national level and how they interact with issues such as virtual currencies, Islamic finance, costs of and mitigating strategies for corruption, and the withdrawal of correspondent banking relationships.

Despite these international efforts, money laundering and related activities persist.

The case of the Beirut-based Lebanese Canadian Bank shows how an international criminal network used financial and commercial transactions on five continents to launder billions in drug money. Drugs from South America were shipped to Europe and the Middle East for sale, with proceeds laundered through the Lebanese financial system and via the sale of used cars purchased in the United States and consumer goods bought in Asia, according to a US Treasury Department finding. The use of accounts in Panama, multiple offshore havens, and the United States demonstrated the weakness of regulatory structures in detecting these transactions. According to David Asher, one of the leaders of the investigation, the money ultimately flowed to the Lebanese Canadian Bank, whose main client was Hezbollah.

### **Bank's collapse**

The bank collapsed after US investigators in 2011 designated it a “primary money laundering concern” and a financial vehicle for Hezbollah, according to a Treasury Department press release. But the bank is just one of many similar operations around the world; it took years and extensive resources to identify and close it down, making the operation difficult and costly to replicate elsewhere.

Venezuela became a key staging area for FARC and a primary transit point for drugs and other illicit goods produced in Colombia. Venezuelan activities extended as far as the tiny European principality of Andorra. In March 2015, the US Treasury Department's Financial Crimes Enforcement

Network designated Banca Privada d'Andorra (BPA) a “primary money laundering concern.” (The designation was withdrawn in 2016.)

Among the bank’s clients was Petróleos de Venezuela, or PDVSA, the state oil company. According to the US Treasury notice, the two firms set up shell companies and “complex financial products to siphon off funds” from PDVSA. “BPA processed approximately \$2 billion in the money-laundering scheme” during a two-year period.

At an international security conference at the George C. Marshall Center in Garmisch-Partenkirchen, Germany, in September 2015, General Philip Breedlove, then head of the US European Command, noted that many terrorist financiers are not playing the same game as most nation-states. They are not just trying to bend the rules of the game, he said. Rather, they are playing an entirely different game on a separate field, in which the rules we take for granted are no longer binding.

Some nation-states, individually or as a bloc, such as the United States, China, and the European Union, have the resources to take meaningful action against money laundering and terror financing on their own, but measures are most effective when taken regionally and multilaterally.

Innovations such as cryptocurrencies pose another challenge, and nations including Japan, South Korea, and the United States are taking varying regulatory approaches. The use of encrypted communications blinds both law enforcement and intelligence communities and guarantees privacy to law-abiding citizens, which makes building a common global approach difficult at best.

### **Bearer shares**

But some steps may be relatively easy to take, such as doing away with anonymous bearer share corporations and requiring that a person be legally responsible for companies and their corresponding bank accounts. The investigations into PDVSA’s financial network and the Lebanese Canadian Bank have run into significant roadblocks because of such corporations.

As the Global Financial Integrity report states, “transparency is a powerful disincentive for illicit activity.” International criminals can’t rely on hard cash alone to move the huge sums involved in their activities; they must be able to “access the global

financial system, and that access in turn relies on their ability to keep their identities and the origins of their goods secret.”

A second step would be to develop a minimum consensus on banking transparency and how to track and hold suspected terrorism and organized crime resources. Dozens of offshore bank havens allow billions of dollars in illicit gains to find safe harbor with little risk of exposure. Switzerland is an example of a country that has moved in recent years to loosen bank secrecy laws if there is compelling evidence that the funds were gained through illegal activity.

Finally, states with a common definition of transnational criminal organizations and terrorism must quickly come together to strengthen a joint, multilateral regulatory framework flexible enough to adapt to rapidly changing technologies and financial movements, both licit and illicit. This must

**“Transparency is a powerful disincentive for illicit activity.”**

be a priority and include the IMF, World Bank, and other multilateral institutions that can span national borders to build consensus and serve as honest brokers among competing national interests.

Flexibility and agility are the keys to making any framework viable. Criminals and terrorists operate in ecosystems that allow rapid exploitation and anticipation of new communications technologies, financial instruments, and seams in the system. Nation-states exist in a world of incremental change where adaptation is slow and wrestling with new challenges cumbersome and open for debate.

These steps would not completely shut down money laundering and terror financing, which could still be sheltered by complicit governments. But they would at least force criminal groups to work much harder to take advantage of legitimate avenues of commerce and finance. **FD**

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# PATH TO INFLUENCE

China employs a multipronged approach to enhance its role in setting the global economic and political agenda

**Eswar Prasad**

**C**hina is an economic superpower. It is the second-largest economy in the world, with an annual GDP of \$11.5 trillion. It has annual domestic savings of more than \$5 trillion and a stash of foreign exchange reserves of about \$3 trillion. It is a net creditor to the rest of the world to the tune of \$1.8 trillion.

Yet for all its vast financial resources, China remains a middle-income economy, with a per capita GDP only one-fifth that of richer economies such as the United States. Moreover, the country's global economic and geopolitical clout

is only gradually beginning to catch up to its sheer economic size.

History is replete with examples of countries that have punched above or below their weight in global finance and geopolitics depending on how well they deploy those resources. Until fairly recently, for example, countries much smaller than China, such as the United Kingdom and Switzerland, were seen as far more influential in global finance and geopolitics. But that is changing fast. China is a case study in how to learn by doing and seize opportunities to gain greater influence.



In the 2000s, as China's financial clout and foreign exchange reserves grew, it began using its resources to increase its spheres of economic and political influence—offering investments, aid, and various forms of financial support to other economies. The recipients of this largesse were its neighbors in Asia as well as some economies in Africa, Latin America, and the Caribbean with large stocks of natural resources that China craved for its manufacturing machine.

Over the past decade, China's cumulative investment has been about \$290 billion in sub-Saharan Africa and \$160 billion in South America. China has given money to countries that have not been able to raise capital in international financial markets or are loath to turn to Western institutions and countries. When China's President Xi Jinping visited Pakistan in 2015, he announced \$46 billion worth of financial support for energy and infrastructure projects. His visit to Africa that year culminated in a new China-Africa strategic partnership featuring cooperation in areas such as industrialization, infrastructure, green development, and public health. China offered \$60 billion in funding support in grants, loans, loan write-offs, and development funds.

China has maintained that it adheres strictly to a principle of noninterference in other countries' internal affairs, especially when it comes to political matters, and that its aid and investment do not come with any conditions, such as economic reforms. As Xi put it at a summit in Johannesburg: "China supports the settlement of African issues by Africans in the African way."

China's economic activities abroad have stimulated vigorous debate about whether its money has been a net benefit for recipient countries—whether China was exploiting the countries to which it was giving aid or loans and, even worse, whether that money was propping up corrupt regimes, enriching venal officials, and creating a debt burden that would come to haunt those countries.

Some studies have contended that high levels of Chinese aid have had a harmful effect on human rights and on economic development across Africa. Other studies have argued that aid from China is, in fact, oriented toward poorer countries, although mostly resource-rich ones. Chinese investors do seem more willing than Western countries to invest in countries that are politically unstable. Overall, the academic evaluation is mixed—Chinese money

has in some ways played a positive role in Africa's economic development, but with significant risks and costs to some sectors.

China's investments in, and aid to, Africa and Latin America have strengthened its economic and political linkages with countries on those two continents. However, such commercial and charitable endeavors often have not been viewed favorably by the international community and, sometimes, even by the recipient countries themselves. The use of Chinese labor and materials in many of these projects has limited their local employment and industrial development benefits.

China's leaders recognized that a shift in the nature of China's international economic relationships would help promote their economic and geopolitical ambitions more effectively. The Chinese are quick learners, taking a pragmatic approach and adjusting strategy when circumstances demand it.

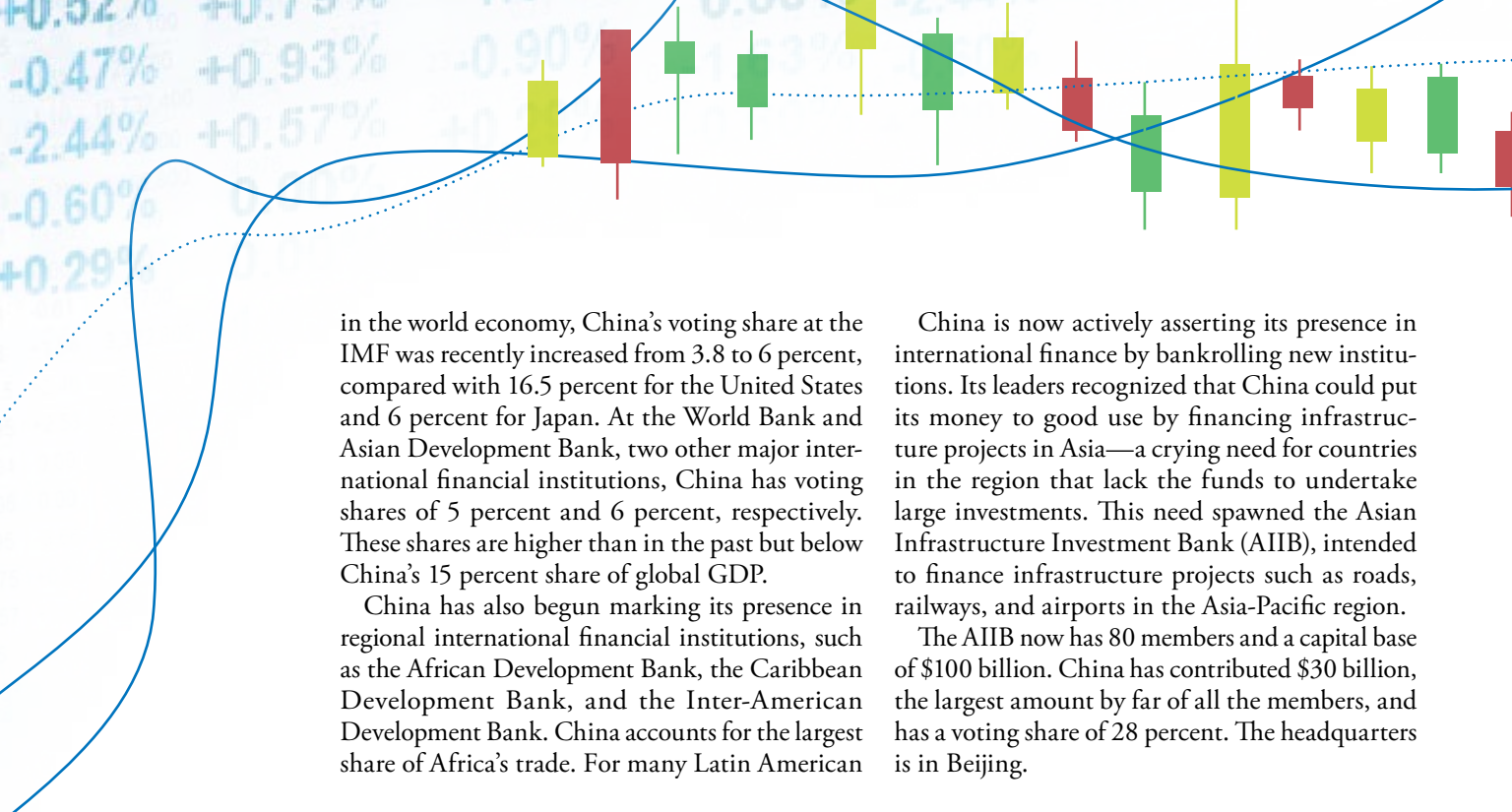
China now employs a multipronged approach to setting the global agenda. First, it is gradually increasing its influence in international institutions and even establishing a toehold in those where it does not have a direct and immediate interest. This allows China to change the rules of the game from the inside. Second, it is setting up multilateral

**The Chinese are quick learners, taking a pragmatic approach and adjusting strategy when circumstances demand it.**

institutions where it gets to call the shots, which allows it to control the rules of the game and also serves to subtly catalyze changes in the existing institutions. Third, it is joining with other like-minded countries to establish institutions that are meant to build trust and stronger economic linkages with countries that it sees as partners as well as potential competitors. Fourth, it is using other arms of the state, including state-owned banks and development agencies, to increase its global financial reach and power.

### **Changing existing institutions**

The first element of China's global strategy involves increasing its influence in existing multilateral institutions. As part of changes to reflect the increasing weight of emerging market economies



in the world economy, China's voting share at the IMF was recently increased from 3.8 to 6 percent, compared with 16.5 percent for the United States and 6 percent for Japan. At the World Bank and Asian Development Bank, two other major international financial institutions, China has voting shares of 5 percent and 6 percent, respectively. These shares are higher than in the past but below China's 15 percent share of global GDP.

China has also begun marking its presence in regional international financial institutions, such as the African Development Bank, the Caribbean Development Bank, and the Inter-American Development Bank. China accounts for the largest share of Africa's trade. For many Latin American

China is now actively asserting its presence in international finance by bankrolling new institutions. Its leaders recognized that China could put its money to good use by financing infrastructure projects in Asia—a crying need for countries in the region that lack the funds to undertake large investments. This need spawned the Asian Infrastructure Investment Bank (AIIB), intended to finance infrastructure projects such as roads, railways, and airports in the Asia-Pacific region.

The AIIB now has 80 members and a capital base of \$100 billion. China has contributed \$30 billion, the largest amount by far of all the members, and has a voting share of 28 percent. The headquarters is in Beijing.

## China is now actively asserting its presence in international finance by bankrolling new institutions.

countries, it has become the largest export market. China's presence in these regional institutions allows it to play a modest but easily scalable role in the economic governance of these regions.

China seems willing to engage existing institutions on their terms, rather than seeking changes as the price of entry. In 2001, China signed up for membership in the World Trade Organization (WTO), gaining much greater access to foreign export markets in exchange for a commitment to open its markets to foreign companies and investors. Now that China is a large and powerful member of the WTO, it can play a greater role in influencing how the organization defines and applies rules for international trading.

In January 2016, China joined the European Bank for Reconstruction and Development (EBRD). The institution's mandate requires that it assist only those countries "committed to and applying the principles of multi-party democracy [and] pluralism." Strikingly, China was willing to sign up for EBRD membership although the mandate seems inconsistent with the tenets of the Communist Party of China. One interpretation of this willingness is that China's version of democracy differs from what the West thinks of as free and open democracy. Another plausible interpretation is that China is open to compromise when it seeks membership in existing institutions. Over time, it then subtly exerts influence from the inside rather than through brute economic or political force from the outside.

China has asserted that the AIIB will feature a lean bureaucracy and swift decision making and that it will improve on the governance of existing international financial institutions. The governance structure has many positive elements, including a simple and transparent formula for setting country voting shares and the absence of any single country's veto power over major decisions (at the IMF, by contrast, the US voting share is large enough to give it veto power). Moreover, developing and emerging market economies, which dominate the Asian bank, are likely to have a greater voice than at other international financial institutions.

The AIIB highlights China's impatience with marginal changes in the rules of global governance. It is now grabbing the reins and seeking to rewrite the rules, but in a way that ostensibly improves on the existing order, which China and other emerging markets see as having been defined by and mainly serving the interests of the major advanced economies.

### Like-minded partners

China has also taken a leadership role in a group of major emerging market economies called the BRICS (Brazil, Russia, India, China, South Africa). The BRICS economies account for nearly one-quarter of world GDP and roughly two-fifths of the world population. These countries are demanding a greater say in the running of major institutions

and in helping to design changes in the rules and procedures governing international finance.

There was skepticism about whether the BRICS had enough shared interests to be more than just a talking shop. China saw its opportunity to lead. And it seized the opportunity.

In July 2015, the BRICS set up a \$50 billion institution, the New Development Bank, headquartered in Shanghai, to promote sustainable development in the five countries. Each member has equal voting shares and no veto power over decisions made by a majority. At the same time, the BRICS established a foreign exchange reserves pooling arrangement among themselves—the Contingent Reserve Arrangement. The overall size of the pool is \$100 billion, with China contributing \$41 billion.

The BRICS appear to have succeeded despite skepticism about their ability to cooperate on global economic issues because they lack fully congruent—and often have conflicting—economic and geopolitical interests. Fostering stronger financial linkages between key emerging market economies and creating alternatives to the existing global financial architecture help emerging market and developing economies chip away at the dominance of advanced Western economies. With its vast financial resources, China has become the first among equals in this group.

### Silken gift or noose?

In 2013, Xi proposed two major economic initiatives—the Silk Road Economic Belt and the 21st-Century Maritime Silk Road. The two have come to be referred to jointly as the Belt and Road Initiative.

The initiative covers, but is not limited to, the area along the ancient Silk Road, which was in fact a patchwork of roads, trails, and paths that facilitated economic and cultural exchange across Eurasia. The Belt and Road Initiative is envisaged as covering the continents of Asia, Europe, and Africa and connecting a large and disparate group of economies, from the economically vibrant and rich to those that are poor and have huge potential for economic development.

In December 2014, the Silk Road Fund began operation with an initial commitment of \$40 billion and with the goals of following market principles and meeting or exceeding the best international standards of governance. China obviously wants to make it clear that Belt and Road projects

will not foster or tolerate low technical, environmental, or governance standards.

The initiative, which has a financing goal of \$1 trillion, neatly ties in the international expansion of China's influence with the development of the country's western and southern provinces, many of which are landlocked.

Some Chinese financial institutions also play a part in expanding the country's role in international finance. The China Development Bank, for instance, makes overseas loans to Chinese corporations operating abroad, as well as to foreign corporations. At the end of 2015, overseas loans totaled \$328 billion, about one-fifth of the institution's overall loan portfolio. The Export-Import Bank of China allows the country to expand its influence abroad by providing financing for trade deals.

### The strategy takes hold

China is clearly determined to exercise its role as a major global economic power through both direct and indirect means—influencing the existing world order but also trying to reshape the global monetary system to its own liking. The AIIB, for instance, helps Beijing put a stamp of legitimacy on China's operations to extend its spheres of economic and political influence, even while subtly influencing the rules of the game.

The AIIB is a textbook example of China's increasingly savvy and disciplined approach to international economic engagement, an approach that emphasizes constructive engagement rather than brute financial force. Beijing is using such institutions as a tool of international economic diplomacy that supplants China's earlier bilateral approach, which sparked resentment even among some countries that were recipients of Chinese financing.

China is becoming a leading member of the international community—not, as the West prefers, by being co-opted into existing institutions under the current rules of the game, but on its own terms and by enticing other countries into the system of rules it wants to dictate. **FD**

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This article draws from the author's 2016 book, *Gaining Currency: The Rise of the Renminbi*.



# BANKING ON CHANGE

New technologies promise to reshape the financial services industry

Tommaso Mancini Griffoli

**T**he first automobiles were essentially old-fashioned carriages with engines strapped on; it took years for pioneers like Henry Ford to design a vehicle specifically adapted to the new internal combustion engine. Looking back, those early machines seemed to awkwardly straddle two eras. But such hybrids are typical of periods of rapid technological change, when it's not entirely clear what products or services will emerge.

Today, financial services are in this transitional phase. On the one hand, paying credit card or utility bills online is quick, easy, and cost-free.

(Although in some countries, online banking means emailing pictures of paper checks!) On the other hand, cross-border transactions remain costly, time-consuming, and cumbersome. But pioneers wielding new technologies adapted to the financial sector—fintech, for short—promise to propel the financial industry firmly into the digital era, just as similar trailblazers revolutionized communications, media, and photography.

Consumers—whether people shopping for home loans and insurance policies or companies paying for foreign inputs to production—benefit from

faster, cheaper, and more reliable services. New firms enter the financial services industry, while incumbents face competitive pressure that forces them to embrace the new technologies or go the way of the horse and buggy. Policymakers must adapt existing regulations, or design new ones, as they seek to bolster financial stability and prevent fraud, money laundering, and terrorism financing.

The challenge for policymakers is to harness the benefits of fintech and minimize the risks without stifling innovation, which calls for international cooperation. Other questions worth considering, but not tackled here, include the impact of fintech on access to financial services in poor and remote locations, as well as its effect on the transmission of monetary policy.

Fintech embraces a broad array of innovations, including artificial intelligence, biometrics, encryption, cloud computing, and distributed ledger technology, or blockchains—which power virtual currencies such as bitcoin. Technology, of course, has already had a big impact on financial services; the first ATMs were installed in the late 1960s, and online banking has become widespread where high-speed Internet connections are available.

But today, the pace of change seems to be accelerating. One reason is that technologies themselves have recently benefited from significant breakthroughs. For instance, 90 percent of the data available today was generated in the past two years, reports IBM. In May 2017, an artificial intelligence program defeated a Chinese grand master at the ancient board game Go, surprising the many observers who thought that day of reckoning was decades away.

Perhaps more important, fintech innovations are complementary; progress in one enhances the effectiveness of another and opens the door to further applications. For instance, artificial intelligence combined with the explosion of available data could automate credit scoring and allow consumer and business borrowers to pay interest rates more representative of the likelihood a loan will be repaid on time. So-called smart contracts, benefiting from encryption technology and artificial intelligence, could automate sale of investors' assets according to predefined market conditions, which would enhance market efficiency.

Investors are betting the new technologies will pay off. Total global investment in fintech companies soared from \$9 billion in 2010 to more than \$25 billion in 2016, according to a report by the accounting firm KPMG. Market valuations of public fintech firms have quadrupled in the decade since the global financial crisis, outperforming other financial sector firms. Meanwhile, the public has taken a keen interest, judging by the frequency of online searches for fintech keywords.

To see how new technology could transform the industry, consider why financial firms exist in the first place. Most—such as banks, providers of interbank messaging services, and correspondent banks clearing and settling transactions across borders—are intermediaries. They stand between counterparties such as borrowers and depositors to facilitate transactions. They provide information on the counterparties, monitor them, and help spread out the fixed costs of engaging in transactions,

## **Fintech innovations are complementary; progress in one enhances the effectiveness of another.**

including the costs of information technology and regulatory compliance.

New technologies could reduce the need for intermediaries. For instance, registries of standardized customer information available to regulators, along with customers' digital identities, could lower the cost of customer due diligence. And new technologies could offer more information on counterparties, as in the earlier example of more tailored and precise credit scoring, for instance. In both cases, intermediaries would become less relevant.

Those that remain—and many will—are likely to change the way they are organized. Much will depend on who owns and has access to customer data. Currently, large financial institutions invest heavily to obtain information on customers—such as their creditworthiness and transaction histories. That information makes it easier to offer customers tailored services, from payments to credit and investment advice. This encourages the





one-stop-shop model of banking offering a variety of financial services.

However, the amount of new data, and who owns it, could change that model. End users—whether individuals or firms—could own the data they generate in their transactions and business endeavors. In this scenario, customers would be much freer to switch between financial service providers and to use services of multiple providers. Another possibility is for new players to enter the financial sector. Social media, large online retailers, online entertainment companies, and Internet service providers increasingly control data about our habits and preferences, and to some extent about our wealth and transaction history. Will they partner with existing financial service providers or venture into this space themselves? It is hard to predict, but access to, and ownership of, data will give them significant leverage.

Barriers to entry will also evolve. The lower cost of offering financial services—as a result of automated back-office tasks, including invoice reconciliation—is likely to encourage entry.

But aspects of the financial sector will continue to favor a small number of large firms, though not necessarily those operating now. Trust will be vital; without it customers will never turn over their wealth, transaction requests, and personal data. Customers must still trust the security and stability of services, even if providers lose out to networks, markets, and algorithms. Building trust, though, requires money—often lots of it. Investment in brand recognition, information technology security and stability, and regulatory compliance can be substantial and could dissuade potential players.

Network effects will also remain prominent. In finance, as in other sectors, the ability to connect with other members of a network is especially valuable. A credit card, for instance, is more attractive if the payment network is extensive. But new entrants will have a hard time attracting customers if they are excluded from existing networks. Regulation can help by mandating some degree of interoperability between networks, as is the case among cellular network providers.

Fintech will also pose numerous issues for regulators whose job it is to buttress financial stability, protect consumers, and prevent monopolies.

Take algorithms, or machine learning. Relying on them to trade financial assets could expose investors to the risk that all buyers and sellers will engage in similar behavior, thereby amplifying price movements. They could also fail or be compromised in a cyberattack. Any of these events could undermine financial stability. Will regulators have to be software engineers who can check the computer code that underlies the algorithms?

### Protecting customer data

Protecting customer data is another challenge. New technologies such as biometrics should theoretically make personal data safer by replacing easily compromised passwords with unique human characteristics, such as fingerprints or retina scans. But this approach presents new risks: a compromised retina scan cannot be changed the way a compromised password can. This is one reason Citigroup recently dropped plans for biometric verification of customer identity at ATMs, according to the *Wall Street Journal*. Nevertheless, new security approaches continue to be explored.

The availability of vast amounts of data also calls for the right balance between privacy and transparency. New rules may be needed to protect consumer privacy from cyberattacks. Regulators must also be on guard against money laundering and terrorism financing—particularly when it comes to virtual currencies, which can be designed to hide the identity of transacting parties. There are questions about which data can be used to tailor financial services—and how. Can financial institutions make those who live in poorer neighborhoods, purchase alcohol, or listen to the

“wrong” music pay higher mortgage rates? Would this not amplify rather than dampen, inequality?

The entry of companies such as Apple into the fintech market has blurred the traditional definition of a financial services provider. Regulators may need to respond by focusing on activities rather than well-defined entities such as banks and brokerage firms. But regulating activities is not straightforward if the related entities are quickly evolving. On whose door must regulators knock to inspect business practices? Will they just have to wait for users to lodge complaints to learn of new relevant institutions? Will new technologies be invented to help automatically assess online activities and service offerings?

Finally, even a well-designed domestic regulatory regime must have international cooperation to remain effective. Technology knows no borders; many services can easily migrate to less regulated jurisdictions. Greater harmonization between national regulatory frameworks would help level the playing field and facilitate the adoption of new technologies on a global scale.

A recent IMF study, “Fintech and Financial Services: Initial Considerations,” takes a close look at cross-border payments. This is an area that appears ripe for disruption, given the trouble and expense of sending money across borders. These shortcomings reflect the limitations of existing technology, to some extent. Without an international central bank, most payments are cleared and settled by private correspondent banks, which incur costs but also benefit from significant market power. Some fintech companies are nevertheless making inroads; one, for example, has been given a pan-European banking license that enables it to process cross-border payments directly for its business customers, bypassing banks, according to Reuters.

Electronic tokens could have the biggest impact on market structure and regulation. These tokens, which replace sensitive personal data with a unique string of numbers, could eliminate the need for the cumbersome system of bookkeeping banks use to complete electronic transactions—which requires costly identity verification, accounts, liquidity and risk management, and clearing and settlement services.

For now, cash is the only alternative to this costly system, but its simplicity is offset by the danger of loss or theft. That could change with

the introduction of the electronic token, which can easily and safely be transmitted across any distance. Tokens can be issued by private institutions or potentially even central banks (which would make it a digital currency rather than a virtual one). When tokens are exchanged, the transaction is verified by, and broadcast to, a network—with or without information on the parties involved.

## Even a well-designed domestic regulatory regime must have international cooperation to remain effective.

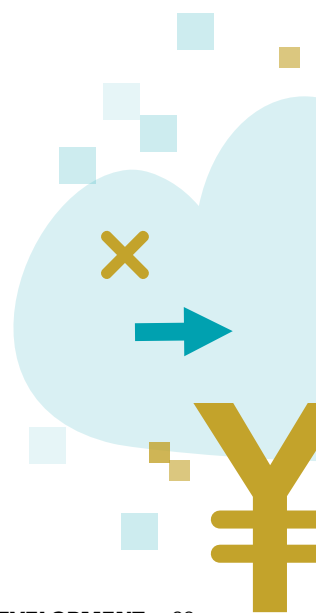
Tokens eliminate the possibility of double spending (not reporting a payment to one party, in order to pay another with the same funds) and reinforce the stability and safety of the system.

Networks for token exchange could bypass large commercial banks with the press of a button and eliminate the need for separate messaging services among banks. Just as email eliminated the distinction between sending letters domestically and internationally, cross-border payments could be greatly simplified using tokens.

Such networks may never take off. Trust is one reason. Will users trust new digital wallet providers with their life savings? Though the transfer and storage of tokens is relatively safe, they are still subject to fraudsters who could instruct the digital wallet to undertake transactions in their favor. And will the value of tokens remain stable over time, relative to the fiat money issued by governments? For now, it does not seem so, but new solutions are constantly being explored, and not all governments can be trusted with the stability of their currency.

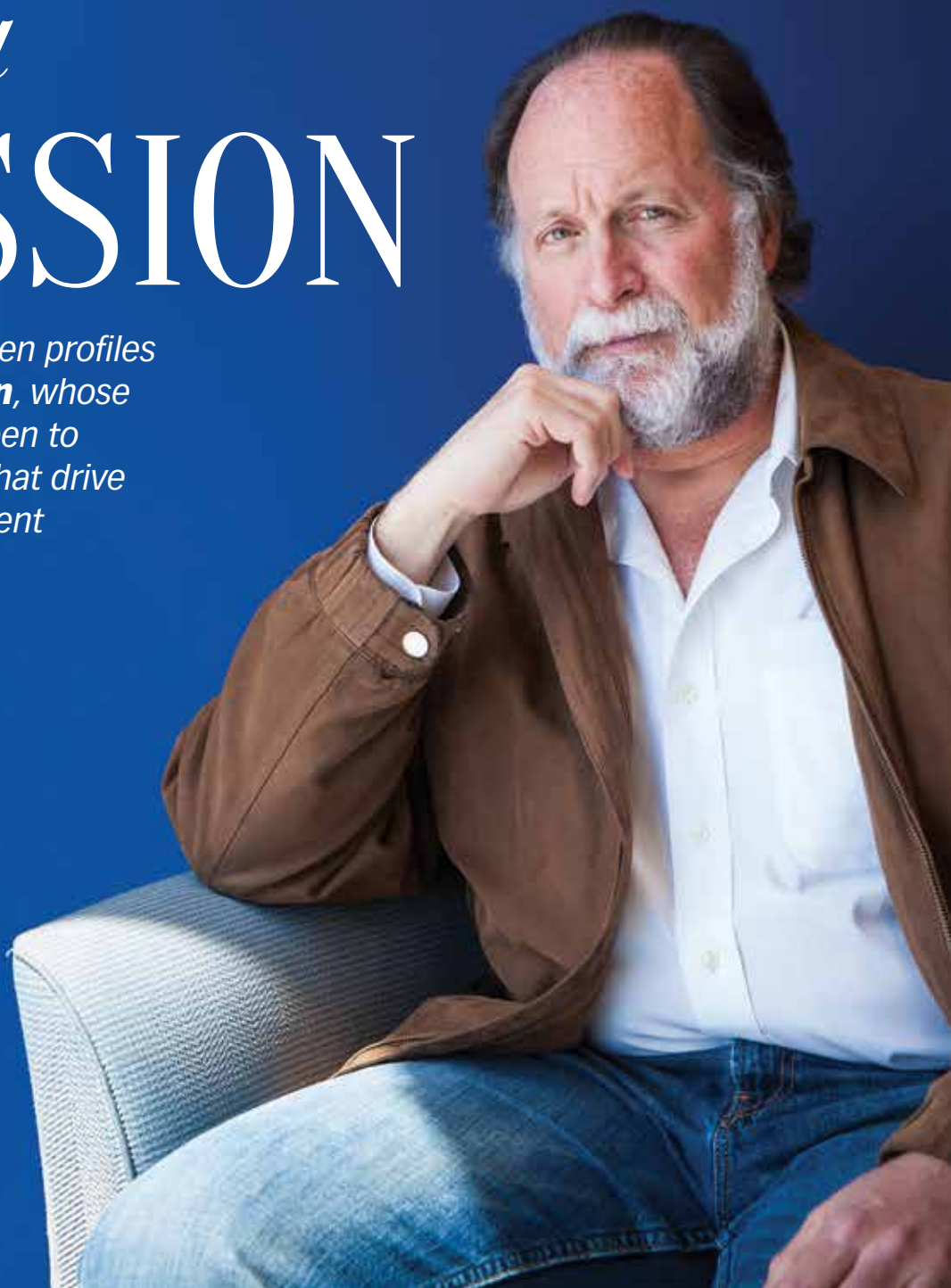
There is a good chance that a decade or two from now current financial services will be seen as part of an awkward transition phase that was soon to be superseded. [FD](#)

**TOMMASO MANCINI GRIFFOLI** is a deputy division chief in the IMF’s Monetary and Capital Markets Department and coauthor of a recent IMF Staff Discussion Note, “Fintech and Financial Services: Initial Considerations,” on which this article draws.



# ICONOCLAST *with a* MISSION

Camilla Lund Andersen profiles **Ricardo Hausmann**, whose lifelong quest has been to uncover the forces that drive economic development





In nearly 40 years of navigating government, academia, and international financial institutions, Ricardo Hausmann has been on a quest to discover what makes some countries succeed and others fail. He likes to think of development as a game of Scrabble. “The process of development is really the process of accumulating letters and figuring new words that can be put together. And that’s the arrow of development,” he explains, sitting in his sun-filled office at Harvard’s Kennedy School of Government.

This passion for uncovering the forces that drive development, he says, runs through the multitude of experiences that have shaped his professional life. “I never thought that I had different careers. I thought that I was playing the same game from different positions.”

### Overcoming binding constraints

Hausmann has been director of Harvard’s Center for International Development (CID) since 2005 and professor of the practice of economic development since 2000. He has used his time at Harvard to refine his thinking on economic growth and binding constraints—the one or two biggest hurdles to growth a country faces. He works directly with governments around the world to help them identify sources of new growth.

“I was extremely bothered by the fact that most people have an enormous amount of trouble finding business models that work,” he explains. “The history of most of the countries I know was very much tied up by one industry they had stumbled into that transformed the place—whether it was coffee, or cocoa, or oil, or tourism.”

To tease out what was driving these choices, Hausmann developed the methodology of growth diagnostics with fellow economists and Harvard colleagues Dani Rodrik and Andrés Velasco in 2005. The main idea is that each country may be bumping up against its own unique constraints that must be interpreted and addressed. “The growth diagnostics approach that he was a part of pioneering was a great mix of practical policy tool and artistry,” says Lant Pritchett, professor of the practice of international development at the Kennedy School and a friend and colleague.

The work on growth was the outcome of a dialogue that had started many years ago, in Venezuela. “The first time I met Ricardo was in some conference on foreign debt in Caracas back in the 1980s,” Rodrik

recounts. “He took me for a long walk on the streets of Caracas and never stopped talking—about economics, institutions, development, what we were all getting wrong. I remember thinking, what is this guy talking about? It took me a while to figure out that he was really onto something. Over the years, he never stopped bending my ear—and I have greatly benefited from it. He is unique in the profession in combining a policymaker’s pragmatic touch with a scholar’s pursuit of the big ideas. I count bringing him to the Kennedy School as one of my greatest achievements.”

Indeed, the methodology of growth diagnostics exemplifies Hausmann’s general approach to economics: always reaching beyond theory to test how the economics stacks up against reality. “Ricardo’s continued engagement in the hurly-burly of real economies and policymaking is not a distraction, but rather a source of new and deep insights about economics,” says Pritchett, adding: “Ricardo has a knack for following the facts about economies even where dogma, of left and right, would lead astray.”

Never afraid to reach across disciplines for new methodologies with which to analyze problems, Hausmann has little patience for orthodoxy and lack of intellectual curiosity. “I think that good economics is driven by an attempt to understand, to own the problem,” he says. “Too often, academic economics is the development of hammers in search of nails.”

Hausmann’s career has been about crossing boundaries and experimenting with different approaches in search of answers to hard questions. “He uses the tools of macroeconomics, microeconomics, econometrics, finance, sociology, history, philosophy, psychology, physics, and even fractal geometry. He combines those different disciplines, synthesizes them in a very elegant way, and creates his unique analytical frameworks,” says Duygu Güven, a former student and research fellow who worked with Hausmann at the CID and is now with the Turkish Treasury.

### Making a difference

The source of Hausmann’s search for answers can be traced to Venezuela, where his parents, both Holocaust survivors, settled after leaving Germany and Belgium. They made a living producing leather purses, but when the garment industry left Venezuela in the 1990s for cheaper destinations, the question became: “If we are going to sell the garment business, what do we do now? We only know garments.”

His parents’ dilemma led Hausmann to reflect on the role played by human capital in development.

“I worked on this idea that the process of development really was a process of having a population that has mastered increasingly more diverse productive capabilities that can then be regrouped and reorganized,” he says. Exploring the role of human capital in development became the driving force in his academic career.

Hausmann’s first degree was a BSc in engineering and applied physics from Cornell University. But he abandoned physics and engineering for the social sciences. “Studying electrons in Venezuela was not as compelling as studying the economy of Venezuela, because electrons are the same everywhere in the world and the economy is not,” he says.

After earning an MA and PhD in economics, also from Cornell, Hausmann returned to Venezuela to teach economics. In 1984, he began advising various government ministries, and in 1992 Hausmann was appointed minister of coordination and planning and also served as a member of the board of the Central Bank of Venezuela. In 1994, he left for Washington, DC, to become the first chief economist at the Inter-American Development Bank.

### Original sin and dark matter

During his six years as chief economist, Hausmann continued to reflect on Venezuela’s experience—shared by many other countries in Latin America. Why did the economy suffer from chronic volatility? Working with Michael Gavin, Ernesto Talvi, and Roberto Perotti, he explored why fiscal policy always seemed to be procyclical: instead of stabilizing the economic cycle, fiscal policy deepened contractions and fueled booms. The work on fiscal procyclicality led Hausmann and his colleagues to conclude that some countries have procyclical policies because their ability to borrow is also procyclical: they have market access in good times but not in bad.

Hausmann and Barry Eichengreen coined the term “original sin” to describe a situation in which a country is unable to borrow abroad in its own currency, only in a foreign one, such as the dollar. If a country suffering from original sin accumulates foreign debt, as developing economies do to spur development and growth, it will have a currency mismatch on its balance sheet so that if its currency loses value its debt becomes more expensive to service, often leading to defaults.

Hausmann’s theory of original sin was contested by economists Carmen Reinhart and Kenneth Rogoff. Rather than attributing debt problems to

currency mismatches, they argued that emerging market economies suffer from “debt intolerance,” that is, the inability to handle levels of debt that advanced economies normally can manage with ease. That explains why some countries become serial defaulters, they said.

His background in physics inspired him to come up with the catchy term “dark matter” to solve a puzzle in international financial statistics: how can the United States, the world’s largest debtor, earn more on its foreign assets than it pays in interest on its debt? In a 2005 paper—“US and Global Imbalances: Can Dark Matter Prevent a Big Bang?”—Hausmann and Federico Sturzenegger (now president of the Central Bank of Argentina) used “dark matter” to describe invisible assets, such as foreign direct investment and other exported know-how, that generated enough income to offset the interest the United States was paying foreign creditors. In physics, dark matter can be observed only by the gravitational pull it exerts. In international financial statistics, its existence can be deduced only by the income it generates.

As with original sin, the dark matter hypothesis sparked a vigorous debate that continues to this day.

### From Washington to Boston

During his tenure at the Inter-American Development Bank, Hausmann was also involved in defining the so-called Washington Consensus—10 economic policy prescriptions that became the standard reform package for economies in crisis, but which have since been widely criticized. Hausmann attended the seminar where economist John Williamson first described the Washington Consensus and contributed a chapter on Latin America to Williamson’s book. “In some sense, the Washington Consensus was a Latin American consensus about a very peculiar Latin American set of disequilibria,” he explains.

As time passed, however, Hausmann became increasingly skeptical about whether these policies were delivering the outcomes economic theory predicted. There was some positive correlation, in the sense that countries that implemented reforms performed somewhat better than those that didn’t. But in the late 1990s, financial crises in Asia and Russia spread to Latin America, resulting in a growth setback from 1998 to 2002.

“That forced me to rethink. Maybe there was more to growth than I had originally thought,” he says. “We were stumbling into other things

that were preventing progress that had not made it into our thinking. And that coincided with me moving to Harvard.”

This renewed quest for answers led Hausmann to the concept of “economic complexity,” first proposed in a July 2007 article in *Science*. Many economists view complexity as his most important contribution to the field of development economics, says Chris Papageorgiou of the IMF’s Research Department.

On his website, Hausmann says: “The secret to producing complicated things is not having smarter people: it is having many people who each come to the table with different and complementary

its worst economic downturn in decades, coupled with hyperinflation.

Hausmann is blunt in describing the state of his country. “There are no excuses for Venezuela’s catastrophic decline. It is the consequence of the adoption of policies that have been known by the world, by everybody forever, as leading nowhere. Whether it’s multiple exchange rates, lack of fiscal discipline, expropriation, uncertainty over property rights, a lax monetary policy, price controls, we know that these things devastate a society.”

Because of his outspoken criticism, the government said he is no longer welcome in Venezuela.

## “Ricardo has a knack for following the facts about economies even where dogma, of left and right, would lead astray.”

knowhow. Richer societies have more collective knowhow and use it to make a greater variety of more complex products.” Poor countries, he says, are able to make a “few simple products.”

Putting Harvard’s formidable resources to work, and using a multidisciplinary approach that drew on his background in physics, economics, and public policy as well as his expertise in networks and computer science, Hausmann set out to map how societies embed productive knowledge. This research resulted in *The Atlas of Economic Complexity—Mapping Paths to Prosperity*, published in 2011, which attempts to measure the amount of productive knowledge in each country.

That was just the beginning. Today, much of the work of the CID’s Growth Lab centers on mapping those intricate networks of knowledge. The Growth Lab has grown from a staff of two research fellows in 2011 to 40 in 2017. The team includes mathematicians, physicists, economists, programmers and IT specialists, staff specialized in advanced visualization, and communications professionals who help maintain and develop the various Atlas websites.

This body of work is now widely used to analyze economies and inform policy advice. Many countries also work directly with the CID—including the governments of Albania, Mexico, Panama, and Sri Lanka.

It is perhaps the ultimate irony that Venezuela, the homeland of the development guru, is suffering

This has not deterred Hausmann from continuing to weigh in on his country’s affairs and building a research agenda that focuses on putting Venezuela on a path of recovery.

### The performing gene

Hausmann’s magic in the research environment of the CID appears to carry over to the classroom. At heart, like all good teachers, he is a performer. At first glance, his three children seem to have chosen very different paths from their father. One is a museum curator, another is a playwright, and the third is a comedian. But all four have something in common: a talent for performing.

Sebastian Bustos, a PhD student and CID research fellow, describes how Hausmann’s students gave him the ultimate accolade due a performer: applause. “Towards the end of the semester where everything starts closing down, and you start making sense of all the things that we have discussed during the semester, usually the classes end with every student clapping, and they are so, so happy.”

Where will he go next? wonders Papageorgiou: “What makes Ricardo special in the profession is that people are excited to see what he and his team at CID will come up with next.” **FD**

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**CAMILLA LUND ANDERSEN** is editor-in-chief of *Finance & Development*.

# LABOR'S LOSSES

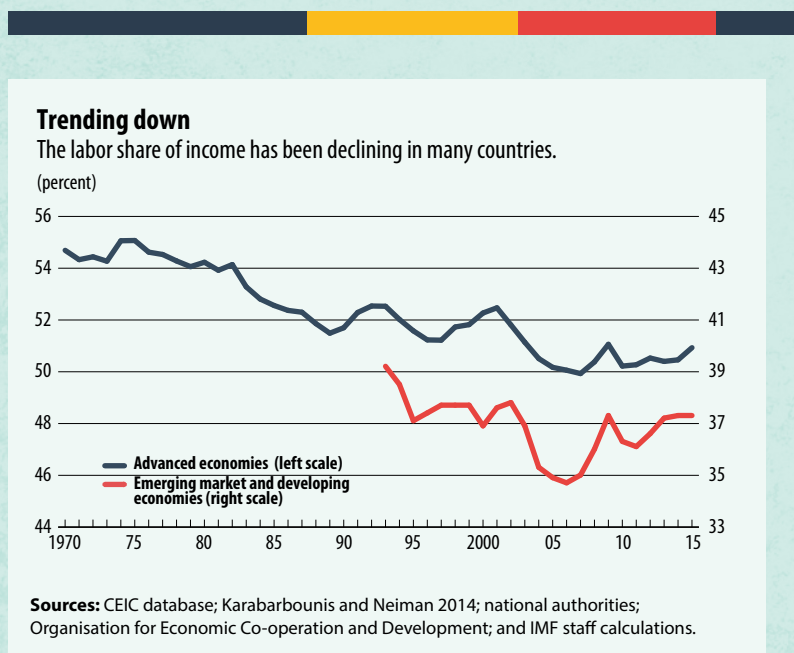
Workers are taking home a smaller slice of the pie

**THE LABOR SHARE** of income—the fraction of national income paid to workers in wages and benefits—has been declining around the world. At the same time, capital has been accumulating a growing portion of income. Because capital ownership is concentrated among the wealthiest households, an increase in the capital share of income tends to worsen income inequality.

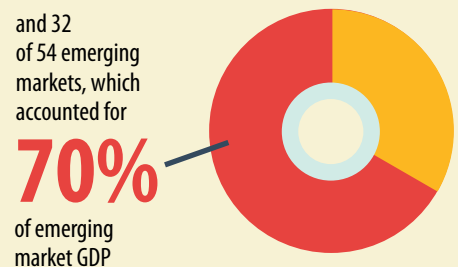
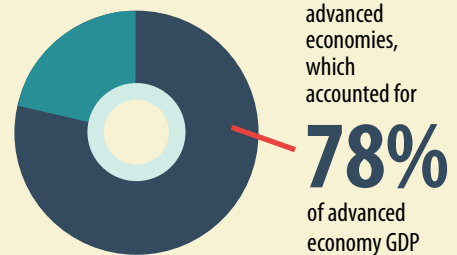
The main factors behind this phenomenon vary across countries. In advanced economies, about half of the decline is attributable to technology as rapid advances in information technology have led to automation of many occupations. In emerging markets, global integration—specifically participation in global value chains—is the key driver. Global integration has lifted millions from poverty by raising productivity, growth, and living standards, and it has also shifted emerging market and developing economies toward more capital-intensive activities. Labor-intensive jobs in advanced economies are frequently offshored to emerging

markets, where the same tasks are relatively capital intensive. And this relocation raises capital shares in both sending and receiving economies.

In emerging markets, the decline in labor shares does not necessarily require policy intervention, as the effects of global integration have been largely beneficial. Advanced economies facing disruptions from technological progress, however, should invest in education, skills upgrades, and policies that help match displaced workers with new jobs. Policies that promote development of more advanced skills would also help prepare workers in both advanced economies and emerging markets for the potential disruptions of the future. **FD**

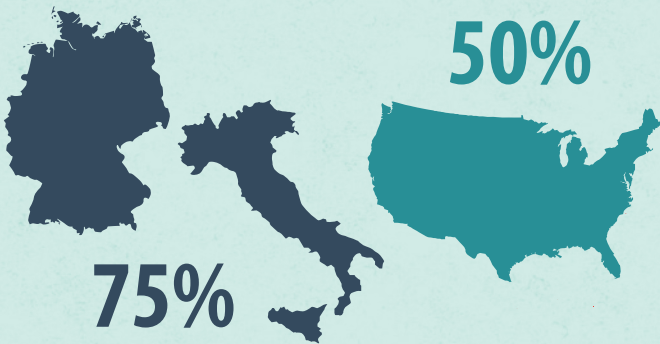


Between 1991 and 2014, labor shares declined in



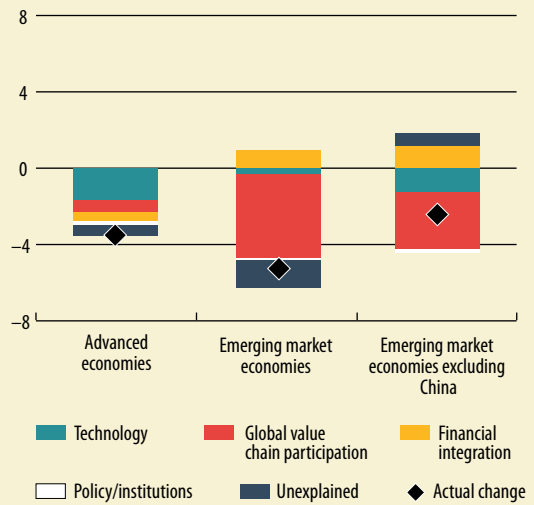


Technology and global integration explain close to **75 percent** of the decline in labor shares in Germany and Italy and nearly **50 percent** in the United States.



**Different drivers**

The main factors behind declining labor shares vary among advanced economies and emerging markets. (deviation from regression constant)

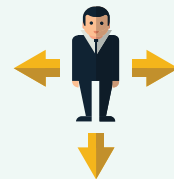


Source: IMF staff calculations.

How can countries cope?



Strengthen education



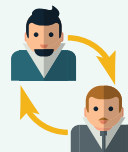
Share gains broadly



Help workers upgrade skills



Provide training



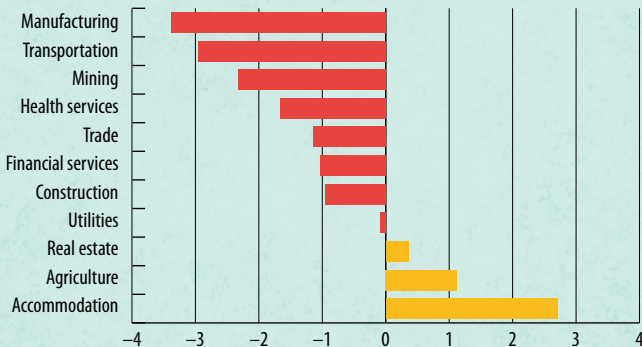
Ensure equal access to opportunity



Offer job searching assistance programs

**Diverse evolution**

Trends in labor shares have differed greatly across industries. (percentage points per 10 years)



Sources: CEIC database; Karabarbounis and Neiman 2014; national authorities; Organisation for Economic Co-operation and Development; and IMF staff calculations.

Prepared by **MARIA JOVANOVIĆ**. Text and charts based on chapter 3 of the IMF's April 2017 World Economic Outlook.



PHOTO: IMF

## Champion of Inclusion

**Benno Ndulu** discusses why more people should have access to financial services

**BENNO NDULU** is governor of the Bank of Tanzania and a champion for financial services for the poorest and most disadvantaged segments of society. As the current chair of the board of the Alliance for Financial Inclusion, whose membership includes more than 90 developing economies worldwide, Ndulu has helped pioneer some of the most innovative policy approaches to extending the financial system to the unbanked. Under his leadership, the Bank of Tanzania licensed its first two credit reference bureaus to reduce lending risks while boosting credit to the private sector and supported the use of mobile technology as a means of bringing more people into the banking fold.

With a doctorate in economics from Northwestern University in the United States, Ndulu has worked for the World Bank in east Africa and was instrumental in developing the African Economic Research Consortium, a pan-African economic policy organization.

In this interview with *F&D*'s Bruce Edwards, Ndulu points out that behind every equitable financial system stands a good central banker.

**F&D:** Financial inclusion has received a lot of attention of late. Where do central bank governors fit into that discussion?

**BN:** Within the continent of Africa, central banks have tended to be champions for pushing the cause of financial inclusion, and it's not by accident. You cannot have an effective monetary policy without having a much bigger proportion of the population included in the money question itself. So financial inclusion—or extending the inclusion of the unbanked into the system—brings a lot more finances to be influenced through policy into the system.

That's one main reason. The second is simply that the goal of poverty reduction, or even eradication where possible, does require that the constraints on access to finance be resolved. And the financial sector by and large has always been in the ambit of central banks. Central banks take care of not just monetary policy—they also supervise banks and are in charge of payment systems. So a good number of central banks have added financial inclusion to their mandate.

**F&D:** Who is least likely to have access to financial services in Tanzania or the region more broadly?

**BN:** First, it is the rural population. That would be probably the lowest on the ladder of financial inclusion or the maximum financial exclusion. Next would be women. There's the urban-rural divide and the gender divide in financial inclusion, and both of those gaps need to be filled.

**F&D:** Do you think that the demographics of this issue are different in the east African region than they are in other regions in the world?

**BN:** Yes. I think it partly has to do with the cultural practices in terms of what is expected from women in managing finances. We still have to deal with those issues even as we solve the problem of platforms for delivery of services. And they are important issues that need to be tackled.

**F&D:** In your role as the chair of the Alliance for Financial Inclusion, how much influence do you (or the Alliance) have on policymakers in the region?

**BN:** The Alliance to a very large extent is an alliance of policymakers. There are three ways in which the Alliance has made a big difference among its members. One is peer learning. There is no substitute

for learning from peers about what they do and how they've solved their problems. Since we are all focused on financial exclusion as a challenge, we have been learning from each other across regions of the world—because it's not just for Africa, it includes Asian and Latin American members. Even some countries in eastern Europe, including Russia and others, are also part of the Alliance.

The second is peer pressure. We make commitments as a group, and we always report progress on implementation of those commitments. And countries like to drive each other by showing that they've made progress, and they typically get more pressure that way.

Third, it is an important instrument for coordination with other stakeholders, with private sectors and telecommunications companies as key players. And finally, within the Alliance, all members feel equal. So it's really learning from each other and not being forced to do things. And that has made the Alliance for Financial Inclusion very special.

**F&D:** The region's countries face a number of issues, such as low commodity prices and the tightening of financing. How high a priority is financial inclusion?

**BN:** Financial inclusion is very high up on the list, partly because we all know that in order to reduce dependence you really need to diversify your economy, and access to credit is an important obstacle for those small- and medium-scale enterprises that typically help countries achieve that objective. Even the rural areas themselves now are diversifying; it's not all agriculture. And I think the youth population generally, even in rural areas, would like to make sure that they have other opportunities besides those that are purely linked to commodities. So it is important to address the major constraints, which are access to finance and utilization of finance.

**F&D:** It's interesting how you place central bank governors at the center of this issue, and yet we hear very little from bank governors in the discussion. Why do you think that is?

**BN:** Well, in fact, when you go to the Alliance for Financial Inclusion, most of the key members are central bank governors and their associates. But there are differences across countries. The governors that have decided to be bold in terms of accepting innovation to lead—and particularly digital innovation

to resolve financial exclusion challenges—have also tended to be more vocal in embracing the issue. But there are those that have wanted to stay closer to the traditional way, which is, "I will not allow innovation until I'm sure there are no risks." Then movement is much slower.

**F&D:** Is there political risk attached to financial inclusion or inclusive policies? Is this something that is popular, or would politicians rather just stay away from it?

**BN:** Well, generally I think it's popular. If there is one thing that reduces agitation, it's inclusiveness. And there's no politician that loves agitation. Particularly now that youth in our region are a big factor in relation to unemployment and expectations, it is important that inclusive policies offer opportunities for all to be able to make a living and stay away from trouble.

**F&D:** In your own country, Tanzania, are you satisfied with the advancements that you've made in terms of financial inclusion?

**BN:** Yes. We have made tremendous progress in the last 6 or 7 years with the adoption of digital technology. For the first 50 years after independence, we were able to move only about 9 to 10 percent of the population into the formal sector. Within a span of 7 or so years we have increased that number to almost 60 percent. This has been possible partly because of the mobile money platform, and now digital IDs, as a way of making sure that one gets access to credit and making "know your customer" [the process of identifying and verifying the identity of a bank's clients] policies easier. And, of course, we've made progress in reducing the cost of financial services and improving convenience. Those are all really important ingredients of the success that Tanzania and other countries in the region have enjoyed.

**F&D:** But with financial technology come risks. How can one regulate that sector without negating its benefits?

**BN:** Well, the risks are there, and they have to be managed. Those who want to avoid risk don't allow any risky innovation to help them. But those who are ready to manage risk do so by making sure that the integrity of the systems is secured. **FD**

*This interview has been edited for clarity.*



## In Experts We Trust?

*As access to information burgeons, experts are more crucial than ever*

**Nemat Shafik**

**“WHY DID NOBODY NOTICE IT?”** Queen Elizabeth II famously asked the faculty at the London School of Economics in November 2008, just after the financial crisis erupted.

Almost a decade later, people are asking experts the same question following the unforeseen events of 2016—including the UK vote to leave the European Union and Donald Trump’s election as president of the United States. Confidence in economists, pollsters, and experts in general has been shaken.

Not only are experts seen as having gotten it wrong, their monopoly on opinion has been

weakened by technology. Social media and the Internet make information widely available without experts’ input, news is targeted to individual interests and preferences, and people increasingly choose whom to follow and trust.

### What have they done for us?

Recall Monty Python’s *Life of Brian*, in which a group called the People’s Front of Judea organizes a rebellion against the Roman Empire. The rebels work themselves into a frenzy culminating in a shout from their leader, Reg: “What have they [the Romans] ever given us?” After a pause, one of the rank and file gingerly points out that the local aqueduct has been useful. Then others one by one mention additional helpful Roman innovations until finally Reg must restate his question: “Apart from the sanitation, the medicine, education, wine, public order, irrigation, roads, the fresh water system, and public health, what have the Romans ever done for us?!”

We all need experts. They have helped tackle disease, reduce poverty, and improve human welfare. People live about 20 years longer than they did in 1950 thanks to cleaner water and better sanitation and health care. Average world incomes are more than 20 times higher thanks to better economic policies, particularly in developing economies. To build on this progress, we need reliable experts who command public confidence.

But experts today don’t have their old monopoly on authority. Technology gives people access to more information, changes how they get it, and affects how they form opinions. According to a report by the Reuters Institute for the Study of Journalism at Oxford University, half of people with access to the Internet get their news from social media—double the number since 2013 in the United States.

The digitization of knowledge and its ready availability have been hugely democratizing and empowering. People can go to the doctor armed with information about their illnesses and alternative treatments. The wisdom of crowds can generate restaurant reviews, rate products and services, and offer new thinking on a range of issues. “Likes” and “dislikes” and reviews of thousands of individuals can build trust.

But there are downsides: information that is difficult to verify can be overwhelming; algorithms create echo chambers of like-minded people who



never see another side; fake news distorts reality; anonymity gives power to those who may abuse it; and a world of more revenue for more clicks rewards the shrillest voice and promotes extreme views.

Experts, who sift through information and make informed judgments, are just one more voice amid the cacophony, and their inaccessible language often renders them the least heard. Experts distinguish themselves from nonexperts through credentials, use of jargon, control over academic journals, and influence over training of new experts. These boundaries can reduce their effectiveness, especially given the many alternative sources of information. A recent blog post by Bank of England staff members analyzed the linguistic complexity of the bank's publications and found that only one in five people could understand them.

The changing landscape of trust undermines experts as well. The Edelman Trust Barometer for 2017 finds that in two-thirds of countries, fewer than 50 percent of people trust mainstream business, government, media, and nongovernmental organizations to do the right thing. People now put their trust elsewhere. "Someone like me" is just as credible as an academic or technical expert, and far more credible than a CEO or government official—a shift in trust toward family and friends glaringly evident on social media.

### Rebuilding trustworthiness

Oxford philosopher Onora O'Neill argues that societies can raise trustworthiness in two ways: through standard-setting legislation, regulation, or guidance—often accompanied by requirements to confirm compliance—or through information that allows people to assess trustworthiness for themselves. But how can we restore experts' trustworthiness?

**Brevity, not bravado:** Bertrand Russell once said, "The whole problem of the world is that fools and fanatics are always so certain of themselves, but wiser people so full of doubts." Experts wonder not only whether their models are calibrated correctly, but whether they are even using the right models. Honesty about such uncertainty will over the long term build experts' credibility. A good example of this is the use of fan charts in forecasts produced by the Bank of England, and increasingly by other central banks as well: they show

the wide range of possible outcomes for a given set of initial circumstances rather than predicting a single result. But conveying uncertainty makes a message more complex and doesn't go over well in a world that demands brevity. For example, it's a lot easier—and more effective—to tweet "Bank of England forecasts growth of 2%" than "If economic circumstances identical to today were to prevail on 100 occasions, the best collective judgment of the Monetary Policy Committee is that the mature estimate of GDP growth would lie above 2 percent on 50 occasions and below 2 percent on 50 occasions," even though that would more accurately describe the fan charts' true meaning.

In short, the challenge for experts today is how to communicate with brevity but not bravado.

**Best practice in the media:** High standards and good practice are important given the vital role the media play in mediating the views of experts in a democracy. While these standards and practices do exist in most of the traditional print and broadcast media, the Internet has changed the economics of the industry, giving rise to a new breed of bloggers and pseudo-journalists who sometimes don't abide by standards of fairness, accuracy, and transparency. Furthermore, the growing role of social media in the dissemination of news makes it increasingly difficult for consumers to distinguish between legitimate journalism and the fake variety. All this could be why the mainstream media have lost the trust of people in more than 80 percent of countries, according to the 2016 Edelman Trust Barometer.

The rise of fake news and so-called false equivalence—which, in the name of balanced reporting, gives equal time to credible and less credible sources—has only made matters worse. How can producers of information and expertise balance reliability with the need to present opposing views?

The standards and principles widely used in academia could be adapted and applied more broadly to the world of think tanks, websites, and the media. Well-established principles such as peer review, competition for research funding, the obligation to publish data, and transparency about conflicts of interest in publications govern what is valued as an intellectual contribution.

For example, should think tanks openly report their funding sources? Should journalists and

bloggers be exposed if they report or recirculate falsehoods or rumors? Should digital platforms take greater responsibility for their content as part of their duty to inform and protect their own brand?

**Public tools to assess trustworthiness:** Citizens must be able to distinguish fact from falsehood in the flood of information they receive. Online commerce has developed many tools that do just that: ratings by other consumers, feedback on other raters' reliability, and performance measures such as timeliness of delivery.

What about the world of ideas? In some areas, traditional institutions have evolved to meet this need. Authoritative medical websites provide reliable information to discerning patients who would otherwise have to sift through information from multiple sources. Fact-checking websites that

of elected officials. Problems can arise when experts try to be politicians and when politicians try to be experts. Clarity about these roles and accountability that reinforces them are essential. If experts cross that line, they undermine the credibility of their expertise and their professional accountability. Politicians who cross that line risk misleading the public that elected them to look out for their interests.

Independent institutions such as the civil service, central banks, and universities have a special role in mediating expertise in the public interest, but technocracy must derive its authority from democracy. That requires a commitment to hold experts accountable as more decisions require technical input. Some critics argue that activities such as financial audits, research quality controls, process and compliance reviews, environmental impact

## The challenge for experts today is how to communicate with brevity but not bravado.

vet claims by public figures mimic peer review in academia, which lends credibility to—or challenges—news and individuals' statements. And the International Fact Checking Network's code of principles is committed to nonpartisanship, transparency about funding sources and methodology, and honest corrections.

New institutions are trying to enhance trustworthiness where it has eroded. For example, in the United Kingdom the Banking Standards Board, which focuses on conduct standards in banks, and the Fixed Income, Currencies, and Commodities Markets Standards Board, which sets the bar in wholesale financial markets, were established after the misconduct scandals during the financial crisis. Schools and universities must teach students to be discerning information consumers, and public awareness campaigns can improve the media. In a world of plentiful information, the future of education is in teaching critical thinking and judgment to prepare students to be informed citizens.

**Boundary between technocracy and democracy:** As decisions become ever more technical, unelected experts are increasingly entering—with huge social consequences—what was once the purview

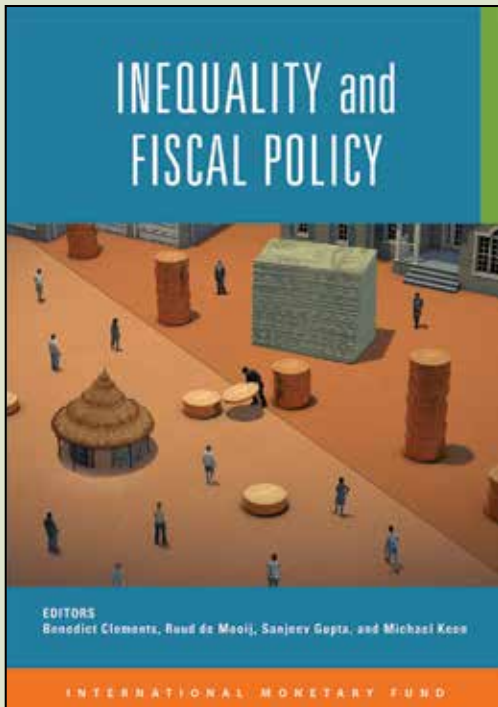
assessments, independent evaluation offices, and parliamentary inquiries are costly, encourage risk aversion, and divert resources from important work. But that is a small price to pay for legitimating expert input for democratic decision making.

### A future informed by knowledge

The application of knowledge and its accumulation through education and dissemination via the media and institutions are integral to human progress. The question is not how to manage without experts, but how to ensure that the experts are trustworthy. Humility and candor about the limits of expertise, clear communication, rigorous assessment of ideas, tools to help the public differentiate among ideas, and genuine listening to others' views are the answer.

Better management of the boundaries and accountability between experts and politicians will help maintain the balance between technocracy and democracy. If we get this right our future will be shaped by knowledge and informed debate rather than ignorance and narrowmindedness. **FD**

**NEMAT SHAFIK** is the incoming director of the London School of Economics.



## Inequality and Fiscal Policy

Edited by Benedict Clements,  
Ruud de Mooij, Sanjeev Gupta, and  
Michael Keen

*"The IMF recognizes that its policies can have huge distributive consequences and so this book will be important not only for guiding its own work, but for scholars and policymakers seeking to further enhance our understanding of the determinants of inequality and devising policies that might reduce it."*

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I N T E R N A T I O N A L M O N E T A R Y F U N D



# HEALTH

IN A TIME OF

# AUSTERITY

When public budgets cannot grow, targeted taxes and subsidies can help improve a population's well-being

Ramanan Laxminarayan and Ian Parry



Improving health care and increasing the number of people who are healthy may be a major development goal of the international community, but even in rapidly growing developing economies there is little capacity to increase spending on health per se, mainly because of the difficulty in raising more general tax revenue.

That constraint means that any additional funds for a health ministry would have to come from some other government ministry or project—a politically difficult, if not impossible, feat in low- and lower-middle-income economies.

Fortunately, many of the key factors that determine the health of a population—and how equally, or unequally, good health is shared among its citizens—lie outside of the health care system, and creative reform of taxes and subsidies can foster better health outcomes without big increases in spending on formal health programs.

## Outside the system

Among the factors outside the formal health system that determine well-being are access to clean water and sanitation; air quality; access to and

use of toilets, soap, and condoms; walkability of neighborhoods; rates of tobacco and alcohol use; and nutritional intake, including consumption of sugar and refined grains. Many of these can be influenced by changes in taxes or shifts in subsidies.

For example, commodities that harm health can be taxed while those that are beneficial can be subsidized. In India, subsidies for food, fertilizer, and petroleum—three commodities that can have large direct and indirect health effects—totaled about \$52 billion in 2012–13 and \$35 billion in 2015–16 (see chart). The subsidies in 2015–16 accounted for about twice what state and local governments spent directly on health. Taxes and tariffs can improve general population health when levied on commodities—such as alcohol, tobacco, salt, and sugar—that can harm people’s health. Subsidies on commodities such as sugar, diesel, kerosene, and coal could be reduced and the savings redirected to nutritious food and clean energy sources. Governments could subsidize liquefied natural gas, in place of kerosene for cooking, and fruit, dairy, and protein sources for nutrition (see table).

## IMPROVING HEALTH

Taxes can discourage unhealthy outcomes, and subsidies encourage beneficial behavior.

PRODUCT	RISK FACTORS	OUTCOME	WAY TO ALTER RISK	
Tobacco	Smoking, chewing	Cancer, heart disease	Tax	–
Alcohol	Drunk driving, unsafe sex	Traffic accidents, cancers, liver disease, sexually transmitted infections	Tax	–
Condoms	Unsafe sex	Sexually transmitted infections	Subsidy	+
Vaccines	Measles, pneumococcal disease, other preventable diseases	Infectious diseases	Subsidy	+
Drugs essential to treat infectious diseases	Lack of treatment	HIV, tuberculosis, malaria, bacterial infections	Subsidy	+
Tuberculosis rapid diagnostics	Lack of diagnosis	Tuberculosis	Subsidy	+
Salt	High blood pressure	Stroke	Tax	–
Sugar-sweetened beverages	Obesity	Cancer, heart disease, diabetes	Tax	–
Food grains	Obesity	Diabetes	Tax	–
Transfats	Obesity	Heart disease, diabetes	Tax	–
Diesel fuel	Air pollution	Chronic obstructive pulmonary disease	Tax	–
Liquefied petroleum gas as a substitute for kerosene in cooking	Air pollution (switch would reduce it)	Tuberculosis, chronic obstructive pulmonary disease	Subsidy	+

Source: Authors’ compilation.



## Tax lessons

Governments have long taxed tobacco and alcohol, and there are several lessons to be learned from their experiences using levies to affect healthy behavior:

- Taxes, and the concomitant price increases they trigger, must be substantial to achieve the desired changes in consumption. Excise taxes, with periodic adjustments for inflation, can be effective.
- Governments must prevent domestic and regional efforts to avoid the tax by closing loopholes and guard against smuggling and bootlegging, because large tax increases are so important to achieving results. At the regional level, policy-making and enforcement must be coordinated, especially for tobacco products, which are quite easy to transport and trade illegally.
- The design of taxes must take into account the range of relevant products and the changes in consumption consumers might make if a tax is imposed in only one area—for example if sugar-sweetened beverages are taxed, consumers might instead eat salty, high-fat snacks if those were untaxed.
- Young people and low-income populations tend to respond most to price increases on unhealthy foods and beverages, tobacco, and alcohol.
- Consideration could be given to allocation of a

portion of revenues to fund subsidy programs that improve nutrition, air quality, and active living to reduce the incidence of heart disease, stroke, and diabetes.

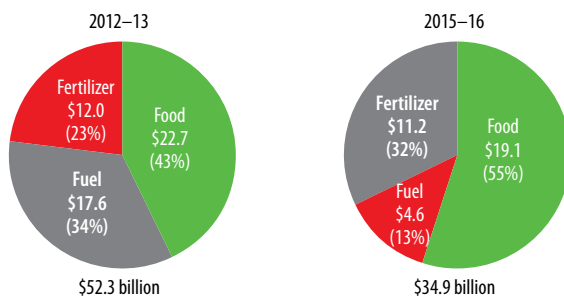
From an economic standpoint, taxes on tobacco, alcohol, and sugar are justified not only to address the bad effects on society from the abuse of these substances, but also to raise government revenue. In previous work, we have shown that the revenue-raising component of the optimal alcohol tax may be as large, or larger, than the component that mitigates the bad effects of alcohol abuse (Parry, West, and Laxminarayan 2009). Therefore, fiscal considerations can significantly strengthen the case for higher alcohol taxes. In a similar vein, reorienting subsidies could give countries facing constraints on raising other taxes some spending breathing room.

Food substances that contribute to obesity—including refined grains such as white flour and white rice—are heavily subsidized in many countries. With obesity on the rise, these subsidies should be reoriented toward improving the nutritional content of subsidized food. In India, production and consumption of pulses (basically dried legumes) have stagnated, while the output of food grains and sugar has increased. In India, under the National Food Security Act, passed in 2013, the government is projected to spend \$25 billion a year to subsidize food grains. While this subsidy could improve food security for some households, spending these funds on public subsidies of pulses, fruits, vegetables, and milk would have a far greater beneficial impact on nutrition.

### Sending subsidies

India spent about \$35 billion to subsidize food, fertilizer, and petroleum in 2015–16, much more than the roughly \$18 billion state and local governments spent directly on health.

(billions of dollars)



**Source:** Authors' calculations.

**Note:** Fuel subsidies in 2012–13 include a substantial subsidy on diesel, the price of which was deregulated in October 2014. The diesel subsidy accounted for more than half of the total fuel subsidy. In 2015–16, the fuel subsidy was primarily directed at domestic LPG (liquefied petroleum gas supplied in refills as kitchen fuels) and kerosene. The exchange rate was 55 rupees to the dollar in 2012–13 and 65 rupees to the dollar in 2015–16.

### Clean air counts

It is not only what consumers eat, drink, or smoke that can harm health and whose effects can be modified by taxes or subsidies. Nearly every country subsidizes coal, gasoline, and diesel—and these fossil fuels are the leading producers of particulate matter, which causes lower respiratory tract infections, chronic obstructive pulmonary disease, cancers, and heart disease and exacerbates the risk of tuberculosis. According to a 2015 IMF working paper, “How Large Are Global Energy Subsidies?,” governments spent \$5.3 trillion in 2015 to subsidize energy—the equivalent of 6.5 percent of the world’s GDP. Energy subsidies exceeded public spending on health and education in many

countries—including Bangladesh, Indonesia, and Pakistan. Subsidies have declined recently, although much of this is attributable to the global decline in diesel prices during the past five years. Reallocating fuel subsidies toward clean fuels and eliminating subsidies on those that are dirtiest could improve people’s health substantially and help cash-strapped governments at the same time.

### Pushback

There are two sets of pressures that push back against the use of taxes and subsidies as instruments of health policy. First, removal of subsidies and imposition of taxes are often portrayed as being anti-poor and not politically popular. However, the health and economic burden of tobacco and alcohol use falls heaviest on the poor. Across the world, heart disease and stroke are the leading causes of catastrophic expenditures, and in countries such as India such expenditures are the main reason families fall into poverty (van Doorslaer and others 2006).

A second concern is that removal of agricultural subsidies would hurt farmers and small-scale manufacturers, including those that make cheap thin-rolled cigarettes called bidis. While it is true that farmers of sugarcane and tobacco do



## Across the world, heart disease and stroke are the leading causes of catastrophic expenditures.

well financially in many countries, the solution is not to put them out of business but to assist them in a transition to growing crops that are not harmful to human health. Allocating tax revenue and reorienting subsidies toward health-improving fiscal policies could have a double benefit. But for this to happen policymakers must make explicit their reasons for tax increases and subsidy reallocations and show how the losers from these policy changes will be compensated to ensure that their livelihoods are not compromised.

Low- and middle-income countries must deal with a growing burden of noncommunicable diseases—including cancer and heart disease—while maintaining vigilance against childhood and infectious diseases. As countries grow, the health

needs of their populations will increase. By using economic incentives to modify social determinants of health, countries could bring about significant improvements without breaking the bank. **FD**

**RAMANAN LAXMINARAYAN** is director of the Center for Disease Dynamics, Economics & Policy. **IAN PARRY** is the principal environmental fiscal policy expert in the IMF’s Fiscal Affairs Department.

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# RISK AND COMPLEXITY

Global integration and new technology mean rapid progress—but also higher risk

**Ian Goldin and Chris Kutarna**


**T**oday's integration of economic systems and increased flow of ideas expands our choice, broadens our horizons, and is a catalyst for creativity, innovation, and growth. But it also dramatically changes the nature of risk.

The integration of complex systems leads to unintended and sometimes unknown consequences. The pace of change means that economies now face significant new challenges for which national and international governance systems are poorly prepared.

One of these risks is growing complexity—in global air travel, cross-border financial investments, and Internet infrastructure. Economic development and the integration of economies amplify this complexity by raising the volume of traffic that flows across these many and diverse connections and by adding new nodes—cities, industrial zones, ports, computer network or logistics hubs, power stations, labs, conferences, and journals. While global integration through economies of scale and harmonization of consumer preferences or global rules and regulations (such as those

ART: ISTOCK/VEKTORISTA





of the World Trade Organization) may reduce complexity, the fragmentation of supply chains, proliferation of rules, and growth in the number of participants and governments overwhelm the potential for simplification.

Complexity can be a good thing. The greater variety and volume of connections and flows provide a springboard for accelerating innovation and have produced a more dynamic and distributed global economy. It also creates resilience. The diversification of global growth has lifted and produced more stable global growth. Increasing trade integration may lead to higher business cycle synchronization between advanced and emerging market economies. However, the growing diversification of emerging markets away from advanced economies and the growth of trade between emerging markets build resilience. So too does the development of their domestic markets and regulatory and supervisory capacity. Systems design and competition and other regulations can contribute to resilience in complex systems. Beyond finance, this can ensure,

prolonged aftermath. Dozens of books and hundreds of articles in esteemed academic journals have been written about the causes of the financial crisis. The competing interpretations of the causes reflect the growing difficulty of identifying cause and effect in complex systems.

Although each of the new financial activities, such as derivative instruments or currency swaps, may have been designed to distribute and thereby reduce risk, no one actor in the financial crisis had a clear view of their systemic implications. Part of the reason is that national regulators were managing systems that transcend national borders. But even within countries regulators lacked a clear picture of the activities. The exponential growth of computing power provided the platform for the integration of radically new capabilities into finance, such as credit derivatives. These risks were not understood by the audit committees and regulators, reflecting generational and skill mismatches in rapidly evolving systems. Institutions and regulations advance slowly, while technologies and their application in

## How can we make good decisions when we can't foresee the consequences?

for example, that if one link on the Internet goes down, its traffic reroutes to alternatives. Similarly, when one ATM goes down, another can be tapped, provided the alternatives are served by independent companies or operating systems.

But growing complexity poses a severe challenge for risk management. The more complicated our interactions become, the harder it is for us to see relationships of cause and effect. We develop cognitive blind spots in our vision of the events around us. How can we make good decisions when we can't foresee the consequences? More complex systems also provide more scope for interdependent relationships, some of which may only become visible when it is too late. Where correlated risks rise, each individual element or economy in the system has a greater risk exposure, and this can magnify the impact of any economic or other risk if it materializes.

### Who's to blame?

The problem of attribution was learned the hard way from the 2007–08 financial crisis and its

complex systems change much faster. Cumulative connective and developmental forces produced a global financial system that was suddenly far bigger and more complex than just a decade before. This made the new hazards harder to see and simultaneously spread the dangers more widely—to workers, pensioners, and companies worldwide.

In retrospect, the dangers of rising complexity were obvious. The balance sheets of countries, institutions, and individual investors and borrowers became more heavily leveraged and more interconnected. Financial instruments became more complex, largely thanks to the introduction of progressively more powerful computers into the portfolio-building process. Like a pandemic pathogen, toxic debts originated in the small backwater of subprime mortgage lending and spread quickly through intertwined balance sheets to threaten the global financial system.

The financial sector's tangled complexity muddled the vision of those standing in its midst. Few private or public sector actors perceived the accumulating danger. As author Michael Lewis



observed in a Bloomberg column in 2008, “[The CEO of Bear Stearns] plays bridge, and [the CEO of Merrill Lynch] golfs while their firms collapse, not because they don’t care their firms are collapsing, but because they don’t know that their firms are collapsing.” And although the IMF signaled its concern regarding the growing risks, in its April 2007 *Global Financial Stability Report*, it concluded that “weakness has been contained to certain portions of the subprime market . . . and is not likely to pose a serious systemic risk. Stress tests conducted by investment banks show that . . . most investors

traditional risk silos. When contemplating future risk to the financial system, we must be acutely aware that a pandemic in a major financial hub or a cyberattack or extreme climate event is at least as likely to be the source of the next financial crisis as a repetition of the factors that led to the 2007–08 crisis. The old linear risks have not gone away, and fire, theft, reputation, critical personnel loss, and other traditional risks can still destroy companies. But it is the systemic risks that arise from the growing entanglement of firms, economies, and systems that are escalating most rapidly. With finance providing the lifeblood of our new interdependencies, the management of systemic risk in finance is more important than ever.

### Concentration’s risks

A key element of systemic risk is the evolution of nodes and networks in which certain nodes become dominant in the integrated system. Whether these are logistics centers, cities, airport hubs, cyberhubs, or financial centers, more and more global traffic is flowing through increasingly concentrated geographic areas. Concentration tends to reflect the benefits of economies of scale

## More and more global traffic is flowing through increasingly concentrated geographic areas.

with exposure to subprime mortgages through securitized structures will not face losses.”

At the national level, central banks, regulators, and treasuries are among the strongest government institutions, with among the best people, data, and analytic capability and in many countries a clear mandate for financial stability. At the international level, the same is true for the IMF and the Bank for International Settlements. The fact that all these institutions were largely blindsided by the financial crisis speaks to the rapid evolution of a new type of risk in the 21st century—systemic risk.

In this age of globalization we need to move from linear concepts of risk to understand systemic risk. This means seeing the big picture when all of the elements of a system are placed side by side, such as the cumulative and consolidated balance sheets of financial institutions. It also means that we need to think across the

and no doubt brings significant benefits and efficiencies. Whereas the focus of competition policy has been on the size of institutions, in a world of systemic risk the geographic concentration of critical systems or nodes of infrastructure and people is of significance. Individual geographic centers are vulnerable to a host of potentially catastrophic events, including pandemics, weather (for example, a Hurricane Katrina or Sandy), terrorism, infrastructure (for example, cyber or energy outages), and other risks. The more any global activity is concentrated geographically, the more vulnerable the global system integrated with the center to risks of a location-specific shock.

Rising concentration makes failures in the financial system more likely to occur. Leading up to the financial crisis, concentration was increasing at every level. At the firm level, capital and resources were concentrated in the new securitized

mortgage and debt products. At the turn of the century, these products were niche offerings; by the outbreak of the crisis, they had become the second-largest class of asset-backed securities sold in the United States each year. Subprime mortgages were the first.

Industry concentration was also on the rise. In the United States between 1990 and 2008, the market share of the top three banks quadrupled from 10 percent to 40 percent. In the United Kingdom in 2008, the top three banks owned 80 percent of the market (up from 50 percent in 1997). The phrase “too big to fail” entered public discourse to describe these organizations. Their executives knew their respective governments would never let them go bust—the ensuing chaos would be too great. Their investment discipline weakened—a phenomenon economists aptly call moral hazard. The biggest financial institutions began to take excessive risks, knowing that should things go seriously awry, taxpayers would bail them out. And, indeed, they did.

Concentration also rose at the level of whole economies, as booming financial sectors loomed ever larger in the total economic mix. In the United Kingdom, between 1990 and the start of the crisis, the size of the financial sector grew from less than 6 percent to almost 10 percent of total GDP, and to over one-fifth of London’s economic output.

The adoption of uniform mark-to-market accounting—accounting for the fair value of an asset or liability based on current market pricing—and regulatory standards around the world brings benefits but also carries hidden risks. In the run-up to the financial crisis a growing number of jurisdictions had deregulated their domestic finance industries, facilitating the rapid adoption of credit derivative and other instruments, which greatly increased financial leverage. The explosive growth of these instruments was associated with the development of what Andrew Haldane, then executive director for financial stability and now chief economist at the Bank of England, described as a “monoculture” that “became, like plants, animals and oceans before it, less disease-resistant.”

Each of these concentrations posed a genuine dilemma. Each one asked us to trade off legitimate private goals against poorly understood public dangers. What politician could afford to go against the deregulatory trend, when capital seemed so mobile and loosening credit made voters feel so good?

What financial firm could afford to stay out of a new market when those entering it were profiting so highly? What person would not be tempted by the prospect of buying a house with little or no money down and building equity just by watching its value grow? All of which raises the question: Who, then, was to blame?

The financial crisis showed how difficult these dilemmas can be, especially when politicians and CEOs are motivated by short-term cycles in which the incentives are stacked against enduring pain to build longer-term resilience and growth. Even if the risk of collapse had been more widely understood, it’s not clear that politicians would have acted to prevent it.

### Globalization requires cooperation

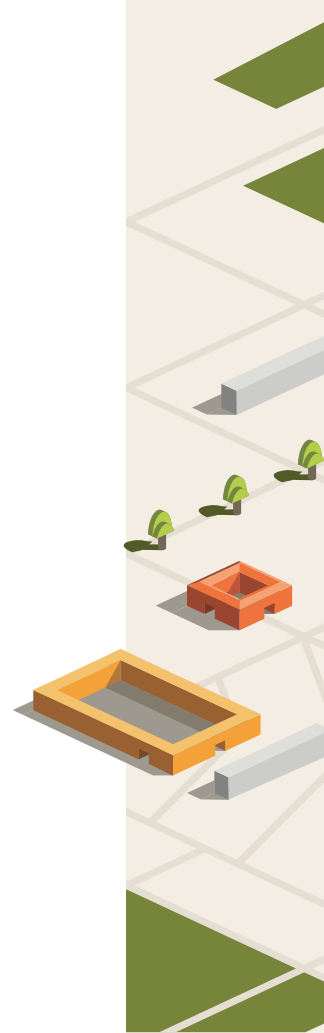
Over the past 30 years, the global integration of markets and more rapid flow of ideas around the world have led to the most rapid progress in the history of humanity. However, the unprecedented advances also carry new risks, including those arising from growing inequality and the spillovers of success, such as climate change, antibiotic resistance, and other environmental and social dislocations. Further risks arise from revolutionary new technologies and growing complexity.

The solutions are to be found not in the retreat from globalization, but in closer cooperation to meet our shared challenges. In finance, globalization—despite its benefits—can bring about concentration risks. Due to the pace of innovation in finance, there also is a constant need for reskilling in both the private and public sectors. This calls for more vigilance on the part of regulators and supervisors and, as firms become more integrated, closer cooperation of policymakers. Growing integration brings rising interdependency.

Have we learned our lesson? Or will history repeat itself—again? [FD](#)

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**IAN GOLDIN** is professor of globalization and development and director of the Oxford Martin Programme on Technological and Economic Change at the University of Oxford. **CHRIS KUTARNA** is coauthor with Ian Goldin of *Age of Discovery: Navigating the Risks and Rewards of Our New Renaissance*, upon which this article is based. The article also draws on *The Butterfly Defect: How Globalization Creates Systemic Risks, and What to Do about It*, by Ian Goldin and Mike Mariathan; and *The Pursuit of Development: Economic Growth, Social Change and Ideas*, by Ian Goldin.



# Invest in Pros

## Investments in women's health and education boost economic development

**David E. Bloom, Michael Kuhn,  
and Klaus Prettner**

**I**nvestment in women's education and health, and attention to their employment opportunities and empowerment, pays big dividends in terms of economic development.

However, gender equity is far from the global norm. In low-income countries, fewer girls than boys are in school (36 percent versus 45 percent); rates for female enrollment are particularly abysmal in Niger (17 percent) and South Sudan (7 percent). India spends less on women's health than on men's across all demographic and socioeconomic groups (Saikia, Moradhvaj, and Bora 2016). Globally, women have fewer opportunities to enter high positions in business and government. As of 2016, women held fewer than

a quarter of parliamentary positions worldwide, and only 15 women are currently heads of state (excluding figureheads). Only half of working-age women are in the formal labor force compared with three-quarters of working-age men.

Rwanda is a notable exception. In the aftermath of the 1994 genocide that decimated the country and severely depleted its workforce, President Paul Kagame initiated a series of pro-women reforms. Gender rights are now enshrined in its constitution. Women fill nearly two-thirds of the seats in Parliament, comprise 52.5 percent of secondary school enrollees, and account for 54 percent of the workforce, with a salary gap between men and women that is the smallest in the world. Rwanda has invested heavily in maternal, newborn, and child health over the past two decades. The World Economic Forum's 2016 Global Gender Gap Index ranked Rwanda fifth in gender parity, just behind Iceland, Finland, Norway, and Sweden and well ahead of Canada (35), the United States (45), and Australia (46).

# Women and **Sp**eer



PHOTO: BECKWINNELL / ALAMY STOCKPHOTO

# Healthy women are more likely to work outside the home, have the stamina and energy for physical labor, and work more hours.

(However, traditional attitudes on gender roles still prevail in the domestic sphere, and domestic violence remains a significant problem throughout the country.)

These investments in women likely contributed to Rwanda's recent economic success. Between 2000 and 2015, average income in Rwanda more than doubled, far outpacing average growth in the rest of sub-Saharan Africa.

There are other examples of the gender-development link. In each region of the world, the country with the least gender inequality (as measured by the United Nations Development Programme's

Gender Inequality Index) has higher gross national income per capita than the country with the greatest inequality (see table). It is hard to prove absolutely that gender equity affects economic development, but it is plausible and consistent with the facts (Diebolt and Perrin 2013).

Gender equity is a powerful indicator of economic growth and development. With prosperity come demand for labor and funding for health care and education, all of which encourage workforce participation and higher productivity. Economic security drives autonomy at home and in society.

This positive dynamic could encourage a wait-it-out approach to achieving gender equity, but such an approach poses at least three dangers. First, it falls short on human rights grounds: the promise of a more just society tomorrow neglects those harmed today. Second, it fails to account for the reality that no country, regardless of development status, has yet achieved complete equity. Third, it ignores the fact that gender equity can help promote growth and development, given the scale and multifaceted nature of women's contributions to the economy. In fact, investment in women—particularly in their health and education—promises to pay substantial economic dividends.

## Boost to the economy

Women contribute to economic growth and development directly and indirectly. The most direct route is via workforce participation, which boosts production—and thus income, savings, and tax contributions at the household, community, and national levels. The extent of the contribution depends on how many women enter the paid workforce, how many hours they work, and how productive they are. And productivity depends on education, training, and health.

Academic research supports the importance of education—particularly of women—to growth.

## EQUITY PAYS

The country with the least gender inequality in each region enjoys higher per capita income than the one with the most inequality.

GENDER INEQUALITY		
REGION	LOWEST COUNTRY BY GII (GNI PER CAPITA)	HIGHEST COUNTRY BY GII (GNI PER CAPITA)
Arab States	United Arab Emirates (\$67,330)	Yemen (\$3,740)
East Asia and the Pacific	Singapore (\$79,660)	Papua New Guinea (\$2,800)
Europe and Central Asia	Slovenia (\$30,360)	Georgia (\$9,130)
Latin America and the Caribbean	Chile (\$21,470)	Haiti (\$1,740)
South Asia	Bhutan (\$7,330)	Afghanistan (\$1,960)
Sub-Saharan Africa	Rwanda (\$1,640)	Niger (\$930)

**Sources:** Gender inequality data: 2014 United Nations Development Programme Gender Inequality Index; GNI per capita data: World Bank World Development Indicators for 2014.

**Note:** GII = Gender Inequality Index; GNI = gross national income. GNI per capita is in purchasing-power-parity terms (current international dollars).



*Women sew at the “Women for Women” project in Kigali, Rwanda.*

Educated women enjoy more secure employment and higher wages (as much as 10 to 20 percent for each additional year of schooling). Educated women’s agricultural output is greater, and their mortality—and that of their children—is lower. A 2014 World Bank report by Claudio Montenegro and Harry Patrinos found that each additional year of schooling boosts women’s earnings by an average of 11.7 percent versus 9.6 percent for men. These results are consistent with macroeconomic evidence that gender inequality in education alone harms economic growth. Formal and informal on-the-job training also boosts workers’ skills and productivity. As technology favors brains over brawn in the labor market, education and training will carry even more weight.

Health matters too, particularly for women. Healthy women are more likely to work outside the home, have the stamina and energy for physical labor, and work more hours. Healthy girls can reap the full benefits of education, with implications for future productivity and earnings. Education encourages women to invest in their health, and

good health increases the dividends of education through a longer life and better cognitive and physical functioning.

Legal, institutional, and cultural changes that increase access to capital, pay, and property ownership bolster women’s direct economic contributions via the labor force. Women who have control over their income are likely to work harder and longer.

Women also support the economy through unpaid labor, particularly at home. They bear children and often take—or are socially assigned—primary responsibility for child-rearing. They care for elderly family members and others in their household who need help. Women haul water, prepare food, do other household chores, and volunteer in the community. A 2015 United Nations Department of Economic and Social Affairs report estimates that women outwork men by an average of 30 minutes a day in developed economies and 50 minutes a day in developing economies.

Women contribute indirectly to economic growth, too. Investing in women’s human capital helps shift

a society from high fertility to low fertility over the long term. Women who can earn income in the workplace have less of an economic incentive to raise large families, and surveys show that women generally prefer having fewer children who are better educated and healthier to having a larger number who are not. Women who have clout in society and at home can exercise that preference.

Such a fertility shift affects economic growth immediately and over the long haul. As fertility begins to decline, youth dependency falls, so society produces more per person, which opens the potential for a so-called demographic dividend: families can save and invest more, and the government can

For example, a study in Côte d'Ivoire showed that as women's income increased, families tended to spend more on food and less on harmful products such as alcohol and tobacco (Hoddinott and Haddad 1995).

Women can be powerful instruments of social change. When women are healthy, educated, and empowered, they are more likely to take leadership roles in the community. Educating women fosters a transition to democracy, which may have its own positive effects on long-term economic prosperity. Educated women in the workforce may be less tolerant of gender inequity propagated by undemocratic political regimes and may push for more responsive leadership. Participation in the labor

## *Good maternal health benefits children's cognitive development, behavior, and school performance.*

spend more on projects that promote economic growth. The first generation of children following fertility decline is also healthier and better educated and thus more productive than preceding generations. Over time, improved human capital catalyzes a transition from high fertility, low education, and poor health to low fertility, high education, and good health—and sustained economic growth. Fertility has decreased across all income groups over recent decades but is lowest in high-income and upper-middle-income countries, where the fertility shift and economic consequences have taken fuller effect.

Improvements in women's health and household standing can spill over across the health, education, and well-being of other household members, particularly children. A recent review found that good maternal health benefits children's cognitive development, behavior, and school performance as well as the health and productivity of other family members. According to earlier research, when women earn more and account for a larger share of household income, more household spending goes toward the health of the family, which positively affects the economy.

force also allows women to interact outside the domestic sphere and organize for political action.

Investments in women's health and education can create a positive cycle in which societies take an increasingly favorable view of female labor force participation as more women begin to work. For example, men who grow up with working mothers are more likely to do their share at home, making it easier for women to work outside the home. These men are also more likely to have positive attitudes toward women's participation in the paid labor force (Fernández, Fogli, and Olivetti 2004).

### **Make it happen**

Countries that wish to invest in women and improve economic performance have many policy options. Funding education and health care is the obvious one.

Education is crucial. Lower school fees and conditional cash transfers for school attendance can help persuade families that sending girls to school is affordable. Running water, working toilets, and sanitary products in secondary schools encourage girls to attend, as does building more schools to cut down on travel time.



In addition to funding general health care, supporting women’s reproductive health can have profound economic consequences. Investing in family planning—for example, by supplying quality contraceptives—and implementing policies to delay the age of marriage, such as child marriage laws, can help lower fertility.

While the specific policy options enumerated here apply primarily to low- and middle-income countries, high-income countries are also likely to benefit from interventions to enable and encourage women’s productive involvement in the economy, especially in positions of leadership. Across all income groups, efforts to improve equity are most likely to bear fruit if they are implemented alongside general macroeconomic policies that foster efficient labor and capital markets and that offer basic worker protections.

### An economic case

Collectively, health, education, empowerment, and economic well-being create a virtuous cycle. Investments in health and education are both important drivers of economic development on their own, but are dazzling when combined. This is true for women and men alike. But when ill health might otherwise keep women trapped in a cycle of poor education, the effects of such investment are stunning.

Human capital is among a country’s greatest assets. But it must be managed well to derive economic benefit. Women’s economic contributions—whether in paid or unpaid labor or in the form of smaller family size, more educated children, and more stable societies—can transform economic outcomes. Investing in women is not just the right thing to do. It’s also smart economics. **FD**

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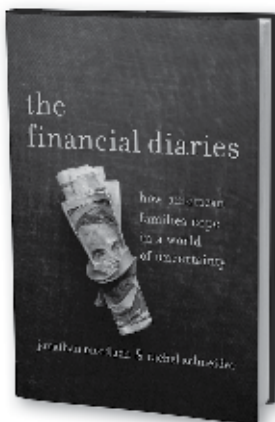
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### The Financial Diaries How American Families Cope in a World of Uncertainty

Jonathan Morduch & Rachel Schneider

“*The Financial Diaries* is an invaluable framework to understand why working-class families feel uneasy with their financial situations. It makes an important case for the distinction between illiquidity and insolvency, and why policy solutions for each may not be the same.”  
—Elisabeth Jacobs, Washington Center for Equitable Growth

“*The Financial Diaries* succeeds in that rarest of goals: making you think and care at the same time. This is an invaluable look at the profound economic uncertainties of our era.”  
—Jacob S. Hacker, author of *The Great Risk Shift*

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# creating markets

Developing new markets is essential to increasing private investment and achieving the UN Sustainable Development Goals

**Morten Lykke Lauridsen and Florian Mölders**

**C**ongested and crumbling roads have stunted Colombia's economic growth for decades. Following the 2016 peace deal that ended half a century of armed conflict, the Colombian government had high hopes for infrastructure—and new roads in particular—to build a strong foundation for the country's future.

But the government realized that financing one road project at a time would fall far short of providing the economic boost they sought. Instead they needed markets, one for the private construction of roads and another to channel savings into long-term loans to finance those road projects.

A key challenge was to put in place a framework that would attract large investors—pension funds, insurance companies, and hedge funds, among others—into ventures that until then were largely uncharted territory. Creating a market that would lure these institutional investors was critical to addressing the country's infrastructure shortage.

In response, the International Finance Corporation (IFC), the Colombian government, and the Development Bank of Latin America created a new financial institution to address market failures that were obstructing infrastructure financing. The government also introduced a number of investment-friendly measures such as guarantees and project support and established new capital market regulations that made it easier for pension funds to invest in infrastructure projects. In January 2016 a substantial infrastructure debt fund to finance large-scale projects was launched.

As a result, Colombia will get thousands of kilometers of new roads—and a major boost to

its economy—while investors get a host of new business opportunities.

Colombia's road deficit is all too common in emerging markets, and the approach taken is an example of how countries can provide opportunities for private investors, whose participation will be essential to mobilizing the estimated \$4 trillion a year investment needed to achieve the United Nations Sustainable Development Goals (SDGs) in developing economies.

Under current financing trends, the world's poorest countries are likely to fall short of these goals by large margins without greater access to private capital. The issue, then, is how can governments and development finance institutions create markets to scale up private investments?

Answering this question requires an understanding of the main building blocks of markets and their key attributes.

## Creating frameworks

All markets have several building blocks in common. Following economic theory, governments aspiring to create markets should focus on actions that foster new technology, better institutions, and more abundant ideas and human capital. Governments can also create the frameworks for new markets through supportive incentives and regulations.

In India, for example, a new framework of government incentives and a new bidding structure for projects helped lure private investors to a solar grid project in Gandhinagar. The project is now being replicated in five other cities. And in Ukraine, the implementation of new food safety laws and industry regulations that comply with EU rules

were critical to modernizing agricultural markets and boosting exports.

A key lesson from these examples is that development institutions have a central role to play in building a bridge between governments and the private sector to bring about such positive market changes.

In strategies to develop markets, it is vital to articulate a clear vision for how a market should evolve over time. Sustainable markets rarely emerge by happenstance or good luck.

To be successful in contributing to the SDGs, newly created markets should be:

- **Scalable:** Markets should influence and benefit a large number of people, and eventually include those not targeted by the original investment.
- **Sustainable:** Market development efforts should promote systemic market changes that persist on their own beyond the end of an investment by a government or a development finance institution—without imposing unsustainable fiscal burdens on governments. Markets should also be environmentally and socially sustainable.
- **Resilient:** Market participants should adapt models and institutions that can continue delivering goods and services even as the external environment changes.

In addition, to achieve the SDGs, markets should be inclusive and work for the poor. For example, in Bangladesh, an investment by the IFC and other development banks in the mobile financial services company bKash is an example of early-stage market creation. The company's rapid growth that followed the investment helped bring millions of unbanked poor people, who previously dealt mostly in cash and struggled to save for the future, into the formal financial system.

### Channels of market creation

In creating markets, four channels are important:

- **Putting in place platforms and reforms that enable markets to function.** Effecting policy changes in sectors such as energy or agriculture removes obstacles and deterrents to private investors and allows them to enter those markets. Responsibility for this lies primarily with governments, often with advice and assistance from development finance institutions.
- **Promoting competition that causes other market players to step up their game.** For instance,

investing in a new retail model that improves service and drives down prices will force competitors in that market to adapt through similar business improvements.

- **Demonstrating success and promoting spillover of ideas.** Success breeds imitation; this is the key logic of demonstration effects. So, for example, a novel bond structure that attracts capital and demonstrates the viability of a market will encourage other private institutions to offer similar bonds. Put another way, copycats are encouraged.
- **Building skills that open new market opportunities.** For example, training derivatives market regulators and boosting investment in financial institutions can create a market for hedging products, which are financial instruments that help corporate clients manage financial risk.

By triggering market activity in sectors and population segments not directly connected to the initial investment, these channels can all promote market changes that go well beyond the direct effects of a particular development project or investment.

For development finance institutions like the IFC, the challenge is to infuse operational business models with this focus on markets, rather than a traditional focus on individual investments. This calls for a shift in mind-set from pursuing one deal at a time to looking more broadly at how several investments can add up to a larger development impact. At the same time, one must focus on the impact on the environment, and on the poor and marginalized, to ensure inclusiveness and sustainability.

To advance this agenda, the IFC is unveiling a new analytical framework to assess the expected development impact of new investments and advisory work. This work includes assessing the dynamic effects of projects on the creation of markets. The ambitious framework will help the IFC staff systematically assess and better anticipate the market impact of projects and investments. By focusing on creating markets, this framework will also help the IFC do more in difficult environments, including fragile and conflict-torn states, where private investment is vital to meeting the poverty targets of the SDGs. [FD](#)

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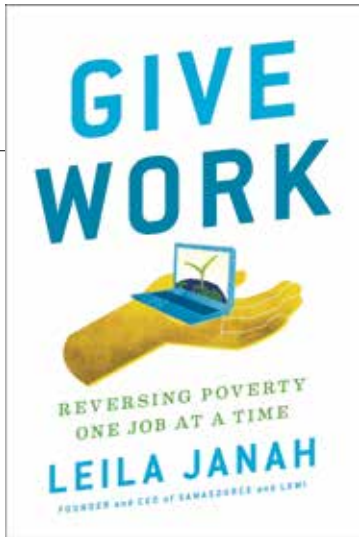
**MORTEN LYKKE LAURIDSEN** is a senior economist and **FLORIAN MÖLDERS** an operations officer at the International Finance Corporation under the Vice Presidency for Economics and Private Sector Development.



# What Works to Lift the Poor

**THE WORLD ECONOMY** faces multiple challenges today. Growth prospects in advanced economies have dimmed. Many emerging market and developing economies feel the pinch from lower prices of oil and other commodity exports, resurgent debt levels, and gaping infrastructure needs. And threats from income polarization, climate change, and the mechanization of jobs continue to test the ability of policymakers to fulfill the dreams of economic security for their people. That is especially true for the poor, many of whom were left behind even when times were generally good.

Leila Janah  
**Give Work: Reversing  
 Poverty One Job at a Time**  
 Penguin Random House,  
 New York, 2017, 272 pp., \$27



**GIVE  
 WORK**  
 REVERSING POVERTY  
 ONE JOB AT A TIME  
**LEILA JANAH**  
FOUNDER AND CEO OF SAMASOURCE AND LEWA

While ending poverty has been a global imperative for several decades, achieving this goal has proved incredibly hard. Strong economic growth in developing economies like China and India helped pull several millions out of poverty, but history has shown that growth alone cannot always do it. Indeed, some 700 million people around the globe still subsist on less than living wages.

*Give Work* by Leila Janah, founder and CEO of the nonprofit Samasource, which connects impoverished people to digital work, provides a fresh take on tackling poverty from a social

entrepreneur's standpoint. The author argues that reversing poverty will require creating productive jobs for the poor that help break the cycle of despair and impoverishment once and for all. Giving jobs directly to the poor can have more traction than giving governments aid that can be misallocated or wasted, the author says.

Although Janah's views are not necessarily new, the book is compelling through the evidence provided. The narrative is a personal account of the challenges the author needed to surmount before founding Samasource to target and train the poor for work outsourced by big companies. Getting there was not easy and demanded resilience, learning and persistence, and customizing a business model to work in different countries under different circumstances. Today Samasource has transformed the lives of about 35,000 of the world's poorest people in countries like Haiti, India, and Kenya, as well as in rural areas of the United States.

The book emphasizes the positive potential of digital connectivity for jobs today—for example, training and providing people with digital work that can verify the data underlying search engines. At the same time, it recognizes that such solutions may not work that well down the road, given rapidly changing technology, and therefore need to continually evolve. But there is a clear case for making a difference and transforming lives as more such social enterprises join the effort to eradicate poverty one person and one job at a time.

But Janah is too quick to reject alternative approaches to addressing poverty elimination. She could have shown more empathy in recognizing that different entities—for-profit or nonprofit organizations like hers, public policymakers, international organizations—have different roles to play to support generation of economic growth and employment to reach the poor. Some focus on strengthening the economic conditions to make them more supportive of poverty elimination, while others directly target job creation, taking the enabling environment as a given.

Given the enormity of the poverty challenge, there must be a variety of approaches to chip away at it. More recognition of this range of tactics—and greater emphasis on the need for more traction in the work of all organizations—would have helped Janah avoid a somewhat defensive tone at some points. **FD**

**RUPA DUTTAGUPTA**, division chief, IMF Strategy, Policy, and Review Department

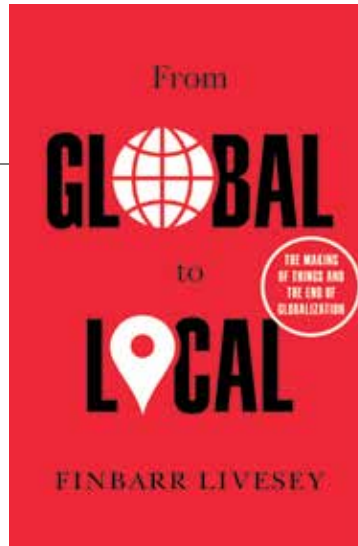
# End of Globalization? Maybe, Maybe Not

**FROM GLOBAL TO LOCAL**, by University of Cambridge lecturer Finbarr Livesey, argues that technological change, consumer preferences, environmental challenges, and nationalism are driving a shift from globalization to an era of localization. Despite its subtitle, the book is cautious, arguing that global trade in goods will slow but not end as businesses locate production nearer to their customers.

The argument rests on four pillars. First, additive manufacturing and 3-D printing enable localized production that is more capital (robot) intensive than dependent on traditional economies of scale. Second, higher wages in China make offshoring less attractive. Third, consumers want custom products delivered fast, and global shipping costs are subject to limits on carbon emissions. Fourth, nationalism is driving trade, tax, and regulatory policies to resist offshoring.

International trade growth will slow relative to national incomes, reversing the trend toward globalization, Livesey predicts. Advanced manufacturing will reduce or eliminate fixed costs and hence scale economies, allowing multiple, small-scale facilities to serve local customers. Meanwhile, worldwide differences in resources are diminishing: production is increasingly concentrated in mobile smart machines such as 3-D printers and robots, and rapid capital accumulation in China has dramatically narrowed the difference between China's capital-labor ratios and those of Europe and the United States. Add in Livesey's observations about shipping costs and today's nationalistic politics, and his case is made, that trade will diminish relative to income.

Maybe yes, maybe no. The fixed costs of production depend on robots and 3-D printers, but also on specialized knowledge, intellectual property, nearby complementary natural resources, and more. I doubt specialization will disappear. Resources available to countries depend on more than capital-labor ratios: climate, water, renewable energy, safety from natural hazards, and cultural traits, to name a few. For example, advances in technology are more likely to expand than displace global tourism. Moreover, many places with low-cost labor will continue to export labor-intensive goods and services, such as construction.



*Finbarr Livesey*

**From Global to Local:  
The Making of Things and  
the End of Globalisation**

Profile Books,  
London, 2017, 224 pp., \$26.95

Shipping costs may just as easily fall as rise. An expanded polar sea route from Asia to Europe would cut shipping time. Improved logistics and Internet-based services will ease trade, while advances in shipping and aviation will likely lower carbon dioxide emissions at a relatively low cost.

Nationalism is a real but hardly a decisive threat. US President Donald Trump's protectionism is more bark than bite. And Chinese President Xi Jinping's embrace of globalization and One Belt One Road initiative hold as much weight as nationalistic rumblings in Europe and the United States.

Part of the challenge is to define "globalization" more precisely. Trade growth in some manufactured goods might slow, but it could rise in many goods and services with crucial but scarce environmental inputs, such as food and feed, nonfood agriculture, renewable energy, tourism, and the like. Trade in intellectual property and financial services, including capital-intensive-infrastructure leasing and manufacturing facilities for low-income countries, is likely to grow.

The great strength of Livesey's book is to make us look more closely and intelligently at the underlying drivers of globalization. Whether more or less of it, there will surely be a different kind of globalization in the coming years. Livesey's fine book will help us understand and anticipate the changing dynamics of global economic interdependence. **FD**

**JEFFREY D. SACHS**, university professor at Columbia University, director of UN Sustainable Development Solutions Network

## Seductive Bill

*The recently redesigned €50 note is Europe's most commonly used denomination*

**Eszter Balázs**

**A SMALL BOX** of Belgian chocolate truffles with a bottle of champagne and some flowers. A dozen bottles of Belgian beer. Or 20 large servings of fries served in a paper cone. That's what—along with a lot of friends—a €50 note can buy you in the European Union's euro area. This bill inhabits European wallets and purses more frequently than all other denominations combined. The most widely used banknote in the euro area recently got a facelift to make it more attractive—and more secure.

### We like our euro cash

For well over a decade, euro notes have been legal tender in an ever-growing number of European

countries, rendering borderside currency exchange booths obsolete. Whatever the economic implications, most of the 338 million residents in the 19 euro area countries enjoy the convenience of a uniform currency. The latest available Eurobarometer survey shows that most people consider it a good thing both for their own country and for the European Union as a whole (57 percent and 69 percent, respectively).

And they use the euro in its physical form. There are 9 billion €50 notes in circulation (46 percent of all euro banknotes), and Europeans have a penchant for pulling them out at the checkout counter, mostly disregarding their plastic cards. “Even in this digital age, cash remains essential in our economy,” European Central Bank (ECB) President Mario Draghi said in April 2017, when the newly designed €50 note was released. “Three-quarters of all payments at points of sale in the euro area are made in cash,” he said.

### So do counterfeiters

The original yellow-orange €50 note was popular with consumers and counterfeiters alike. It held the dubious honor of being one of the world's most counterfeited, in the company of the US \$20, Chinese ¥50, and India's now withdrawn Rs 500 notes, according to the website Marketplace. That is one of the reasons the ECB embarked on the redesign, which includes other denominations, all with a common Europa theme.

The new €50 note, illustrated by Berlin-based postage stamp designer Reinhold Gerstetter, shows a generic Renaissance architectural motif to avoid favoring the building heritage of any single member country. It also boasts a host of security features, including a clear window with a hologram and a color-changing emerald number that central bankers expect will dissuade counterfeiting.

Experts may be fascinated by security features such as holograms and changing colors, but the



*The face of Europa, a figure from Greek mythology, appears on a clear window, one of the note's security features.*



The €50 is the most widely used banknote in the euro area, with its front and back sides pictured below.



average person pays little attention to such details, say neuroscientists.

“A great deal of effort goes into building security features on bills—but the problem has been that nobody then uses these. The ECB finally decided to take a different approach, one more rooted in psychology and neuroscience,” Stanford University neuroscientist David Eagleman, advisor on the Europa series design, told *F&D*. “I found that people have a difficult time noticing whether a building is imperfectly drawn—but they notice almost immediately if a familiar face is imperfectly drawn. As humans, evolution has given us extremely specialized hardware for face recognition. If you see a friend you can immediately tell if something has changed on his or her face. The same goes for the familiar face on a bill.”

That is why for the first time a human face has made it onto a euro bill. The tiny curly-haired lady is Europa, a Phoenician princess of complicated but high lineage, the continent’s namesake, who was seduced by Zeus, king of the ancient Greek gods.

The colorful, more secure new €50 note is the middle member of the Europa series, following the release of new €5, €10, and €20 bills. The final denominations—€100 and €200—are scheduled for release in early 2019. The largest denomination,

€500, will not get a makeover: it will be allowed to disappear gradually from circulation because it has become a go-to denomination for criminals. [FD](#)

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