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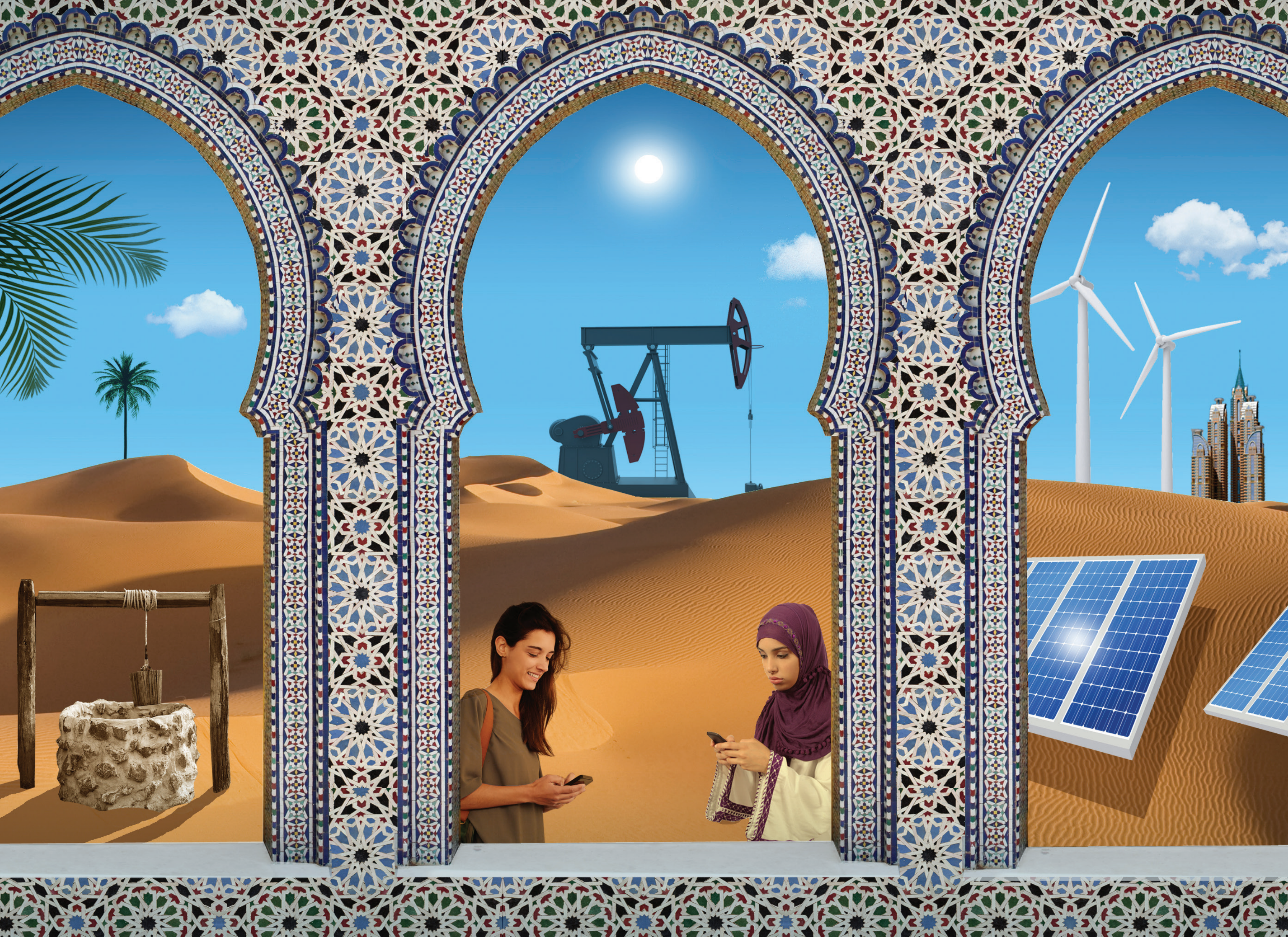

The Middle East in Flux

INTERNATIONAL MONETARY FUND

Contents

There has never been a more critical time to focus on the region's untapped potential.

THE MIDDLE EAST IN FLUX

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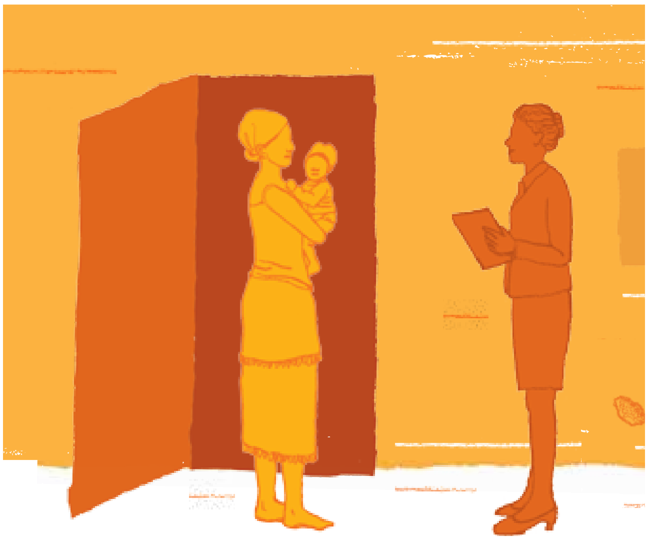

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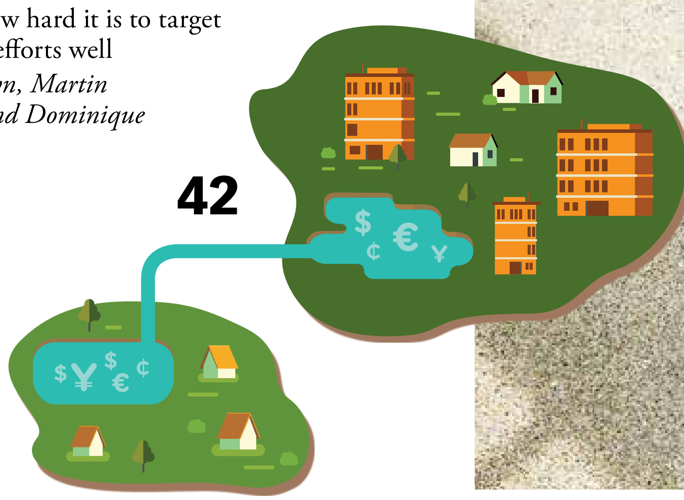

DEPARTMENTS


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Shifting Sands

THIS ISSUE OF *F&D* focuses on the Middle East and North Africa, taking stock of the region's rapid transformation since the uprisings of 2011—a period that raised the hopes of millions for a better future and caused despair for millions of others.

The iron lid that had kept Arab societies artificially stable has been lifted, writes Marwan Muasher of the Carnegie Endowment for Peace. The only path to stability and prosperity is through institution building, power sharing, and inclusive growth—requiring a new social contract between governments and their people.

While political demands drove the uprisings, unresolved socioeconomic issues were the underlying cause, says the IMF's Jihad Azour. Seven years later, these problems remain largely unaddressed. With 60 percent of the region's population under the age of 30, more jobs and better opportunities are essential for future stability. But that requires decisive action.

Conflicts in the region have claimed an estimated half million lives since 2011 and displaced masses of others, leaving ruin in their wake, write IMF economists Phil de Imus, Gaëlle Pierre, and Björn Rother. In Syria, for instance, GDP today is estimated to be less than half its 2010 level.

And yet, the region offers so much potential. Technology, including green energy, holds out the promise of meaningful jobs. Solar power and other renewable energy can help offset the risk of stranded oil and gas assets, according to the World Bank's Rabah Arezki. And across the region, governments are launching tech funds, with some start-ups developing into large employers, writes Campbell MacDiarmid. Another source of growth is women, whose power to boost GDP is just beginning to be understood.

There has never been a more critical time to focus on the region's untapped potential: its youth, its women, and its entrepreneurial spirit. The price of inaction is simply too high. FD

CAMILLA LUND ANDERSEN, Editor-in-Chief

ON THE COVER

Oil and gas have played a pivotal role in the Arab world's economies. But a new era is dawning. Illustrator Michael Waraksa's December 2017 *F&D* cover depicts the region's past, present, and post-oil future—one that harnesses the potential of youth, technology, and renewable energy.

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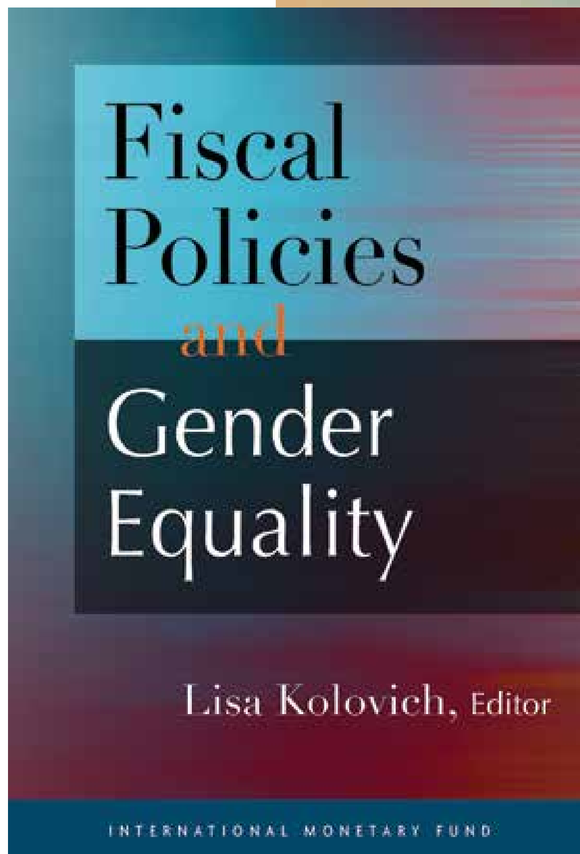
FSC FPO

Fiscal Policies and Gender Equality

Lisa Kolovich, Editor



Historically, women around the world have had less opportunity than men in education, employment, and health care, and less political representation.

Although the gender gap is shrinking, progress remains uneven across many regions of the world. This book reviews a range of approaches to help whittle away at the barriers that prevent girls and women from achieving their full economic potential.

There are still many lessons to be learned in implementing the appropriate government policies and fiscal measures to continue promotion of women's development issues and gender equality.

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INTERNATIONAL MONETARY FUND

A TIME FOR ACTION

Countries of the Middle East and North Africa have an opportunity to pursue the reforms needed to ensure prosperity for decades to come

Jihad Azour

The uprisings of 2011 ushered in a period of unprecedented change in the Middle East and North Africa. While demands for political transformation commanded the world's attention, those calls were largely motivated by unresolved socioeconomic issues. Demonstrators in the streets of Cairo and Tunis demanding "bread, dignity, and social justice" expressed widely held aspirations for basic economic rights, along with greater prosperity and equity.

Almost seven years later, notable progress has been achieved in terms of public finance reforms. However, these reforms still have a long way to go to reduce disparities in the distribution of wealth within most countries of the region or narrow the development gaps between them. Protracted regional conflicts, low oil prices, weak productivity, and poor governance have inflicted a heavy toll. Growth has not been strong enough to reduce unemployment significantly; a staggering 25 percent of young people are jobless.

As a result, countries in the Middle East and North Africa now face a stark choice between short-term retrenchment and resolute pursuit of the long-term reforms needed to secure their future economic prosperity. Forsaking important economic adjustments needed to strengthen inclusive growth and modernize the state and private sectors would set the region back, possibly for decades. A healthy global economy provides a welcome opportunity to accelerate the pace of reform.

While countries in the region have maintained macroeconomic stability, growth has been far too slow to keep pace with an expanding population, with the result that unemployment is rising. Economic growth has averaged just 3.6 percent a year since 2011, a pace one-third below that of the previous decade (see Chart 1). The overall unemployment rate of 10 percent does not appear alarming, but it ranges from less than 1 percent in Qatar to more than 18 percent in Jordan, and women and youth are disproportionately affected.

PHOTO: ISTOCK / VALTRON84

Maintaining the status quo will only make things worse. The IMF estimates that if growth continues at its post-2011 pace, average unemployment could rise above 14 percent by 2030.

Furthermore, conflicts in Afghanistan, Iraq, Libya, Syria, and Yemen have taken a tragic toll: half a million people are estimated to have died in these conflicts since 2011. In Syria alone, 12 million people have been displaced. The economic impact has been devastating: homes, hospitals, roads, and schools have been damaged or destroyed, with an estimated cost four times the countries' preconflict GDP. The exodus of refugees from conflict areas is adding considerable pressure to budgets, infrastructure, and labor and housing markets in host countries, such as Lebanon and Jordan. The conflicts have also disrupted trade, tourism, and investment.

Oil-exporting countries, meanwhile, are grappling with a steep decline in energy prices that has led to large fiscal deficits and a decline in growth. On average, deficits increased to more than 10 percent of GDP in 2016, and public debt has doubled to more than 30 percent of GDP since 2014. Still, these figures mask significant deficit-reduction efforts. The non-oil primary balance—which excludes the impact of oil prices and can be seen as the fiscal effort undertaken by governments—has improved by more than 12 percentage points of GDP since 2014.

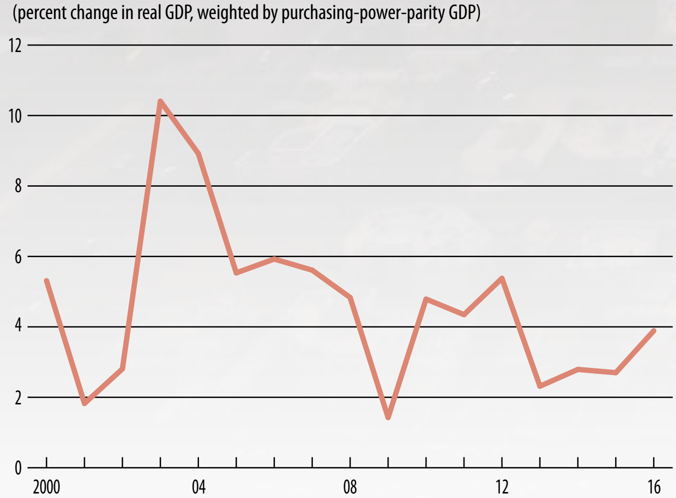
Budget deficits also remain elevated in oil-importing countries, even though these countries are benefiting from lower oil prices (see Chart 2). Deficits exceed 6 percent of GDP on average, and debt levels surpass 90 percent of GDP in Egypt, Jordan, and Lebanon. Although these countries have managed to reduce deficits enough to maintain economic stability, they need to make additional resources available to address social and development issues. Growth is projected to increase to more than 4 percent this year as a result of stronger private consumption and exports.

Chart 1

Slowing growth

The annual pace of growth since 2011 is one-third below the average for the previous decade.

(percent change in real GDP, weighted by purchasing-power-parity GDP)



Sources: National authorities; and IMF staff calculations.
Note: Data are for the Middle East, North Africa, Afghanistan, and Pakistan.

Development plans

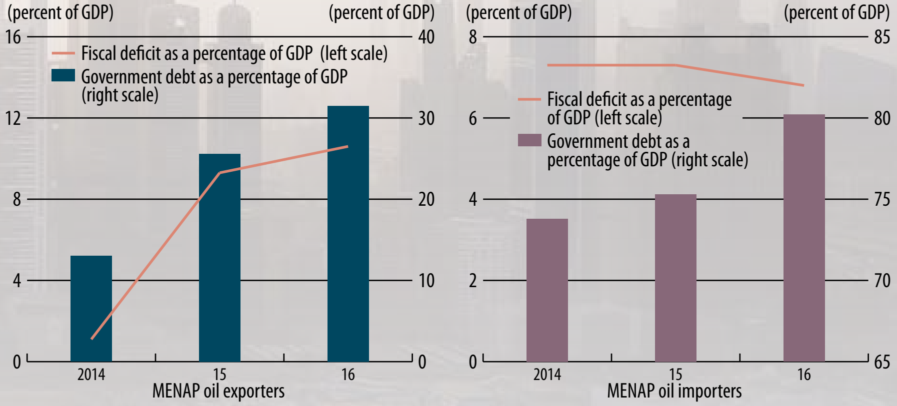
Policymakers in the region recognize the need to generate more employment and stronger growth and have added these goals, along with better inclusion, to their national development plans. If well executed, these plans could go a long way toward meeting those goals. Recognition of the need to grant equal rights to women and better integrate them into the labor force will be particularly important. Recent moves—including Saudi Arabia's decision to allow women to drive—are steps in the right direction, but more is needed. Education and labor market policies will also be key, given that about 60 percent of the population is under the age of 30. With proper opportunities and education, the region's young people could fuel unprecedented economic growth and generate a demographic dividend like the one that propelled the Asian Tigers a few decades ago.

Governments are making efforts to stimulate trade and investment. Many countries—from Jordan to Saudi Arabia—have reduced trade barriers. Morocco and Tunisia have joined the G20 Compact with Africa aimed at promoting private investment, which should help improve infrastructure. Jordan, Morocco, and Tunisia have made

Chart 2

Mounting debt

Government debt is on the rise in both oil-exporting and -importing countries.



Source: IMF staff estimates.
Note: Data are for the Middle East, North Africa, Afghanistan, and Pakistan (MENAP).

efforts to diversify their manufacturing bases, supporting exports and jobs. Morocco, for instance, has attracted automakers, including PSA Peugeot Citroën and the Renault Group, by providing good infrastructure, power supply, and skilled labor. As a result, its automotive sector aims to create 90,000 jobs by 2020. How much more growth could more trade bring? The IMF estimates that if the region matched its best one-year improvement in openness so far, the average annual pace of economic growth would rise 1 percentage point over the next five years, compared with a baseline forecast of 3.3 percent.

Job creation

Governments are also putting job creation at the forefront of their policy agendas. These plans aim to develop the private sector by providing better job opportunities for youth and women and increasing access to finance. They also seek to provide better public services, improve transparency and accountability, and contribute higher and more efficient social and investment spending. Many of these themes were already at the forefront of the debate in 2014 when regional leaders gathered in Amman to define policies to boost jobs, growth, and fairness in the Arab world. They remain at the center of debate today as people demand faster and deeper change.

> Governments are making efforts to stimulate trade and investment.

Fortunately, stronger global growth and innovations in technology help create a favorable environment for reforms. It will take time to generate results, so policymakers should act sooner, rather than later, and seize the opportunity to strengthen economic stability and promote growth for the benefit of society as a whole.

Governments need to develop and execute agendas for inclusive growth: medium-term action plans that offer practical solutions to pressing priorities and help restore the confidence of investors and citizens. Five levers will be critical: sound fiscal policy, financial inclusion, reform of the labor market and the educational system, improved governance, and a stronger business environment. This approach will also enable governments to rethink their growth models and implement more equitable social contracts over time, while preserving macroeconomic stability. The first step is a vision that inspires citizens; specific goals and a strategy for achieving them should follow.

Fiscal reforms remain the main policy lever to promote inclusive growth. Countries with larger fiscal buffers and lower debt can gradually reduce deficits to avoid unnecessarily curbing growth; those with large deficits and high debt, such as Jordan, Lebanon, and Mauritania, need to step up their deficit-reduction efforts.

Fiscal reforms

One way to reduce deficits is to raise more revenue by broadening the tax base. The region's average tax-to-GDP ratio of less than 10 percent is low relative to the average of 18 percent in emerging markets. Reducing exemptions, combating tax evasion, and a more progressive personal income tax will also help, as will slimming down excessive public sector wage bills. These make up almost 10 percent of GDP in the six countries of the Gulf Cooperation Council, compared with an average of 6 percent in emerging and developing economies as a whole. Reducing the discrepancy between public and private sector wages will help absorb the 27 million young people projected to enter the workforce in the next five years. Currently, many qualified young people choose to remain idle for long periods as they wait for highly paid public sector jobs to become available.

Some countries have already shown that savings from such measures can be used to increase investment and spending on much-needed social services. Eleven countries have replaced fuel subsidies that apply to the whole population with cash transfers targeted at the poor. Among such countries is Egypt, which has raised targeted cash transfers tenfold, to 1.7 million households, over two years. But progress is uneven, and more social spending is needed to improve growth and living standards significantly over the medium term. Accelerating the sale of state-owned companies will help—as will selecting and managing projects with a view to robust economic returns to improve the quality of public investment.

Increasing access to finance will go a long way toward fostering private sector activity. About two-thirds of the population lacks a bank account, and bank loans to small and medium-sized firms, at 2 percent of GDP, are among the lowest in the world. Better bookkeeping by companies would help improve access to finance because banks could more easily assess credit risk. Capital markets also need to be developed further to make it easier for companies to obtain equity and debt financing.

Leveraging technology

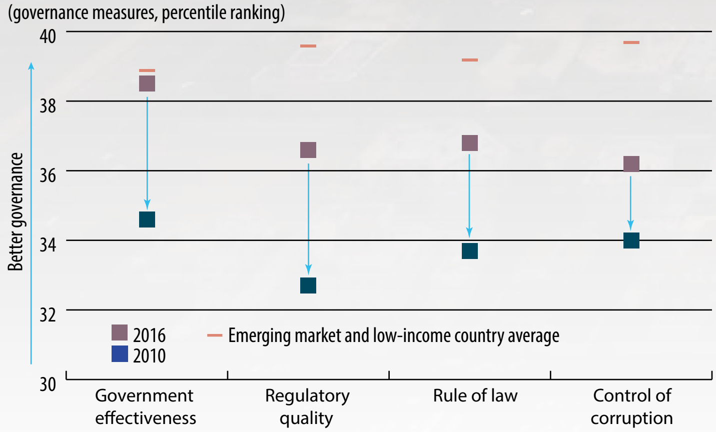
With 60 percent of the region's population using mobile phones, financial technology presents an opportunity to give more consumers access to financial services. Yet most countries in the region have not enacted reforms to allow nonbanks to enter this space. Regulators should develop frameworks that promote innovation while protecting consumers and data privacy and preventing money laundering and terrorism financing.

Chart 3

Bureaucratic woes

Rankings of governments' ability to function effectively and control corruption have declined.

(governance measures, percentile ranking)



Sources: World Bank; and IMF staff calculations.
Note: Data are for the Middle East, North Africa, Afghanistan, and Pakistan.

Progress will be limited if women, who represent half the population, do not have opportunities to succeed.

More broadly, technology can boost productivity and growth; green technology in particular, including solar energy, offers considerable promise. But while technology can make workers more efficient and create jobs in new sectors, it may also render some jobs obsolete. Income and employment gaps could continue to grow if these workers are not effectively reintegrated into the economy.

That's why improved education and training are critical. Except in a few countries, such as Bahrain, Egypt, and Saudi Arabia, the pool of working-age adults with postsecondary education is far smaller than the global average of 17 percent. Education should focus more on skills demanded by employers in industries such as electronics, automobiles, aeronautics, and financial technology.

Education will also be the key to promoting gender equality. Women participate in the labor force at just one-third the rate of men. Policies that encourage women to work, such as flexible hours and child care services, help bring more women into the formal job market and boost productivity and growth. But those are just a start. It's hard to imagine a bright economic future for the region without profound changes in rigid conceptions of social and gender roles. Equal access to finance, training, and technology should be the foundation for empowering women and enabling them to compete on an equal basis with men.

Building trust

Along with lack of jobs, corruption and inefficiency were among the sources of popular discontent that fueled the uprising. Improving governance would not only help address social grievances, it would also boost business confidence and investment. Most countries in the region still rank in the bottom half of global indexes that measure governments' ability to function effectively and control corruption, and the rankings have deteriorated in recent years (see Chart 3). Governments should provide the resources and legal authority to improve transparency and financial management while also fighting corruption.

The devastation of war poses the gravest test of all. Refugees need food, housing, education, and help finding jobs; host countries can't afford to bear these burdens alone. When conflicts end, the next task will be to mobilize the resources needed to rebuild infrastructure and institutions and bring displaced people back into the labor force. Postconflict countries tend to experience volatile patterns of financing. Strong coordination at the international level will be needed to ensure adequate support. Official financing should come in the form of grants, or on highly concessional terms, and needs to be complemented by significant private sector flows, including donations and remittances.

There is little doubt that the region is at a crossroads in its modern history, with potentially significant consequences for global prosperity. There has never been a more critical time for policymakers to focus on empowering a sizable pool of untapped talent. Progress will be limited if women, who represent half the population, do not have opportunities to succeed. Transition will therefore not be sustainable without accelerating the pace of reforms, with economic inclusion as a primary goal. The global recovery provides a unique opportunity, and when peace returns to the region, the impact of reforms undertaken today will be magnified many times over. Action therefore is needed now to raise growth and living standards in a sustainable fashion and meet the aspirations of the people in the region. Inaction would be disastrous and would mean continued economic stagnation, rising unemployment, social tensions, and protracted conflict. Now is the moment to move from goals to action. FD

JIHAD AZOUR is director of the IMF's Middle East and Central Asia Department.

Nascent Hopes

The Arab uprisings may have set in motion a long-term transformation in the region

Marwan Muasher

PHOTO: COURTESY OF THE CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE

THE ANTIGOVERNMENT UPRISINGS that began in Tunisia in late 2010 and quickly spread across most of the Arab world clearly did not lead to rapid establishment of democratic countries as many had hoped. Nearly all nations have returned to the bad governance that prevailed nearly seven years ago and fed the regionwide revolt.

In Libya, Syria, and Yemen, street protests were not effective tools for state building—and the countries are still struggling with civil strife and war. In Egypt, counterrevolutionary forces have prevailed in a temporary and often deceptive state of stability that has failed to address the difficult socioeconomic conditions of regular Egyptians. Gulf states resisted the wave of change initially through financial means—although their resources are now dwindling—without offering any meaningful voice for citizens eager to participate in their countries' decision-making process.

In Jordan and Morocco, governments have quieted their citizens through a combination of ad hoc reforms not intended to affect the power structure and stoking public fear that protests might lead to the fate of neighboring countries—Egypt and Libya for Moroccans, and Egypt and Syria for Jordanians. They have reverted to business as usual without fundamentally addressing the pressing challenges facing their countries.

Only in Tunisia did the protests trigger a new phase of state building by moving through a consensual, society-led process of agreement on a new social contract.

A transformation long overdue

But if the so-called Arab Spring failed to quickly change the status quo, it may have set in motion, as in Tunisia, a transformational process that was long overdue. It will undoubtedly take decades to unfold, but if it is managed properly, the process can lead to more open and meritocratic societies across the region.

This is because demands for better governance have not waned. Even as the old regimes continue to hold sway, the social contracts that governed most of the Arab world for generations are fracturing. These contracts—most often imposed by governing authorities rather than a result of consensual agreement among societal groups—were based on the two main pillars of the so-called rentier system. The first pillar stipulated that governments are responsible mainly for providing adequate health and education services, jobs, and subsidies for basic commodities—largesse made possible by oil revenues. In return citizens accepted the second pillar—no meaningful voice in running their affairs.

These social contracts worked in one form or another so long as the first part of this bargain was adequately respected. But once governments became bloated and could no longer provide adequate services and privileges—but still insisted on less than meaningful representation for their citizens—the contracts collapsed. Some governments tried to address the economic problems alone—by pushing through needed economic reforms while continuing to suppress political reform and thwarting development of a system of checks and balances.

Unsurprisingly, corruption, which was unchecked, skyrocketed. The situation became too much for many people to bear, and they took to the streets.

Oil prices, which are expected to continue to fall for the foreseeable future, will accelerate the death of the rentier system, which has prolonged inefficient economies over decades. Oil-producing countries can no longer act as welfare states for their citizens, while oil-importing countries can no longer depend on resources coming from grants awarded by oil-producing states—or remittances from their citizens working in these countries—to finance patronage systems. Both the oil producers and the oil importers ignore a transition to merit-based systems and accountable governments at their own peril.

Such a transition to get the Arab world out of its quagmire sounds self-evident, but, of course, is easier to talk about than to achieve. Decades-old rentier systems have created political layers of vested interests that have little desire to adopt merit-based, accountable systems that might rob them of their positions and privileges. Rentier systems also spawned inefficient bureaucracies that are either unwilling or unable to graduate to more productive economic systems. Also problematic is how to empower whole sectors of society—long dependent on the state for jobs, services, and subsidies—to be able to provide for themselves and compete for jobs in the private sector. A sustained political will is needed for a gradual political and economic transition to stable and prosperous societies—and such a will seems to be overwhelmingly lacking in the region today.

The model of Tunisia

Yet Tunisia has shown that change is not impossible. But Tunisia's unique circumstances—a large middle class, an independent trade union, a history of victories for women's rights, and a moderate Islamic opposition—probably mean there is little chance that such an experiment will be replicated in another Arab country anytime soon. Tunisia has taken steps that could serve as a guide for an Arab society looking to establish a new discourse that leads to stability and security. Tunisians have shown that the first order of business is agreement on a new social contract that defines and guarantees the rights of all components of society—secular and religious. Tunisia reached agreement through painful negotiations and compromises among these different groups rather than through an unsustainable outcome imposed by governments, the majority, or an outside power—such as the United States in Iraq.

The new Tunisian constitution upholds the rights of all components of society, ensures that no group can impose its lifestyle on other groups, and firmly adopts the principle of transfer of power by peaceful means. In a move made possible by decades of women's struggle for equal rights in Tunisia, the new constitution awards them equality before the law far more than any other Arab constitution, and paves the way for equal citizenship, crucial for any society's efforts to develop in a healthy manner. Equally important, Tunisia has demonstrated that Islam and democracy are not contradictory and that secular and religious elements can agree that, in political matters, the guiding framework is a humanly not divinely inspired document.

A sustained political will is needed for a gradual political and economic transition to stable and prosperous societies.

Tunisia is certainly far from achieving stability or prosperity. It has serious political, economic, and security issues. But the country is addressing them within a solid framework—that is, the new constitution that guides its steps. This is the significance of the Tunisian model, and this is why it must be supported by the international community—in financial and technical ways. The success of the Tunisian model can serve as a guiding light for the rest of the region should it attempt to change its current discourse. Failure will also reverberate far beyond its borders.

The transition from a rentier model to one based on merit and productivity must be gradual. The engines of growth must slowly shift to the private sector, which should be the main job provider, while governments deliver education and health services and regulate economic activity. All citizens must be given the tools to allow them to compete, including a more updated, inclusive, and open education system.

The notion that economic reform can succeed without a process that simultaneously builds

Tunisians wave flags during a rally on Habib Bourguiba Avenue in Tunis to mark the sixth anniversary of the 2011 revolution.

political institutions and creates a system of checks and balances must be discarded. The decades-long economics-only approach has failed miserably in the Arab world. The new social contracts must achieve the right balance between economic and political concerns to soften the blow of necessary and painful economic reforms. Giving a meaningful voice to citizens and including them in the decision-making process are essential.

End of the oil era

This painful process is practically mandatory given the end of the oil era in the Arab world. And this is where the role of international financial institutions—such as the World Bank and the IMF—gets tricky. These institutions' traditional mandates almost forbid them to tackle political issues, yet a focus on gradual and slow economic reforms alone has yielded few positive results. To remain relevant in this transformational era in the Arab world, international financial institutions must find new ways to help countries succeed in their development efforts. The IMF and the World Bank, for example, in recent years have begun to work with civil society, focus on ways to fight corruption, and foster improved education and health systems. They will have to double down on those types of efforts when engaging in economic reform programs with Arab nations.

The Arab uprisings have shown that the region lacks a modern concept of citizenship. The old paradigm that regarded citizens as subjects unfit to have a meaningful say in running their own affairs must change.

The concept of equal citizenship for all, regardless of gender, political orientation, religion, or

PHOTO: GETTY IMAGES / AFP / FETHI BELAID

ethnic origin must be enshrined in any new social contracts. Only by empowering all citizens with the belief that they are equal before the law can a society endow them with their full potential. Many Arab countries have promoted narrow forms of nationalism that emphasize the prominence of certain groups. They must focus instead on building strong national identities that trump all other allegiances. The Arab world's cultural, ethnic, and religious diversity should be regarded as a strength rather than a weakness if societies are to evolve in a healthy manner.

Religious or secular

The uprisings have reenergized the debate in the Arab world about whether new governing frameworks should be religious or secular. The emergence of radical groups such as the Islamic State (or ISIS) and other nonstate actors has caused more moderate Islamic groups such as the Muslim Brotherhood to declare their strong preference for a "civil" state, to avoid the use of the term "secular." Most people in the region associate the latter term with atheism and the complete separation of religion from politics. While both secular and religious forces declare

The Arab world's cultural, ethnic, and religious diversity should be regarded as a strength rather than a weakness.

their support for a civil state, the devil lies in the details. Except in Tunisia, the debate is still very focused on a winner-take-all approach rather than on a battle for a pluralism that assures all groups the right to operate peacefully and prevents one group from imposing its lifestyle on others.

If the region is to have any hope of achieving pluralistic societies, no issue demands more immediate and sustained effort than education reform. Such reform must reach beyond quantitative measures, such as classroom computers and building schools, to examine the values and skills being taught and the methods used to teach them. New paradigms need to be introduced to teach and encourage critical thinking, to allow questioning of what is being taught, and to encourage students to think logically and inquisitively. Schools must teach the value of diversity and drive home the lesson that truth is not absolute, that tolerance of different views is crucial, and that appreciation for different opinions is the key to innovation and renewal. Needless to say, these values are prerequisites to pluralism, equal citizenship, and civil states.

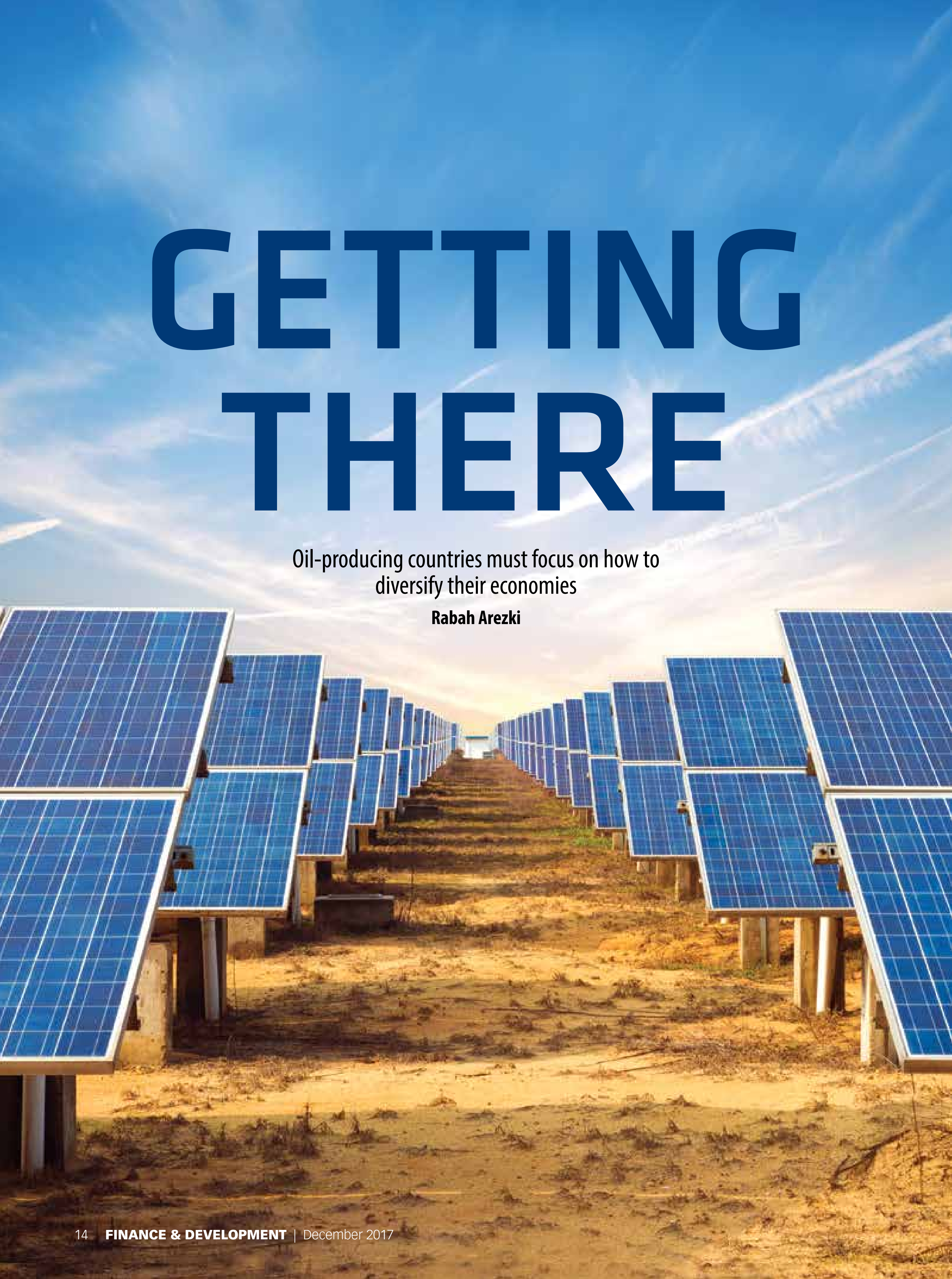
The uprisings have taken an iron lid off Arab societies, a lid that kept them artificially stable while hiding the real challenges facing the region. The only successful path to natural stability and prosperity is through a long and painful process of institution building, power sharing, and more inclusive growth. FD

MARWAN MUASHER is vice president for studies at the Carnegie Endowment for International Peace.

GETTING THERE

Oil-producing countries must focus on how to diversify their economies

Rabah Arezki



Many oil- and gas-rich countries—including those in the Middle East and North Africa, such as Algeria and Saudi Arabia—have either announced or put in place policies to reduce their dependence on oil by diversifying their economies. The collapse in oil prices—which started in 2014 (see chart) and is expected to be protracted—has put diversification at the forefront of the policy debate.

Although many fossil fuel exporters understand the need to diversify, few have successfully done so. Historically, diversification away from oil extraction has been difficult for such oil-rich nations—in large part because the top-down approach of the state has not given managers and other economic agents the confidence or incentive to embrace new ideas, innovate, and take risks. For example, the incentive structures of state-owned oil companies in many countries around the world, including in the Middle East and North Africa, have not consistently encouraged managers and employees to achieve their full potential and adapt to new technology rapidly affecting their industry. Many state-owned companies embark on missions outside their core activities and competencies, innovate little, and struggle to keep talented employees. What's worse, several state-owned oil companies around the world have a heavy burden of debt, even though they sit on large oil reserves that are relatively cheap to extract.

Shift in focus

But if countries were to shift their focus from the end goal, diversification, to how to get there—that is, to the transformation process—they might find it easier to diversify. The effort involves steps to shift away from the dominant oil and gas sector. A focus on transformation involves an approach to that dominant sector that can spill over to, and even help foster, sectors outside hydrocarbons. That is, by embracing transformation, countries will focus on getting incentives right for managers and other economic agents and turn into friends the technology and innovation energy markets now see as disruptive enemies. Countries that take this approach are less likely to stumble or resist change.

Technological changes in energy markets can help the sustainability of economies that depend on oil revenues. More agile economic systems with appropriate corporate governance structures—that empower managers and employees—can more easily take advantage of new technology to mitigate risks associated with potential disruptions in energy markets and even create opportunities. For example, publicly listed companies have tended to fare better than state-owned (or even privately owned) companies. Because these companies are accountable to shareholders, they are more likely to adapt to new circumstances and stay ahead.

At the country level, the lack of government accountability combined with state ownership of the oil sector has exposed countries to considerable risk. The sector is largely resistant to changes in energy-producing and energy-using technologies that can dramatically affect energy markets.

> *Many state-owned companies embark on missions outside their core activities and competencies.*

One example, on the energy producing side, is the advent of the combination of hydraulic fracturing—often called fracking—and horizontal drilling. This technique made production of oil from shale much simpler, which changed the dynamic of the oil market. Shale oil, whose output can be shut on and off much more quickly and cheaply than that of standard drilling, will eventually lead to shorter and more limited oil-price cycles as output gears up when prices rise and slows when they fall. The rapid increase in the production of shale oil—to 5 million barrels a day in a global market of 94 million barrels a day—has also arguably contributed to the oil supply glut that led to the collapse in oil prices.

Another example involves changes in energy-using technology. As use of hybrid and electric cars grows, the transportation sector will rely increasingly on the electricity sector and vice versa, and the role of oil products will diminish. That's bad news for oil, whose main use has been for transportation—through products such as gasoline, diesel, and jet fuel. Technological change will also spur competition for oil from other sources of energy—such as natural gas and eventually from

PHOTO: ISTOCK / GYN9038

renewables, such as solar and wind. Technological change is, of course, related to the level of energy prices or more generally to the need to innovate—for example, when the security of the energy supply is at stake as it was during the oil crisis of the 1970s.

The so-called peak-oil hypothesis, developed in the mid-1950s, posited that global oil production, limited by geological reality and the ability to extract oil, would top out around 2020. For years, the hypothesis seemed on target. But as production was supposed to be nearing its peak, the shale revolution started to take off. In many respects, this revolution, and the surge in supply it triggered, can be viewed as a response of oil supply to high prices in the 2000s, driven by China's economic expansion and ensuing greater market for oil. It was a direct challenge to the overly pessimistic peak-oil view that geological factors would limit supply.

It is unclear, however, to what extent the lower prices ushered in by the shale revolution will delay the transition away from oil use in the transportation sector. There is, in fact, evidence that firms in the auto industry tend to innovate more so-called clean technologies when they face higher fuel prices.

Stranded assets

Understanding the role of technological change in energy markets is important because such change does much to determine the fate of oil and of the countries and companies that depend on it.

The transition toward lower-carbon or carbon-free energy (such as renewables) is a major goal of the effort to contain global warming and can hurt oil-rich countries. Reduced demand for carbon-rich fuels such as oil will make it uneconomical for these countries to tap their reserves—turning those reserves into so-called stranded assets.

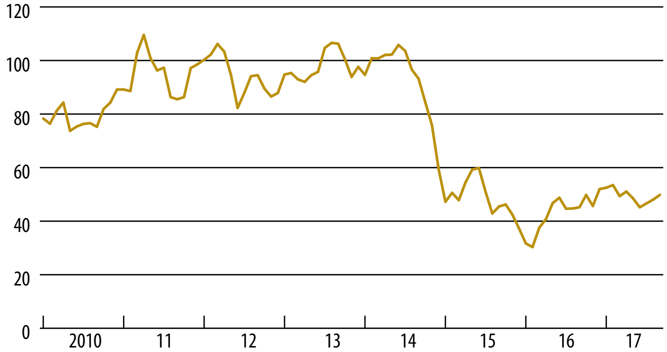
The historic 2015 Paris Accord to limit the rise in global temperature to less than 2 degrees Celsius accentuates the transition away from fossil fuels fostered by changes in energy-producing and energy-using technologies (such as renewables and electric and hybrid cars). There is evidence that a third of oil, half of gas, and 80 percent of coal reserves will be kept in the ground forever if the goals of the accord are reached (see "Unburnable Wealth of Nations" in the March 2017 *F&D*). Among those severely affected would be the Middle Eastern oil-producing nations. About 260 billion barrels of oil in the Middle East cannot be burned if the world is to reach its warming goal. In addition to the oil, equipment and other capital used to explore and exploit those reserves could also become stranded.

And the amount of potentially stranded assets is growing. Recent giant discoveries of oil and gas (Egypt, Israel, Lebanon) are expanding the list of countries whose oil and gas assets may never make it out of the ground. With so many countries exposed to the risk of stranded assets, it is a priority for governments and businesses to diversify to help adapt to and mitigate this risk.

Sliding down

An oil price decline that began in 2014 is expected to result in a protracted period of low prices.

(oil price, dollars per barrel)



Source: US Energy Information Administration.
Note: The chart is based on the price of West Texas Intermediate crude oil, a common benchmark.

Reducing carbon

In any quest to diversify, the move toward reducing the carbon component in energy will be beneficial because it gives countries great opportunities to harness the potential for relatively untapped renewable resources. The Middle East and North Africa region is not only endowed with vast oil reserves, it also has large and largely untapped renewable resources. Indeed, every six hours the sun delivers to the world's deserts more energy than the planet consumes in a year, according to DESERTEC—an initiative whose vision of a global renewable energy plan involves harnessing sustainable power from areas with abundant renewable sources of energy. Studies by the German Aerospace Center demonstrated that the desert sun could easily supply enough power to meet rising demand in the Middle East and North Africa while also helping to power Europe.

Solar power and other renewable energy assets give countries in the Middle East and North Africa the opportunity to offset the risk of stranded oil and gas assets. Solar radiation is indeed highest in that region—along with parts of Asia and the United States—according to the US National Aeronautics and Space Administration.

These non-oil and gas resources can help address the rapidly growing electricity demand of an expanding population in the Middle East and North Africa. But to harness the power of renewables the region needs improved and expanded infrastructure, a better-educated population, a strong state, and appropriate incentives to motivate economic managers and entrepreneurs to adopt existing frontier technology. Several countries have already embarked on ambitious projects to increase their renewables sector. The United Arab Emirates, for example, wants 24 percent of its primary energy consumption to come from renewable sources by 2021. Morocco has unveiled the first phase of a massive solar power plant in the Sahara Desert that is expected to have a combined capacity of two gigawatts by 2020, making it the single largest solar power production facility in the world.

An urgent need

The decline in oil and gas prices may make transformation imperative. The adage that "necessity is the mother of invention" seems to have a particular resonance for oil-rich countries in the Middle East and North Africa, which have been shaken by the decline in oil prices and recognize that they must develop economies resilient to the changes in energy markets. Dubai, for example, facing the depletion of its oil reserves, transformed itself into a global trade hub. Countries and businesses reliant on these markets, and the revenue they generate, must formulate policies to address risks and embrace opportunities presented by transformation.

Institutional factors, such as corporate governance, legal systems, contestable markets—those in which there are no barriers to entry and exit—and patronage spending in state-owned companies affect the attitude toward innovation and openness to new ideas and, therefore, the process of transformation in oil-rich countries. For example, large public sector employment financed by oil revenue has stifled the impetus for innovation. Economic policies that are not geared toward changing attitudes are unlikely to deliver the needed transformation agenda for oil-rich countries

Large public sector employment financed by oil revenue has stifled the impetus for innovation.

Saudi Arabia—the region's, and perhaps the world's, most important oil producer—seems aware of the need to augment the longtime source of its riches with non-oil income. As part of its ambitious plan to transform its economy, the country announced a public offering of 5 percent of the state-owned oil company, ARAMCO. That appears to be a step toward emulating publicly owned Western companies, such as Exxon—which once concentrated on oil, but broadened their focus to become energy companies, balancing their oil assets with other forms of energy.

The focus on the end goal of diversification has too long kept countries in the Middle East and North Africa from getting the process right. Transformative policies should move away from top-down approaches that pick which sectors to develop. Instead, they must develop an environment that promotes market contestability and changes the incentives of managers and tech-savvy young entrepreneurs and helps them, their firms, and ultimately the whole economy reach their potential. FD

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THE COST OF Conflict

Middle East strife is exacting a heavy toll on regional economies

Phil de Imus, Gaëlle Pierre, and Björn Rother

PHOTO: ISTOCK / JCARILLET

Atmeh, Syria—January 14, 2013: Two Syrian girls wash clothes outside their tent in the displaced persons camp in Atmeh, Syria.

Nowhere in the world has conflict been as frequent or as violent over the past 50 years as in the Middle East and North Africa. On average, countries in this region have experienced some form of warfare every three years. Today, rarely a day passes without media reports of violence, large-scale human suffering, and major destruction in such countries as Iraq, Syria, and Yemen.

These conflicts have enormous human and economic costs, both for countries directly involved and for their neighbors. Libya, Syria, and Yemen experienced deep declines in their economies with sharp increases in inflation between 2010 and 2016. Iraq's economy remains fragile owing to the conflict with the Islamic State (ISIS) and the fall in oil prices since 2014. Clashes have also spilled over to other countries, causing problems that are expected to persist—such as economic pressures from hosting refugees. Violent conflict has worsened conditions for a region already facing structural deficiencies, low investment, and, more recently, the oil price drop, which has had a substantial impact on oil-producing economies.

Countries are often still fragile even when the worst of the violence ends.

Key channels

There are four major channels through which conflict affects economies.

First, *death, injury, and displacement seriously erode human capital.* While the figures are difficult to verify, half a million civilians and combatants are estimated to have died from the conflicts in the region since 2011. Moreover, as of the end of 2016, the region accounted for almost half of the world's population of forcibly displaced people: 10 million refugees and 20 million internally displaced people from the region have had to abandon their homes. Syria alone has nearly 12 million displaced people, the largest number of any country in the region.

Conflict also reduces human capital by spreading poverty. Poverty in conflict countries, even outside regions directly affected by violence, tends to rise as employment declines. The quality of education and health services also deteriorates, a problem that deepens the longer a conflict continues. Syria provides a dramatic example. Unemployment jumped from 8.4 percent in 2010 to more than 50 percent in 2013, school dropout rates reached 52 percent, and estimated life expectancy fell from 76 years before the conflict to 56 years in 2014. Since then, the situation has deteriorated even more.

Second, *physical capital and infrastructure are damaged or destroyed.* Houses, buildings, roads, bridges, schools, and hospitals—as well as the water, power, and sanitation infrastructure—have been hit hard. In some areas, entire urban systems were virtually wiped out. In addition, infrastructure related to key economic sectors such as oil, agriculture, and manufacturing has been seriously degraded, with significant repercussions for growth, fiscal and export revenues, and foreign reserves. In Syria, more than a quarter of the housing stock has been destroyed or damaged since the war's onset, while in Yemen, infrastructure damage has exacerbated drought conditions and contributed to severe food insecurity and disease. The country's agricultural sector, which employed more than half the population, was hit hard, experiencing a 37 percent drop in cereal production in 2016 from the previous five-year average (UNOCHA 2017).

Third, *economic organization and institutions are hurt.* The deterioration in economic governance has been particularly acute where institutional quality was already poor before the outbreak of violence, as was the case in Iraq, Libya, Syria, and Yemen. This damage has led to reduced connectivity, higher transportation costs, and disruptions in supply chains and networks. Institutions can also become corrupt as the warring parties try to exert control over political and economic activity. Fiscal spending and credit, for example, might be redirected to the constituencies of those in power. More broadly, many critical economic institutions—central banks, ministries of finance, tax authorities, and commercial courts—have seen their effectiveness diminish because they have lost touch with the more remote parts of their countries. The World Bank estimates that disruptions to economic organization were about 20 times costlier than capital destruction in the first six years of the Syrian conflict (World Bank 2017).

Lastly, *the stability of the region and its longer-term development through its impact on confidence and social cohesion are threatened*. The conflicts in the Middle East and North Africa have heightened insecurity and reduced confidence, manifested by declining foreign and domestic investment, deteriorating financial sector performance, higher security spending, and shrinking tourism and trade. Social trust has also weakened, negatively affecting economic transactions and political decision making.

Direct and indirect effects

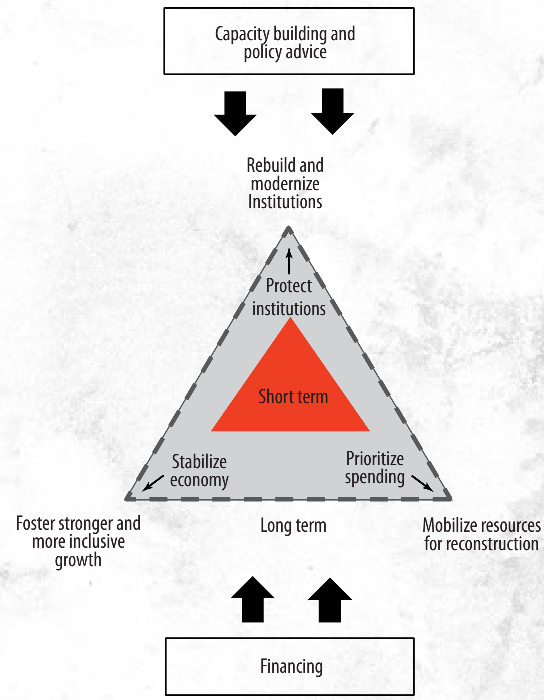
The macroeconomic damage can be staggering. Syria's 2016 GDP, for example, is estimated to be less than half its 2010 preconflict level (Gobat and Kostial 2016). Yemen lost an estimated 25 to 35 percent of its GDP in 2015 alone, while in Libya—where dependence on oil has made growth extremely volatile—GDP fell by 24 percent in 2014 as violence picked up. The West Bank and Gaza offers a longer-term perspective on what can happen to growth in a fragile situation: its economy has been virtually stagnant over the past 20 years in contrast with average growth of nearly 250 percent in other countries of the region during that period (World Bank 2015).

Furthermore, these conflicts have led to high inflation and exchange rate pressures. In Iraq, inflation peaked at more than 30 percent during the mid-2000s; in Libya and Yemen it rose above 15 percent in 2011, on the back of a collapse in the supply of critical goods and services combined with strong recourse to monetary financing of the budget. Syria is an even more extreme case, with consumer prices rising by about 600 percent between 2010 and late 2016. Such inflation dynamics are usually accompanied by strong depreciation pressure on local currencies, which the authorities may try to resist through heavy intervention and regulation of cross-border flows. These forces have clearly been at work in Syria: the Syrian pound, which floated freely in 2013, officially trades at about one-tenth its prewar value against the US dollar.

Neighboring countries that are hosting refugees also feel economic pressure. Most directly affected are such countries as Turkey, which has taken in over 3 million people, a number equivalent to about 4 percent of its 2016 population; Lebanon, which has absorbed approximately 1 million, or roughly 17 percent of its population; and Jordan, which has seen an influx of 690,000 people, or 7 percent of its population (UNHCR 2017).

Minimizing impact

Countries should take steps to stabilize the economy while a conflict is in progress, followed by measures to rebuild and foster inclusive growth once violence subsides.



For these receiving countries, which invariably had economic challenges already, the refugee flows create additional pressure on budgets and the supply of food, infrastructure, housing, and health care. Countries bordering a high-intensity conflict zone in the Middle East and North Africa recorded a decline in average annual GDP growth of 1.9 percentage points, resulting in a growwth rate too slow to provide enough jobs for the expanding population. For example, in Jordan, average annual real growth slowed to 2.6 percent between 2011 and 2016 from 5.8 percent between 2007 and 2010.

The effects of a heavy refugee influx can ripple throughout the economy. Evidence from Lebanon suggests that sizable informal employment among refugees, combined with depressed economic activity, has caused a drop in both wage levels and the labor force participation of locals, particularly women and young people. In Jordan's Mafraq Governorate (an area in the northeast of the country that borders Syria), the rising demand for housing pushed up rents by 68 percent between 2012 and 2014—compared with 6 percent in Amman.

Managing multiple objectives

Macroeconomic policies and institutions have a significant role to play in lowering the impact of conflict, even when it is ongoing, both to alleviate the immediate harm and to improve the country's long-term economic prospects (see Chart). While conflict is in progress, governments should focus on three priorities:

- ***Protecting economic and social institutions from becoming inoperative or corrupt:*** This can help reduce the spread of poverty as well as support vital services. Disruptions to central banks, for example, could interfere with payment systems, which are essential for public sector salaries and for managing foreign reserves that pay for needed imports. An encouraging example is the Palestinian Monetary Authority's business continuity planning, which was instrumental in maintaining a workable payment system and a robust macroprudential framework during periods of elevated stress, such as the 2014 tension in Gaza.
- ***Prioritizing public spending to protect human life, limiting the rise in fiscal deficits, and, to the extent possible, helping to preserve economic growth potential:*** These policies try to tackle directly the challenges of damage to human and physical capital. Maintaining some fiscal discipline can reduce the government's burden when the violence recedes. In Iraq, for example, the authorities are making plans with the World Bank and others to target public investment to geographical areas that have been retaken from ISIS following intense violence, with a view to achieving quick wins to improve public services, restore social cohesion, and lay the foundation for growth. In Afghanistan, the new government in 2002 and 2003 tried to maintain fiscal discipline and provide basic services to the population with the help of external assistance. It focused spending on security, education, health, and humanitarian assistance. The circumstances were extremely challenging given the loss of qualified staff at the Ministry of Finance following emigration during the years of war, the partial destruction of the ministry's regional offices, and the damage to telecommunications and transportation infrastructure.
- ***Stabilizing macroeconomic and financial developments through effective monetary and exchange rate policies:*** Appropriate policies can help contain inflation and exchange rate volatility, which exacerbate the hit to living standards. Lebanon offers a good example. Following the formation of a national unity government in 1989, the country's economy remained fragile for some years. In 1992, authorities adopted an exchange-rate-based nominal anchor policy that targeted a slight nominal appreciation of the Lebanese pound against the US dollar. This policy successfully stabilized expectations, and inflation fell to single digits.

Unfortunately, experience in the region shows that these policy priorities are difficult to implement at times of sociopolitical fragility, when policymakers can be caught between multiple—and often competing—objectives.

Once conflict subsides, the policy focus should shift toward rebuilding and economic recovery. This has proved difficult, however, as countries are often still fragile even when the worst of the violence ends. Often governments do not have full control of all the territories within their borders, and security remains elusive. At such a time, economic policies should aim to solidify the peace. Rebuilding and modernizing institutions, mobilizing resources for reconstruction, and fostering stronger and more inclusive growth should be the top priorities. But the cost of reconstruction—particularly if conflicts in a region overlap—is often massive. While the reconstruction cost for Libya, Syria, and Yemen has yet to be assessed, the World Bank estimates the damage thus far to be on the order of $300 billion.

There is an important role for external partners in assisting countries that recover from conflict. Such partners, including the international financial institutions, can catalyze financing to the countries and even contribute some themselves, complementing domestic efforts to mobilize revenue. Countries embroiled in conflict inevitably need a large amount of capacity building support once the war is over, as well as financing for humanitarian purposes and reconstruction. FD

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This article draws on the IMF Staff Discussion Note "The Economic Impact of Conflicts and the Refugee Crisis in the Middle and North Africa."

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TECHNOLOGY'S PROMISE

Governments in the Middle East are hoping digital entrepreneurs will spur economic growth—and create jobs for young people

Campbell MacDiarmid

At age 17, Tarek Nasr started his first company, making garments such as basketball jerseys. Seventeen years later, the Egyptian citizen has moved on to the digital world and is on the cusp of raising $500,000 in funding for his latest venture, Mintrics, a platform that generates social media video analytics.

"The goal—with luck and hard work—is to go to a $100 million company," he says, speaking into a deliberately retro telephone receiver during a video call from his Cairo office. "I think it's doable."

Nasr, a 34-year-old who prefers wearing shorts and sweatshirts to suits and ties, exemplifies the ambitions of tech entrepreneurs in the Middle East. A participant in the Arab Spring movement, which toppled governments across the region in 2011, he belongs to a generation of educated young people hoping that technology will offer an alternative to a job in government or the corporate sector—where opportunities are shrinking.

"Growth in large corporates in the private sector is limited," says Ayman Ismail, a business professor at The American University in Cairo and founder of the university's Venture Lab. "So what's left is small and medium enterprises driven by entrepreneurs."

Lack of jobs

For their part, Middle Eastern policymakers are hoping that technology might offer at least a partial solution to one of the region's biggest ills—a lack of jobs for young people. Half the Arab world's population of some 406 million is under 25, and the regional youth unemployment rate is 30 percent.

The jobs challenge holds true for richer oil-exporting nations as well as poorer countries like Egypt, Morocco, and Tunisia. Egypt, with widening fiscal deficits and mounting public debt, can't count on government spending to spur the economic growth it needs to boost employment. Instead, it aims to encourage private enterprise. Saudi Arabia,

PHOTO: ISTOCK / LAKOVKALININ; ART: ISTOCK / IL67 where 70 percent of the workforce is employed by the public sector, is seeking to diversify its economy and reduce its dependence on petroleum exports.

"We want to empower young talent to become entrepreneurs," says Nawaf Al Sahhaf, the chief executive of Badir, a Saudi government technology incubator. "The motivation behind this is to create jobs."

It won't be easy. Beyond the challenges facing tech start-ups everywhere, entrepreneurs in much of the Middle East face a unique set of hurdles, ranging from difficulty raising capital to cumbersome and antiquated business regulations. Most start-ups in the Middle East still register in overseas jurisdictions such as the US state of Delaware to protect investors from the region's rigid bureaucracies and legal systems.

Bankruptcy law

That is slowly starting to change. Egypt, which sees innovation as a pillar of its plan to boost long-term economic growth, has introduced a measure that would allow owners to restructure their companies during bankruptcy rather than face jail over unpaid debts.

But with at least five ministries involved in promoting entrepreneurship, people like Con O'Donnell, a Cairo-based angel investor, complain of poor coordination and duplication of effort. What's more, he sees tension between the goals of entrepreneurs and government. "For the government it's all about job creation rather than value creation," he says. "If you're a CEO, that's not your main consideration."

Some tech start-ups have developed into large employers. Careem, a ride-hailing company founded in Dubai in 2012, employs 250,000 drivers. But most are far smaller. Souq.com, also based in Dubai, is the region's leading online retail website and has about 3,000 employees. (Amazon employs more than 350,000.)

"Research supports the general observation that entrepreneurship can be a crucial generator of jobs," Bessma Momani, a nonresident fellow at the Brookings Doha Center, wrote in a 2017 report on entrepreneurship as a driver of job creation in the Arab world. But, she adds, "The region has yet to create the economic ecosystem necessary for entrepreneurship to thrive."

Where tech start-ups are more likely to make an impact is in wealth creation.

Souq's acquisition by Amazon in March 2017 for more than $650 million, a record for the region, was a landmark. "This is a validation that great and large tech companies can be created in the region," says Samih Toukan, one of Souq's cofounders.

Souq was among 60 start-ups in the region to be sold in the past five years for a total of more than $3 billion, according to MAGNiTT, an online platform that connects tech entrepreneurs in the region with investors. MAGNiTT counted more than 3,000 start-ups in the Middle East and North Africa, drawing record investments of more than $870 million in 2016 alone. By comparison, in Latin America, which has a larger population but a slightly lower Internet penetration rate, start-ups raised $500 million in venture capital in 2016, of which $342 million was invested in the information technology sector, according to the Latin American Private Equity and Venture Capital Association.

Lagging behind

Still, the Middle East lags well behind the developed economies. Digital technology contributes about 4 percent of GDP in the Middle East (excluding North Africa) compared with 8 percent in the United States, and the region accounts for just 1 percent of the revenue of the world's top 1,000 technology companies, compared with 36 percent in the United States, according to an October 2016 report by McKinsey & Company.

The United Arab Emirates (UAE) is among the region's digital leaders, accounting for 42 percent of its start-ups, according to MAGNiTT. Dubai, its largest city, attracts entrepreneurs from across the region. As Nasr, the Egyptian serial entrepreneur, explained: "The infrastructure is great, the Internet is brilliant, there are a lot of coworking spaces," or shared offices that provide a collaborative working environment.

The UAE also benefits from a coherent strategy toward innovation. One example is Dubai Future Accelerators, a nine-week program that pairs tech companies with government departments so that officials can help make regulatory changes needed to bring new technologies to market quickly. "The challenge here is that innovation can often face resistance, especially from government entities," says Khalfan Belhoul, the chief executive. But he says Dubai's ruler, Sheikh Mohammed bin Rashid Al Maktoum, "wants Dubai to become

Egypt's fast-growing population of 90 million, the largest in the Arab world, makes it a promising, if challenging, market.

the number one destination for any innovator in the world."

Across the region, governments are launching tech funds. Saudi Arabia's fund, the largest at $100 billion, was launched this year and has yet to make an impact on the country's nascent tech scene, says independent Middle East technology analyst Rachel Williamson. "It's rapidly building, but it's very new," she says. "There's a lot of talk, but not much there yet in terms of an ecosystem."

Promising market

Egypt's fast-growing population of 90 million, the largest in the Arab world, makes it a promising, if challenging, market. Slightly fewer than half of the country's people are online, according to government estimates. Entrepreneurs like Amir Barsoum believe that Egypt's many problems, from overburdened schools and hospitals to crumbling infrastructure, present business opportunities. With just the right idea—an app to help people access financial services, a more efficient method to hail a cab—they can leapfrog existing technologies to overcome such problems while also turning a profit.

In 2012, Barsoum founded Vezeeta, a digital health care platform that automates appointments and reduces wait times at hospitals and clinics. Today, the company has 200 employees and helps 1 million users make 60,000 monthly appointments. With $10.5 million in funding, Vezeeta has expanded from Egypt to Jordan and Lebanon and plans to launch in other Middle Eastern countries soon.

Finance is another area of opportunity. The region, where just 14 percent of adults have a bank account, has spawned more than 100 companies active in financial technology. One of them is Fawry, a platform that provides bill payment and other services online through mobile wallets and via 65,000 locations.

"Fintech is just starting to boom here in the region," says Ahmed Wadi, an Egyptian who recently launched an app called Moneyfellows, which allows strangers to borrow from and lend to each other. "We're helping people access interest-free credit powered by their social reputation and not their credit score," he says.

Nasr is taking advantage of Egypt's growing online advertising market. After completing a bachelor's degree in business administration from the University of New Brunswick in Canada, he returned to Egypt. With investment from friends and family, he launched a creative agency in Cairo called The Planet, which focuses on social media advertising. After that took off, he cofounded a tech accelerator called Juice Labs, which provides funding, mentorship, and assistance to other digital start-ups.

Budding culture

O'Donnell, the Cairo-based angel investor, sees a budding culture of entrepreneurship in the Arab world. One sign is the appearance of popular prime-time reality television programs like El Mashrou3, or "The Project." First aired in Egypt in 2014, it features tech entrepreneurs who pitch ideas to investors. For young people, entrepreneurship as a career is "just another path," O'Donnell says. "It's acceptable in wider society and in families."

An Irish citizen who arrived in the 1990s to study Arabic, O'Donnell stayed on to work for several media companies before founding Sarmady. This Arab language website—a first of its kind—provides news, sports, entertainment, and city guides. He sold the company to Vodafone for an undisclosed amount in 2008 and has since invested in 15 Egyptian start-ups ranging from Instabug, a tool for app developers, to online recruitment site Wuzzuf.

But for investors seeking fast profits in the Middle East, longtime players like O'Donnell have a word of caution: given the obstacles to doing business in the region, "unicamels" are a better bet than "unicorns."

"We're calling them 'unicamels' because they need to suck up a lot of water to be able to make it across the desert," O'Donnell explains. "Businesses here might get lucky on an early seed investment, but we often haven't seen much past that, so they have to be ready to go for the long haul." FD

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Bias and BARRIERS

Raising women's labor force participation in the Arab world could boost economic growth, but there are deeply rooted obstacles

Nazila Fathi

Since the 2011 uprisings in many Middle Eastern and North African countries, the role of women in the economy has expanded somewhat—at least on paper. But as the following vignettes suggest, it is still difficult for women to work and even more so to found and run a business in the region. And all too often to succeed in business they need the help of a supportive male relative.

Before launching *Middle East Business Magazine and News*, a publication in Arabic and English, Amal Daraghmeh Masri spent 13 years laying the foundation for it. She started the Ougarit Group, a public relations and media company, in 1999 to develop the necessary network and experience. When she got the magazine up and running in 2012, she felt she could overcome any bias against women entrepreneurs by devising a plan to ensure the financial success of the publication.

"There are two kinds of women," said Masri, who lives in the West Bank city of Ramallah. "Women and stubborn women. In this part of the world, you need to be a stubborn one to succeed."

But Masri learned quickly that even for stubborn women there was little incentive to start a business with the prospect of growth. Arab society considers men to be the main providers for their family and takes female aspirations so little into account that Masri's magazine did not qualify as a woman-owned business, according to the country's laws. She was unable to secure a loan for the business because the magazine was considered a service, she was told, not a good like the embroidery and handicraft products generated by other women-owned businesses. Masri had to have her husband cosign her loan application because he owned property that could serve as collateral. But then her husband's involvement disqualified her from the five-year tax exemption granted to women-owned businesses.

Today, Masri, 49, employs five people—including her 21-year-old daughter, a videographer—and has amassed a pool of paid subscribers and advertisers.

She said the key to building her business was her husband. "Without my husband, I might not have succeeded," she said. A mother of three children, she said that every working Arab woman needs a supportive male partner willing to share the burden.

The female labor force participation rate in the Middle East and North Africa is the lowest in the world at 21.2 percent, according to a 2017 report by the International Labour Organization, compared with approximately 40 percent in other parts of the world. Yet, with higher education levels among young women, women have become a force for change, demanding equal opportunity even in traditional countries such as Saudi Arabia.

Still, progress has been slow, and even in a country like Morocco, where feminist organizations have succeeded in pressuring the government to adopt more progressive laws that ban gender discrimination, breaking with the past has been difficult. Patriarchal attitudes are still prevalent in the home and in society, and many women are relegated to low-paying jobs if they are employed at all.

Noncultural factors can compound the problem. In Ramallah, for example, Israel has shut the borders and restricted the movement of people. Firms that traditionally employed women, such as in the textile sector, have gone bankrupt. In 2012, women accounted for only 17 percent of the workforce in the West Bank and Gaza.

ART: ISTOCK / THETOONPLANET; PHOTOS: ISTOCK / MICHAELJUNG; ANNA_OM; JUANMONINO; SRDJANPAV; SHAPECHARGE; TINPIXELS; MONKEYBUSINESSIMAGES; FILIPEFRAZAO

Masri said curfews and roadblocks have created financial problems for her, too. It is expensive to bring in needed equipment "and therefore bad for business, whether you are a male or female business owner," she said.

One of the slogans that echoed across Tunisia during the Arab Spring uprising that began in late December 2010 was "employment, freedom, and dignity." Unemployment in the Arab region was the highest in the world—27 percent in Tunisia. Women, the majority of students in most universities across the Arab world, were, like their male counterparts, largely unable to find work after they graduated.

Frustrated with the lack of economic opportunities, women were at the forefront of the protests in Tunisia and in other Arab states where the protests spread in 2011. Lina Ben-Mhenni, the daughter of a teacher and a civil servant, was one of them.

"When we talk about employment, I had and still have in mind employment for women and men, freedom and dignity for both sexes," she said.

A freelance translator, she blogged from ground zero of the revolution. After the fall of the government of President Zine El Abidine Ben Ali, Ben-Mhenni found work teaching linguistics at Tunis University but remained an outspoken blogger—outraged that despite progressive laws introduced in 1956, women remained marginalized.

"Tunisia is considered one of the most progressive countries in terms of women's rights. But when it comes to reality, things are different," she said. "Few women are in decision-making positions, wages are not equal, and employers prefer to recruit men because of issues like pregnancy for women."

Men harass women daily in public spaces across the Arab world with comments about their appearance or clothes. But with the rise of Islamic groups in Tunisia after the revolution, Ben-Mhenni and women with her aspirations faced a new form of harassment. A general climate of religious conservatism made men suspicious of newfangled liberties, such as women's more active role in public and their questioning of traditions. Insults and threats against Ben-Mhenni reached the point that she feared for her life.

"Extremists could not accept that a woman would defy their views and criticize them," she said.

Ben-Mhenni lost her job in 2015. Now 34, she lives with her parents, and her work as a freelance translator offers neither a stable income nor job security. Ben-Mhenni epitomizes the employment problems women face. Since the "revolution" and its promised unleashing of opportunity for women, the

If more women worked …

Arab states rank the lowest in the world in female labor force participation at 21.2 percent in 2017, according to a recent International Labour Organization (ILO) report. This rate has been rising steadily, but women in the Arab states—which the ILO defines as the Gulf Cooperation Council countries as well as Iraq, Jordan, Lebanon, West Bank and Gaza, and Syria—still have a long way to go to bridge the gap with men, who participate at a rate of 76.4 percent.

Why does this gender gap matter? In an environment where new sources of growth are scarce, increasing women's labor force participation could be one way of boosting economic growth in the Middle East and North Africa.

In 2014, leaders of the Group of Twenty (G20) advanced and emerging market economies committed to a 25 percent reduction in the gender gap for workforce participation by 2025. If this goal were to be realized across all countries, it could boost global employment by 5.3 percent, the ILO says.

Such an outcome would result in significant economic growth, raising global GDP in 2025 by as much as 3.9 percent, or $5.8 trillion. The regions with the largest gender gaps—North Africa, the Arab states, and southern Asia—would stand to benefit the most. According to the IMF's November 2013 *Regional Economic Outlook*, the Middle East, North Africa, Afghanistan, and Pakistan region could have gained $1 trillion in cumulative output in the decade preceding the report's release if female labor force participation had been raised enough to narrow the gender gap from triple to double the average for other emerging market and developing economies during that period.

There are clear economic gains associated with engaging more women in the labor force. But there are other positive effects as well, such as improved welfare for women and increased opportunities for them to wield influence and attain their life goals.

And these beneficial effects are borne out in the data. The ILO report says that 70 percent of women they polled preferred to work at paid jobs, regardless of their current employment status. But more than half of all women globally are out of the labor force, which suggests that significant challenges are restricting their capacity and freedom to participate.

This box is based on *World Employment Social Outlook: Trends for Women 2017* published by the International Labour Organization.

unemployment rate among women in Tunisia rose 13 percentage points to 40 percent, almost twice as high as that for men.

Following the Arab Spring, and under pressure from feminist organizations, Morocco's King Mohammed VI in 2011 revised the constitution to guarantee gender equality. The economy was struggling and officials believed that raising the labor force participation of women could give it a boost. Many hailed the move.

Six years later, however, much of the traditional order remains unchanged. Women complain that the lack of basic benefits such as maternity leave and affordable child care forces them to quit their jobs. Abeer Eddouada, a former accountant at a graphic design company in Casablanca, is one such woman. After she gave birth to twins, her husband, a civil servant, expected her to stay at home.

"There was no way he would allow strangers to take care of our children. Even if he had, I had nothing to fall back on. Affordable day care like they have in Europe and the United States isn't even available here," Eddouada said.

Eddouada, now 37, thought she would return to work once her twins entered school. But she is still a stay-at-home mom, 10 years later.

"I've applied for dozens of jobs," she said. "No one wants to hire a mom who needs to get back home early in the afternoon to fetch the kids from school." Only 15 percent of women in urban areas in Morocco are employed, compared with 62 percent of men. Eddouada believes practical steps such as affordable child and after-school care, in addition to legal reforms, could pave the way to changing society's perception of women.

It was not until the fall in oil prices that Saudi Arabia began looking to women as a means of diversifying its economy. In 2013, the late King Abdullah Abdulaziz allowed Saudi women to work in retail and hospitality, and the first Saudi female lawyers were granted their practicing certificates. Saudi women are now employed in education and medical sectors, among others. On September 26, 2017, the country announced that it would lift the ban on women driving, allowing them greater mobility in a country where public transportation is virtually nonexistent.

Yet being a working woman in Saudi Arabia is not easy. Men officially have guardianship rights over women—which means a father, brother, husband, or even a son over the age of 15—makes all their legal decisions. Without approval from her male guardian, a woman cannot travel, study, marry, or even have surgery.

Although women like Fatima Almatrood, 30, have come a long way compared with their mothers, they still face challenges because of their gender. It took her father, who has an elementary school education and is from the eastern city of Safwa, a while to give her permission to attend the King Saud University in the capital city of Riyadh.

"I understood his concerns as a father, but I wished he trusted me and allowed me to make decisions about my own life," she said.

Almatrood received a master's degree in psychology and works as a psychologist at Hafr Al-Batin psychiatric hospital, where she makes nearly $30,000 a year. She has rented an apartment close to the hospital and to grocery stores. But being 300 miles away from her family is a "mental" burden, she said. She takes a costly ride home every weekend—by cab or bus.

At the hospital, she believes, gender discrimination hampers women from reaching their full potential. "Managers are biased against women," she said.

"They give the men more responsibility. Women end up doing the very basic duties, the kind of work that doesn't allow us to demonstrate our technical abilities to get promoted." When Almatrood's manager is on leave, he always appoints a male colleague to take charge.

The country aims to increase female participation from 22 percent today to 28 percent by 2020. Most women who have economic and political influence come from wealthy families. Almatrood worries about her career prospects. She is single but knows she will face a new set of challenges once she gets married. She will have a new male guardian, and there are no family-friendly policies in place if she has children.

Still, there are signs of hope—such as the end to the driving ban and the relaxation in June of some of the kingdom's guardianship laws. Change is afoot, but it remains to be seen whether it will come soon enough for Almatrood to reap the benefits. FD

NAZILA FATHI is a former *New York Times* correspondent and the author of *The Lonely War: One Woman's Account of the Struggle for Modern Iran*.

PHOTO: BILAL JAREKJI

Overcoming Resistance

***Ibrahim Saif** discusses why building consensus is key to successful energy subsidy reform*

IBRAHIM SAIF, former energy and mineral resources minister of Jordan, has been a vocal advocate for energy subsidy reform and for weaning his country off external sources of energy. In 2015, Saif helped craft Jordan's Vision 2025, a 10-year blueprint for economic and social development that calls for raising the proportion of energy consumption met from local resources and increasing the share of renewables. Saif, who joined the Jordanian government at the tail end of the country's massive energy subsidy reform, predicts that Jordan will be generating 20 percent of its energy through renewable sources by 2025.

Jordan, a resource-poor oil importer, successfully reformed general fuel subsidies in 2012 after a series of failed attempts. The country's energy sector faced significant challenges when prices of heavily subsidized energy rose sharply in parallel with increasing public demand. Facing high debt and fiscal pressures, the kingdom decided to remove general fuel subsidies. The country is still working on completing the reform of electricity subsidies.

Saif is a former director of the Center for Strategic Studies at the University of Jordan and has served as secretary general of Jordan's Economic and Social Council. He has taught at both the University of London and Yale University, where he led courses on the economies of the Middle East. He holds a PhD in economics from the University of London and is currently an advisor to the government of Oman.

In this interview with *F&D*'s Wafa Amr, Saif discusses his country's experience with subsidy reform and the promise of renewable energy sources for the region.

F&D: Can you paint a picture of Jordan's energy situation?

IS: Jordan imports about 95 percent of its energy needs from abroad, with energy imports amounting to about 18 percent of GDP. Put simply, for each dollar we spend, almost a quarter of that goes into energy. It is quite significant, and we are vulnerable. Moreover, Jordan has an energy-intensive economy. With oil prices now lower, the country's energy import bill is about $5 billion. Roughly 10 percent of the household consumption goes into some form of energy, be it electricity or fuel.

F&D: What prompted Jordan to undertake energy subsidy reform in 2011?

IS: Energy subsidy reform was a response to the vulnerability of the Jordanian economy to changes in oil prices internationally and the consumer behavior that has prevailed in Jordan for many years. Subsidies encouraged distorted consumption.

The subsidizing of fuel was a huge burden on our budget. The overall economy was exposed to vulnerabilities because of the imports, but so were our public expenditures, because if the government wanted to guarantee a certain price, it never knew how much to allocate for subsidies at the end of each year. Our economy was at the mercy of what was happening on the outside.

That's why Jordan decided that the situation was untenable. Jordan's fuel subsidies were not targeted; the consumers who consumed more fuel stood to benefit more, which undermined the whole rationale for having subsidies in the first place—to protect the poor and vulnerable.

F&D: In 2011, how did the Arab uprisings and the disruption of the supply of gas from Egypt affect the government's decision to carry out those reforms?

IS: In 2011, Jordan had a long-term contractual arrangement with Egypt to produce and generate electricity whereby we got gas at a certain price that was shielded from the volatility of the international prices. That year, Egypt was seeing unrest, and some violence was disrupting the flow of gas to Jordan. To continue generating electricity we had to resort to another form of energy, heavy fuel oil, which is the most expensive means of generating electricity. And between 2013 and 2015, the National Electrical Company, NEPCO, accumulated debt amounting to almost $7 billion. Without introducing reform, this trend would have continued. But in two years' time, the indicators reversed. In 2015, NEPCO reached operational cost recovery and stopped incurring losses.

"We never stopped repeating the messages."

F&D: What were the main challenges the government faced in introducing energy subsidy reform?
IS: Jordanians had become accustomed to subsidized products. It was difficult to introduce a new culture where domestic prices would now mirror what was happening internationally. When you initiate this type of reform, there are two kinds of resistance: from within the government, because officials feel they could pay a heavy political price for introducing unpopular measures; and second, societal resistance from outside. If you do not communicate properly the consequences of not undertaking these reforms, and if you do not have a critical mass of reform advocates in the community, it becomes extremely difficult. We kept engaging at all levels and never stopped repeating the messages.

F&D: What was the process of compensating the poor?
IS: With proof of income, we guaranteed that people below a certain income level (earning $1,130 a month) would receive cash transfers if the oil price was above $100 a barrel. When we introduced the program, we knew some people who were claiming compensation were not really eligible for it, but we were lenient in the beginning. The following year, we started to use stricter measures and did better due diligence because, for example, some of the beneficiaries were even living outside Jordan! We tolerated this at the beginning because we wanted to establish credibility that we were willing to compensate, but over time, we established a more refined data set. And actually, in the past three years, we haven't paid any compensation because the price is far below the $100 a barrel threshold.

More recently, the government has been developing a database with the National Aid Fund to help the poor by direct assistance instead of subsidizing the commodities that they consume.

F&D: Was the government successful in achieving the reform's objective?
IS: Yes—NEPCO was a loss-making enterprise; today, it generates at least $1.4 billion annually in revenue. And we managed that without any social discontent to speak of.

Moreover, as a result of new technologies and the development of renewable energy, Jordan is now a regional leader in diversifying its sources of electrical generation. We aim to have 20 percent of our energy generated through renewable sources such as solar and wind farms, and this target is very much achievable. We still need to do further reforms in terms of efficiency, improving the energy audit, and rationalizing consumption. But Jordan has succeeded in terms of transforming the energy challenge into something positive. Energy is still consuming an important part of our GDP, but that figure is lower today than it was five years ago.

A few years back, we imported almost all of the country's energy; now we aim to generate about 20 percent of electricity domestically. And Jordan's energy efficiency and energy intensity are now on a healthier track than they once were.

F&D: What was the most important lesson from your experience as energy minister?
IS: I learned the importance of getting consensus within one's own institution about the necessity of reforms. You need the right team around you to carry it out, because you're not just dealing with a ministry. It's a sector, and a huge one at that, with many different stakeholders. You have semigovernment players, the ministry, the regulatory commission, and private investors, both domestic and international. You also have new players and old ones. If you don't align all of the stakeholders, it's difficult to achieve your goals. FD

This interview has been edited for length and clarity.

Late Bloomer

*Chris Wellisz profiles **David Autor**, the MIT economist who has done pathbreaking work on the effects of imports on the US labor market*

Drop by David Autor's office at lunchtime and you'll find the Massachusetts Institute of Technology (MIT) economics professor munching on a peanut butter and jelly sandwich that he brings from home every day. Not only does Autor like peanut butter and jelly, it saves him the time it takes to make the trip downstairs to the cafeteria.

"I would never waste an hour," Autor, 53, says in a recent interview in his office overlooking the Charles River. "If I'm not working, I'm doing something else that's useful." That could include sailing with his son, skating as captain of the faculty ice hockey team, or taking electrical gadgets apart and putting them back together.

Economics is all about scarcity, and time seems especially scarce to Autor, who got a late start in the profession and feels he still has a lot of catching up to do—despite the prominence he's achieved with groundbreaking studies of the impact of trade and technology on the US labor market. Autor's substantial body of research on labor markets—29 journal articles on subjects ranging from disability benefits to the minimum wage—is imbued with respect for the dignity of work, sympathy for the disadvantaged, and concern for the damage that unemployment inflicts on families and communities.

"Idleness is a terrible thing," Autor says. "Work gives people's lives structure and meaning. It gives them an identity. It gives them a social circle." He disagrees with economists who think of work as the price we pay for being able to consume. "That's just not at all accurate for what most of us do. We would pay to keep our jobs."

For a scholar, he has an unusual amount of real-life experience: computer software consultant, teacher of underprivileged kids, administrative assistant in a hospital. All of that has given him a practical understanding of his subject and an inclination to use hard facts to test, and sometimes challenge, received economic theory.

Take Autor's studies of the impact of imports from China on US factory workers. In his days as a graduate student at Harvard's John F. Kennedy School of Government in the late 1990s, economists were debating the reasons for the decline in US manufacturing jobs and concluded that it was a long-term trend and that automation was the main culprit. To the extent that workers were displaced by competition from imports, they could find other jobs relatively easily in the large and flexible US labor market.

"Just as the debate was ending, the facts were changing," Autor says. "China's rise was having a large impact, and people weren't noticing it."

China's entry into the World Trade Organization in 2001 accelerated its emergence as a global economic powerhouse that could tap a vast pool of cheap labor to churn out inexpensive furniture, textiles, and electrical appliances. Between 1991 and 2012, China's share of global manufacturing jumped to 24 percent from 4 percent.

The blow to US workers was both profound and lasting, Autor and his collaborators—David Dorn of the University of Zurich and Gordon Hanson of the University of California, San Diego—argued. In a 2013 article, they calculated that Chinese imports were directly responsible for the loss of 1.53 million factory jobs between 1990 and 2007—about a fifth of the total decline in manufacturing employment nationwide. These job losses were concentrated in areas of the country directly exposed to Chinese competition; elsewhere, the decline in manufacturing jobs was far more modest.

> **"Work gives people's lives structure and meaning. It gives them an identity."**

More significantly, they found that the "China Shock," as they provocatively called it, extended beyond manufacturing to industries not directly affected by import competition, such as suppliers. Employment, wage levels, and labor force participation in local labor markets were depressed for a decade or more. (In a subsequent paper, they estimated the indirect job losses at about 1 million.) The findings cast doubt on accepted views on labor mobility. It wasn't as easy as economists had assumed for workers to move to another community where jobs were more plentiful or to switch occupations.

"David questioned the prevailing wisdom," said Lawrence Katz, Autor's thesis chair at Harvard and an occasional collaborator. "People had continued relying on evidence that was 10 or 20 years out of date. Given that there are frictions in moving, we

PHOTOS: PORTER GIFFORD PHOTOGRAPHY; ART: ISTOCK / HUDIEMM


Economist David Autor's deep interest in technological change was inspired by his personal experience.

see that the costs of trade are much bigger than we used to think."

Autor's work on China tapped into the deep sense of anxiety over the loss of middle-class jobs that roiled the 2016 US presidential election campaign. In a paper published in December 2016, Autor and his collaborators found that the trade shock pushes voters toward the extremes of the political spectrum. In another article, they showed how diminished job prospects and lower wages of young men in trade-exposed communities make them less desirable as potential husbands, contributing to a decline in marriage rates and a rise in the number of children born to single mothers.

Technological change is another source of public anxiety—and a subject of fascination for Autor, inspired in part by his background in computer science. As the use of personal computers became widespread in the home and workplace toward the end of the last century, economists began to study how acquiring computer skills made people more valuable in the job market.

Autor took a different approach. He identified specific tasks carried out by workers—moving an object, say, or performing a calculation—and looked at which ones could be performed by computers. He and his collaborators found that even as computers replaced many routine tasks typical of "middle-skill" jobs, such as bookkeeper or cashier, they amplified the value of the problem-solving skills, adaptability, and creativity typical of professional and managerial jobs. At the same time, computers couldn't be used to replace some manual tasks, like those carried out by janitors or fast-food workers. The result has been an increasing polarization of the labor market, with most wage gains going to the workers with the highest and lowest skills, while those in the middle get squeezed.

That insight grew out of a 2002 study of workers at a bank that had installed new software to process checks, something bank employees had been doing by hand since the late 19th century. Autor and his collaborators, Harvard's Richard Murnane and Frank Levy, spent countless hours in the bank, interviewing employees and managers and watching people at work. They discovered that while the software could process 97 percent of checks, people were still needed to handle the remaining 3 percent—which had such problems as overdrafts or illegible signatures. The work of those employees could then be reorganized in a way that required more skill.

"People were now working with broader sets of accounts and doing more problem solving as opposed to just kind of transactional processing," Autor says.

Much of Autor's scholarship is grounded in field work. While researching an article explaining why temporary help agencies offer job training when they appear to get no obvious benefit from it, he registered as an applicant at one agency to get firsthand experience of the interviewing process. He discovered that the firms offered free training to assess the motivations of employees and to learn how to attract people who were willing to improve.

Similarly, his interest in technological change is grounded in life experience: in high school, he taught himself to program an early personal computer, the Radio Shack TRS-80. But his path from computers to economics was anything but direct.

He enrolled in Columbia University, but soon dropped out ("I was extremely immature," he explains) and moved back to his hometown, Boston, where he worked as an administrative assistant in a hospital. He went on to become a software developer at the hospital and then joined a friend's software consulting practice, doing things like developing databases for banks.

When he returned to college, this time at Tufts University in Medford, Massachusetts, Autor majored in psychology with the aim of becoming a clinical psychologist like his parents.

But by the time he graduated, in 1989, "I concluded that, at least the part of psychology that I was studying, I really liked the questions but I was not at all satisfied with the methods or the answers," he says. "I had this taste for computer science and engineering, but I had an interest in social problems, and I didn't know how to put the two together."

So he climbed into a Dodge Colt that he had bought for $250 and drove across the country, without any firm plan in mind. Listening to the radio on the way, he learned that a Methodist church in San Francisco was starting a program to teach computer skills to inner-city kids. Autor showed up to volunteer and before long became educational director.

"I viewed it as closer to the thing I was looking for," Autor says. "On the one hand, it was technical; on the other hand, it was working on social issues, so it made sense to me."

He met his wife, Marika Tatsutani, while they were both looking for a housemate in Oakland, California. At the time, Tatsutani was a graduate student at the University of California, Berkeley. She is now a self-employed energy and environmental writer, editor, and consultant. They have three children, ages 13 to 20.

After three years in California, Autor, ever restless, decided it was time to move on. He toyed with applying to medical school, but ultimately opted for the public policy program at Harvard's Kennedy School where, with its required economics courses, Autor discovered his future field. "I was just blown away because I thought, 'Oh, why didn't anyone ever tell me about this? This is what I was looking for,'" he says. "It works on the problems I care about, but it does it using methods that I esteem, that I value, that I enjoy."

Murnane, one of Autor's professors (who later collaborated on the bank study), was impressed by his curiosity and enthusiasm. "The fact that he had a background in psychology, I think, was important, and it gave him a broader lens of looking at problems than those who only studied economics."

In 1999, PhD in hand, Autor found himself in the job market, figuring institutions like MIT wouldn't take him seriously as an economist because his degree was in public policy. So when Olivier Blanchard, then chairman of MIT's economics department, called to offer him a job, Autor was so taken aback that he initially didn't want to take the call.

"It was terrifying," Autor recalls. "I felt on the one hand like the most fortunate person in the entire profession, and on the other hand like a complete poseur. Like what was I doing here?"

"David was indeed an unusual hire for MIT," says Blanchard, who later became chief economist at the IMF and is now a senior fellow at the Peterson Institute for International Economics in Washington. "But there was a sense of purpose, a real talent, a seriousness to the work that convinced us to go for it. And gosh, we were right."

Still, the first couple of years were tough for Autor, who felt he lacked sufficient theoretical grounding in economics. He recalls being assigned to teach an undergraduate course in macroeconomic theory and doubting that he was qualified.

"At first I thought, 'Wow, I don't really know this stuff; I shouldn't be teaching this.' And then I thought, 'Well, this is a good way to learn it.'"

These days, Autor is as busy as ever, though his stress level is lower. He's been appointed codirector of the Labor Studies Program at the National Bureau of Economic Research, along with Princeton University's Alexandre Mas. He's teaching an undergraduate class on applied microeconomic theory and public policy. He's continuing his research on how economic shocks shape political beliefs and the structure of the American family. And he has embarked on an ambitious, multiyear study of the impact of financial aid on college attendance and completion.

Trade shock pushes voters toward the extremes of the political spectrum.

All that leaves him time for six hours of sleep—if he's lucky. But he has no complaints.

He says people have been very generous in mentoring him and giving him opportunities to learn that shaped his career. He wants to pay forward that generosity. "I've been extremely fortunate." FD

CHRIS WELLISZ is on the staff of *Finance & Development*.

THE PRESOURCE CURSE

Oil discoveries can lead first to jubilation then to economic jeopardy

James Cust and David Mihalyi

Every year there are major discoveries of oil and gas deposits around the world. Government officials and citizens alike are jubilant, anticipating the prosperity these discoveries herald. But that exuberance can often be misplaced. Some countries have experienced growth disappointments after major oil finds, and economic problems have set in shortly thereafter.

The world has long recognized that countries with abundant revenues from oil and other natural resources often tend to have less economic growth and more social problems than do less-endowed countries—a phenomenon dubbed the resource curse.

But it turns out that in many cases, especially in countries with weak political institutions, economic growth begins to underperform long before the first drop of oil is produced, an event we call the presource curse.

Back to Earth

In 2009 Ghana was soaring. Barack Obama had chosen it to be the first African country he would visit as president of the United States. The country, which had navigated a peaceful transfer of power in 2007, was bucking the global economic slowdown at the time, with robust economic growth that averaged 7 percent between 2003 and 2013.

To cap it all, Ghana had twice struck gold—or to be more precise, black gold. It had a major offshore oil discovery in 2007 and another in 2010. Hopes were high that these finds would help propel Ghana toward middle-income prosperity. Ghana's then-president, John Kufuor, proclaimed in 2007, "Even without oil we are doing well. . . . With oil as a shot in the arm, we are going to fly."

Fast-forward to today; Ghana is not flying. Growth dropped below 4 percent between 2014 and 2016, despite IMF forecasts for above 7 percent. The oil discovery and the financial windfall it promised appeared to usher in an era of economic imprudence: heavy borrowing, profligate spending, and exposure of the economy to the oil price crash of 2014. Ghana also succeeded in defying the spirit of its own saving rules. While it saved a prescribed $484 million in oil revenues for a rainy day, it also borrowed $4.5 billion on international markets. Since 2015 the country has been in an IMF program of support and surveillance. A new government took over in 2017, but the crisis continues.

Ghana is not alone. Other countries have experienced the jubilation of discoveries, only to see growth stumble or fall. In Mozambique, the largest offshore gas deposits in sub-Saharan Africa were discovered in 2009. Growth averaged 6 percent. Following these discoveries forecasts put growth on a path above 7 percent. However, by 2016, growth had slumped to an average of 3 percent as the disastrous consequences of enormous off-budget borrowing unraveled. Meanwhile, IMF support has been suspended pending the results of an audit of the off-budget borrowing.

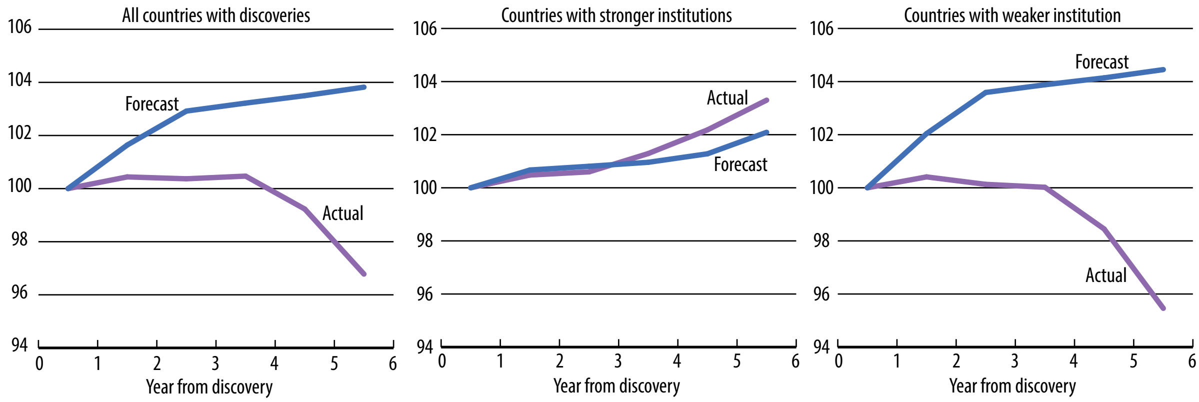
Our research suggests that Ghana and Mozambique are not aberrations. On average around the world, after major discoveries, growth has underperformed the postdiscovery forecasts. For certain countries, such discoveries have led to significant growth disappointments, even compared with prediscovery trends.

PHOTOS: ISTOCK / NIELUBIEKLONU, S-C-S

Good governance matters

Countries with weaker political institutions, such as few constraints on the executive, not only fail to meet IMF forecast growth, but have an average growth rate lower than before a giant oil and gas discovery.

(figures are cumulative; the year 0, the year after discovery, is indexed to GDP = 100)



Source: Cust, James, and David Mihalyi. 2017. "Evidence for a Presource Curse? Oil Discoveries, Elevated Expectations and Growth Disappointments."
Note: Blue line shows effects of a giant oil and gas discovery on IMF projections. Purple line shows the effects on actual growth. Quality of institutions is based on Polity IV database.

Since 1988 there have been 236 giant discoveries (larger than 500 million barrels) covering 46 countries (see map). These discoveries are significant—the potential value of each averaging 1.4 percent of a country's GDP.

GROWTH, ON AVERAGE, SYSTEMATICALLY LAGS IMF PROJECTIONS AND, FOR SOME COUNTRIES, FALLS.

The textbook says that a discovery should increase output, and hence growth, as the economy adjusts to its new wealth and the higher level of consumption that can be sustained. IMF forecasts agree—suggesting that discoveries are worth 0.52 percentage point a year in higher growth over the first five years. To determine whether a country captures the positive potential of a major oil or gas discovery we use two comparisons:

- Whether growth is higher on average after a discovery than before;
- Whether growth keeps pace with postdiscovery IMF projections (published in the IMF's *World Economic Outlook*)—in other words, are countries reaching the growth rate predicted by the textbook?

On both counts the picture is not good. Growth, on average, systematically lags IMF projections and, for some countries, falls.

But the picture also appears bifurcated (see chart). We see the biggest effects in countries with weaker political institutions, such as ineffective constraints on the executive. These countries not only fail to meet IMF forecast growth, but their average growth rate is lower than before a discovery. On the other hand, countries that had strong political institutions at the time of a discovery fare well—growth continues at the same rate and keeps pace with IMF projections.

Countries that fall behind their potential growth rates are subject to what we call the presource curse. As in the case of its cousin, the resource curse, we find that natural resource abundance can be bad for some countries, in some circumstances—and problems may set in much earlier than conventionally thought. In the case of the presource curse, it is the promise, rather than the reality, of resource abundance that causes bad effects.

The resource curse hypothesis focuses on the long-term negative consequences for the economy from resource production and taxation. For example, so-called Dutch disease describes a boom in the resource sector that crowds out the manufacturing sector and lowers productivity growth. The volatility of export and tax revenues from natural resources may worsen public finances. The problems could also be political. Resource revenues can corrupt or trigger and sustain violent conflict. Some have argued that oil wealth can erode democratic institutions.

The presource curse in contrast focuses on what happens in the short period between discovery and the start of production. During that window,

Striking it big

Since 1988 there have been 236 oil and gas discoveries globally that exceed 500 million barrels.

Source: Cust, James, and David Mihalyi. 2017. "Evidence for a Presource Curse? Oil Discoveries, Elevated Expectations and Growth Disappointments."

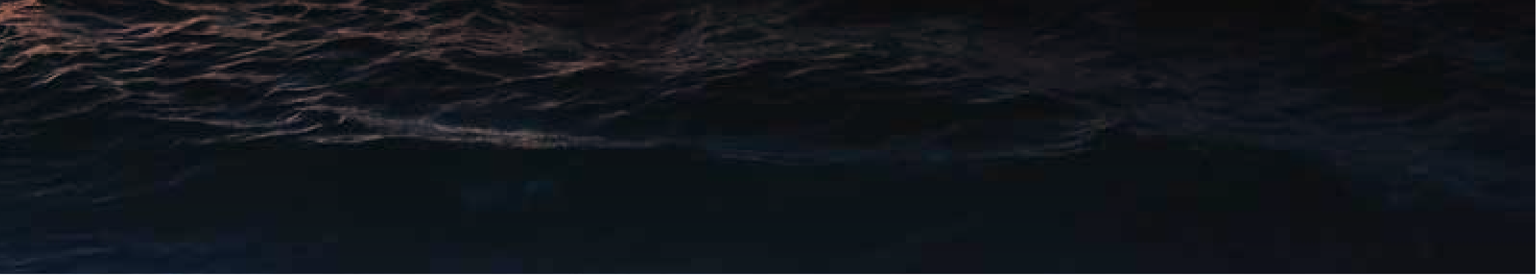
economic problems can occur if economic behavior is based on an overly optimistic assessment of the boon from future resource wealth. Moreover, sometimes countries are tripped up by the steps needed to turn discoveries into dollars, and they fail to produce.

The reality of the forecast

Forecasting growth is challenging. The IMF's *World Economic Outlook* publishes country growth forecasts every six months, and other forecasters put out similar estimates, though often with fewer countries covered. Research has found that IMF forecasts are accurate, although not always without biases. For example, in a 2013 paper, former IMF chief economist Olivier Blanchard and colleague Daniel Leigh showed that forecasts for EU countries were unduly pessimistic about growth multipliers after the global financial crisis. In contrast, we find expert forecasts might be overly optimistic in their growth predictions for certain types of countries following resource discoveries.

Whether forecasts are too optimistic or pessimistic matters. First, governments and the private sector rely on forecasts to plan and make decisions. Second, the media and voting public can also be influenced. Their elevated expectations can put pressure on governments to behave imprudently—overspending and overborrowing. Third, forecasts might affect assessments by lenders and rating agencies and therefore the cost of borrowing. If borrowing costs are artificially low, they could fuel overborrowing. Our estimates suggest that country borrowing scores by institutional investors are affected by growth forecasts—scores improve when forecasts rise, even after we account for a country's historical growth.

Getting from resource discovery to sustained prosperity depends on a series of steps. Countries must secure investment to move a project to production, and government policy must respond by preparing the wider economy for an influx of investment and foreign currency. Other preproduction challenges—such as government revenues



NEWLY RESOURCE-RICH COUNTRIES MAY NEED TO APPROACH DISCOVERIES MORE CAUTIOUSLY.

from up-front payments such as signing bonuses—may arise.

Some countries, such as Tanzania and Mozambique, never got to production. In others, such as Kazakhstan—whose Kashagan oil field took 13 years to begin production—the process took much longer than expected. Such delays or failures are common. The consulting firm Ernst & Young reported in 2016 that 73 percent of oil and gas projects around the world report schedule delays. The time it takes to get from discovery to production, at least in the mining sector, is slower in countries with weaker institutions and higher corruption, according to Tehmina Khan and her coauthors, in a 2016 World Bank working paper.

If the presource curse indeed exists, it has a range of policy ramifications. Newly resource-rich countries may need to approach discoveries more cautiously. They should pay greater attention to preproduction steps than to counting their chickens. This means a new approach to borrowing and spending commitments by government before revenues arrive. The center of attention in economic policy after discoveries has been the design of savings instruments such as sovereign wealth funds.

Our findings suggest countries should pay more attention to behavior before revenues arrive—such as obtaining public consensus to constrain government budgets—rather than focusing on what percentage of future receipts will be saved. Further, countries may need to pay closer attention to their tax and spending position under different scenarios. What if the projects are delayed? What if prices crash? And what if the government fails to capture all the tax benefits anticipated?

Asymmetric risks

Resource discoveries present asymmetric risks. If prices fall enough, countries may see projects cancelled and miss out on anticipated investment, taxes, and jobs. But if prices go higher, countries get only a share of the increased profits through taxes.

If key financial institutions have overly rosy expectations, they may lend too much money or monitor borrowers less diligently than they should.

The presource curse may also have implications for other parties, such as the IMF. Projections may need to take systematic consideration of country conditions and governance. The timing and scale of resource wealth and its benefits might depend on these factors.

Managing citizen expectations is key. As Paul Collier put it in a 2017 article in the *Journal of Development Studies* that focused on Ghana, psychological factors drive the curse. A 500-million-barrel oil discovery may be misinterpreted as implying vast wealth for all citizens. But, once it is broken down per capita and spread over the typical 20-year production period, there might be only $30 in government revenues for each Ghanaian.

The presource curse, like the resource curse, is not preordained. Many countries, such as Tanzania, have avoided both. Tanzania, like its neighbor Mozambique, had large offshore gas discoveries. For Tanzania, they came a year later, in 2010. But its growth rate actually picked up following discoveries, from 6 to 7 percent, as the country maintained low levels of debt and showed commitment to fiscal sustainability through legislating a fiscal rule. On the other hand, Tanzania has yet to see the expected significant investment in the sector, and with prices for liquefied natural gas remaining low, production may not materialize for many years.

What seems to matter is not only the resources, but how governments respond to the news of the discovery of those resources. Technology is also transforming the timeline from discovery to production, changing the nature of the potential challenge. Ghana will not be the last country to find significant new oil fields. But perhaps it can be the last to fall prey to an overly optimistic response to this good news. FD

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GLOBAL FINANCE RESETS

The decline of cross-border capital flows signals a stronger global financial system

Susan Lund and Philipp Härle

A decade after the global financial crisis began, the landscape of global finance is much altered. Gross cross-border capital flows (foreign direct investment, purchases of bonds and equities, and lending and other investment) have fallen substantially since the precrisis era and, relative to world GDP, are back to the level of the late 1990s (see Chart 1). While all types of capital flows have shrunk, cross-border lending accounts for more than half of the overall decline. This phenomenon reflects a broad retreat from overseas business and a shift away from cross-border wholesale funding by major European and some US banks.

Does this mean that financial globalization has lurched into reverse gear? Our new research finds the answer is no. The global financial system remains deeply interconnected when measured by the stock of foreign investment assets and liabilities. What is emerging from the rubble appears to be a more risk-sensitive, rational, and potentially more stable and resilient version of global financial integration—an ultimately beneficial outcome.

Shift in the landscape

Before the crisis, many of the largest European, UK, and US banks launched bold global expansions, pursuing every avenue for international

growth. They built banking businesses for retail and corporate customers in new regions, amassed large portfolios of foreign assets, such as subprime mortgage securitizations and commercial real estate, and increasingly relied on short-term cross-border interbank funding.

But horns are now drawn in and capital is being conserved. Risk is out, and conservative banking—even "boring" banking, as former Bank of England Governor Mervyn King put it—is in. The largest Swiss, UK, and some US banks have all been part of the broad retreat, but nowhere has the reversal been more dramatic than among euro area banks (see Chart 2).

After the introduction of the euro on January 1, 1999, euro area banks expanded beyond their national borders into all corners of the single currency area. Given the common currency and a largely common rule book, country risk was downplayed or ignored. The stock of their foreign claims (including loans by their foreign subsidiaries) grew from $4.3 trillion in 2000 to $15.9 trillion in 2007. Most of that growth came from lending and purchases of other foreign assets within the euro area. But also important were the growing financial ties—and particularly interbank markets—linking banks in the euro area, London, and the United States.

But much of the banks' foreign expansion was based on misjudged risks or misguided strategies that came back to bite them. Some European banks bought AAA-rated tranches of US subprime mortgage-backed securities that subsequently produced large losses. Dutch, French, and German banks became directly and indirectly involved in the Spanish real estate bubble and suffered when it burst. Austrian banks expanded far into eastern Europe and even central Asia but have since retrenched, and Italian banks were heavily exposed in Turkey, where risk-adjusted margins proved lower than expected. There was an element of herd behavior: seeing some major banks aggressively expanding abroad in pursuit of high-margin business, many others followed suit.

Since the crisis, that trend has reversed: Foreign claims of euro area banks have slumped by $7.3 trillion, or 45 percent (although they are still substantially higher than they were when the single currency came on the scene). Nearly half these claims have been on other borrowers in the euro area, particularly other banks. The perception that lending anywhere within the common currency area was quasi-domestic—and therefore low risk—proved illusory. Claims between euro area banks and those in the United Kingdom and the United States have similarly evaporated.

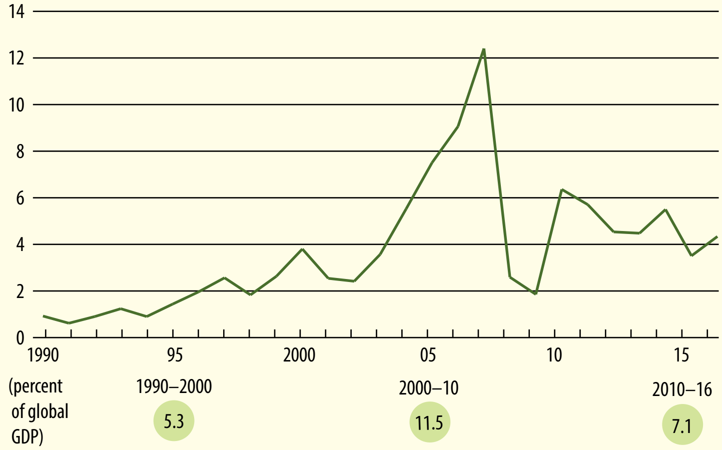
This retreat is a rational response—in the euro area and beyond—to a reassessment of the risk of cross-border transactions. On reflection, it has become clear to many banks that margins and revenues on foreign business were lower than they were in domestic markets, where they had both scale and local knowledge—or at least that foreign business was not worth the added risk. Banks are now under sustained pressure from regulators, shareholders, and creditors to become more conservative. New international capital and liquidity requirements raise the costs of holding all assets, and new surcharges imposed on systemically important banks penalize the added scale and complexity of various

Chart 1

Is financial globalization dead?

Cross-border capital flows are back to the level of the late 1990s.

(global cross-border capital flows, trillions of dollars)



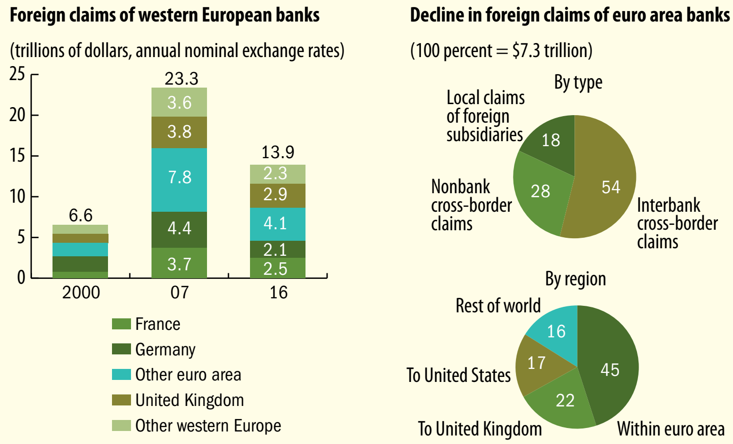
Sources: IMF, *Balance of Payments Statistics*; and McKinsey Global Institute analysis.
Note: Data for 2016 are estimates.

ART: ISTOCK / NADZEYA_DZIVAKOVA, RUSSELLTATEDOTCOM

Chart 2

Risk averse

Large European banks are leading the retreat from foreign markets.



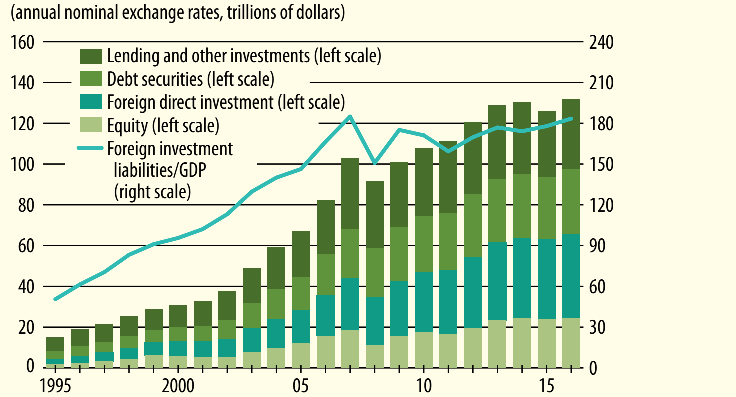
Sources: Bank for International Settlements; and McKinsey Global Institute analysis.

Chart 3

Going strong

The stock of portfolio equities, portfolio bonds, and especially foreign direct investment has continued to grow since the global financial crisis.

(annual nominal exchange rates, trillions of dollars)



Sources: IMF, *Balance of Payments Statistics*; and McKinsey Global Institute analysis.
Note: Data for 2016 are estimates.

business lines, including foreign operations; banks have carefully pruned their foreign operations in response. Some central bank programs enacted after the crisis to restore financial stability, such as the Bank of England's Funding for Lending scheme or the European Central Bank's Targeted Longer-term Refinancing Operations, gave banks an incentive to lend to domestic borrowers rather than foreign ones.

Major global banks have sold off some foreign businesses, exited some foreign markets altogether, or simply allowed maturing loans to expire. According to Dealogic, a provider of financial data and analysis, banks have divested more than $2 trillion in assets since the crisis. As a result, the balance sheets of most European banks have shifted significantly toward domestic assets. The three largest German banks—Deutsche Bank, Commerzbank, and KfW—held two-thirds of their total assets in foreign markets on the eve of the crisis; today, that proportion has shrunk to one-third.

Dutch, French, Swiss, and UK banks have likewise reduced foreign business. US banks have long been less international than their European counterparts, given their huge domestic market, but even so some have cut back. Citigroup had retail banking operations in 50 countries in 2007; today that figure is 19.

While European and US banks retreat to their home markets, banks in other regions are expanding abroad, although it remains to be seen whether this expansion will prove to be profitable or sustainable. The four large Canadian banks now have half of their assets outside of Canada, mainly in the United States; Japanese banks have also expanded abroad. The so-called Big Four Chinese banks have rapidly expanded foreign lending, largely to finance Chinese companies' outward foreign direct investment.

More stability ahead

We should not mourn the realignment of cross-border banking. The frothy pinnacle of global capital flows in the years leading to the crisis is not an appropriate benchmark against which to judge the state of financial globalization. There is no consensus on the optimal level of capital flows, but today there is scant evidence of a shortage of capital flowing to either developing or advanced economies.

Rather than signaling an end to financial globalization, recent developments point to the emergence of a more stable and resilient version. Financial markets around the world remain deeply interconnected. Although annual flows of new capital have diminished significantly, the stock of global foreign direct investment, portfolio equities, and portfolio bonds has continued to grow since the crisis, albeit much more slowly than in the years that preceded it (see Chart 3). Globally, 27 percent of equities around the world are owned by foreign investors, compared with 17 percent in 2000. In global bond markets, 31 percent of bonds were owned by a foreign investor in 2016, compared with 18 percent in 2000. Lending and other investment are the only component of the stock of foreign investment assets and liabilities that has declined since the crisis.

There are three reasons why the future of financial globalization may potentially be more stable than the past, at least for the medium term.

First, *the mix of cross-border capital flows has changed quite significantly, and in ways that should promote stability*. Since the crisis, foreign direct investment has accounted for 54 percent of cross-border capital flows, up from 26 percent before 2007. Given the new realities of bank regulation and shareholder scrutiny, it is unlikely that the volume of cross-border lending will return to precrisis levels anytime soon. This shift toward foreign direct investment will promote stability in cross-border financial flows. Because foreign direct investment reflects companies' long-term strategies regarding their global footprint, it is by far the least volatile type of capital flow. Portfolio purchases of equities and bonds are also less volatile than cross-border lending, and these have comprised over 40 percent of total capital flows since the crisis. Cross-border lending, and particularly short-term lending, is by far the most volatile type of capital flow; its retreat should be welcomed.

The second potential source of greater stability in financial globalization is the steady growth of migrants' remittances to their home countries. These flows are even more stable than foreign direct investment and have grown thanks to a rise in global migration. Remittances are not counted as a capital flow in the national balance of payments, and traditionally they were quite small. But today they are a substantial source of finance for developing economies. By 2016, remittances to these economies totaled almost $480 billion, compared with just $82 billion in 2000 and $275 billion in 2007. They now equal 60 percent of private capital flows (foreign direct investment, portfolio equity and debt flows, and cross-border lending) and are three times the size of official development assistance. It seems likely that remittances will continue to grow as global migration continues to rise and technologies such as blockchain and mobile payments make them easier and cheaper to send.

A third potential source of greater stability in global finance is the ebbing of the global savings glut that arose prior to the crisis. Global imbalances in financial and capital accounts shrank from 2.5 percent of world GDP in 2007 to 1.7 percent in 2016. This lowers the risk that a sudden unwinding of these imbalances could create exchange rate volatility and balance of payments crises in some countries. Moreover, today the deficits and surpluses are spread over a larger number of countries, and the large imbalances in China and the United States have subsided. There is debate today among economists about whether the smaller global imbalances are likely to persist.

No room for complacency

None of these developments is an invitation to complacency. Gross capital flows remain volatile, potentially creating large fluctuations in exchange rates for developing economies. A tightly interwoven global financial system inexorably comes with a risk of crises and contagion. And asset bubbles and crashes are as old as markets themselves.

If we have learned anything from the past, it is that stability is hard-won and all too easily lost. Just as we are beginning to discern new patterns in global financial integration after the wrenching change of the past 10 years, a new—and game-changing—disruption is coming in the form of digitalized finance. Increasingly widespread use of new financial technologies, such as digital platforms, blockchain, and machine learning, will likely broaden participation in cross-border finance and accelerate capital flows. There will be huge opportunities, but also intense competition. None of us yet knows what new risks may arise as a result of even quicker flows of capital around the globe, but vigilance and a keen eye for the next threat to stability will be vital. FD

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This article is based on "The New Dynamics of Financial Globalization," published by the McKinsey Global Institute in August 2017.

HEATING UP

Poor countries bear the brunt of climate change, but they are in the worst position to do so

THE TEMPERATURE of the Earth's surface is rising, and no country will be spared the consequences. Many countries will experience the direct impact of climate change, such as more frequent (and damaging) natural disasters, rising sea levels, and biodiversity loss. But low-income countries will suffer the most from this global threat, despite having contributed very little to the problem. And within these countries, the poor will likely be the most severely affected.

Domestic policies can help offset the impact of weather shocks. Strategies aimed at helping countries adapt—such as climate-resilient infrastructure projects, adoption of appropriate technologies, and mechanisms to transfer and share risks through financial markets—could help reduce the economic damage caused by weather shocks or climate change.

But implementing such policies is difficult in low-income countries, which have large spending needs already and limited scope to find the resources necessary to fight climate change. And domestic policies alone cannot fully insulate low-income economies from its adverse effects; climate change is a global problem, and only collective action can effectively address it.

Mitigating climate change would entail radically transforming the global energy system, including through the use of fiscal instruments to better reflect environmental costs in energy prices and promote cleaner technologies. ***Adapting*** to the consequences of climate change calls for major investments to boost infrastructure, reinforce coastal zones, and strengthen water supplies and flood protection.

The international community will have a key role to play in fostering and coordinating support—financial and otherwise—for affected low-income countries. The richer economies have contributed the lion's share to actual and projected climate change. Helping poorer countries cope is thus both a humanitarian imperative and sound global economic policy. FD

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

What are the economic consequences?

1

Global temperatures have increased by roughly 1°C
compared with the 1880–1910 average. The rise started in earnest in the 1970s, following a large increase in carbon dioxide (CO_2) emissions.

2

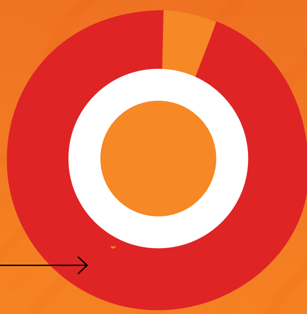
The scientific consensus predicts that without further action to tackle climate change, **average temperatures could rise by 4°C or more** by the end of the century.

3

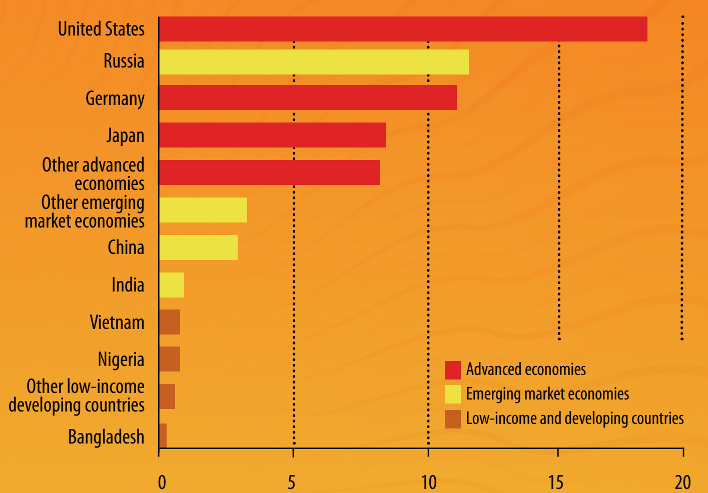
Higher temperatures significantly reduce economic growth in warmer countries: **per capita output peaks at about 13°C** and declines markedly at higher temperatures.

Who is contributing?

Natural factors explain some of the warming over the past century, but according to the Intergovernmental Panel on Climate Change, **most of the temperature increase since 1950 can be attributed to human activity**.



Average CO_2 emissions per capita, 1970–2014 (metric tons)



ART: ISTOCK / IKRYANNIKOVGMAILCOM, ILYALIREN, JABKITTICHA, CDH_DESIGN, SHOWVECTORSTUDIO

How can poor countries manage?

Dealing with the effects of climate change requires countries to pursue both ***mitigation*** (measures to address the root causes) and ***adaptation*** (measures to lower the risks posed by its consequences).

Mitigation

- Reflect environmental costs in energy prices —for example, by:
  - imposing carbon taxes
  - eliminating energy subsidies
- Promote cleaner technologies

Adaptation

- Strengthen water supply
- Boost flood protection
- Reinforce coastal zones
- Enhance infrastructure

4

A typical low-income country's per capita GDP would be **9% lower in 2100** without any mitigation efforts.

5

Rising temperatures result in lower per capita output in warmer countries, and most low-income countries are in some of the hottest geographic areas on the planet. The adverse effects operate through several channels: **lower agricultural output, weaker labor productivity** in sectors more exposed to the weather, **lower investment,** and **poorer human health**. Populations may respond to changing climatic conditions by **migrating**.

Reaching Poor People

Sobering evidence from Africa illustrates how hard it is to target antipoverty efforts well

Caitlin Brown, Martin Ravallion, and Dominique van de Walle

It has often been said that the world's aggregate poverty gap—the total monetary amount by which all poor people fall below the poverty line—is modest when one uses poverty lines typical of low-income countries. For example, Annie Lowrey wrote in the *New York Times* magazine on Feb. 23, 2017, that "one estimate … recently calculated that the global poverty gap … is roughly what Americans spend on lottery tickets every year, and it is about half of what the world spends on foreign aid."

The implication is sometimes drawn that only a modest sum of money is needed to eliminate global poverty—to bring all poor people up to the international poverty line that separates the poor from the nonpoor.

However, eliminating poverty is a lot harder than the size of the aggregate poverty gap might suggest. Identifying who is poor and by how much is particularly challenging. The calculation cited in the *New York Times* could therefore be way off the mark. Some who are truly poor go wanting while funds end up in the hands of others. Because of imperfect information about levels of living, the amount of money needed to eliminate poverty can quickly balloon.

We have tried to assess whether the data typically available and routinely used by policymakers in sub-Saharan Africa—the poorest region of the world by most measures—are adequate to reliably determine who is poor.

Finding poor households

Identifying poor households is often complicated by a lack of reliable data. It is difficult, or even impossible, in many cases to assess the living standards of all individuals in the population. In higher-income countries, income tax records help. But tax records are not a feasible option in many developing economies, given that many households work in the informal sector or traditional agriculture. Governments are often hindered by constraints on record keeping for reliably measuring all incomes, and these constraints can be severe in poor countries. In addition, household-level data may not be a good indicator of the living standards of individuals within the household.

To try to overcome this obstacle, governments across the world have increasingly turned to some form of proxy means test to identify poor households. The idea is simple. A score is given to each household based on a (usually small) set of readily observable household characteristics that are suggestive of whether a household is poor. Such characteristics may include the size of the household; the gender of the head of the household; the demographic

composition of the household; the type of dwelling in which the family lives; what the dwelling is made of; and the assets a household has (for example, whether the household owns basic items such as a radio or phone). Each of the characteristics is given a weight based on its observed statistical relationship with household consumption based on nationally representative sample surveys.

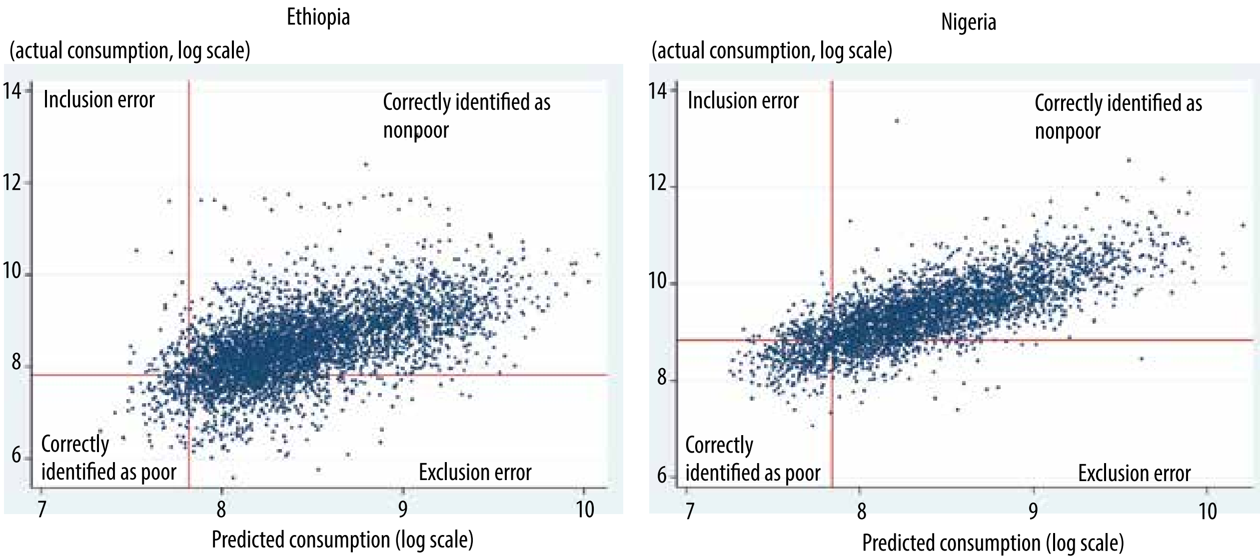
Among researchers and practitioners there has been much debate about the efficacy of proxy means tests (that is, how well the characteristics substitute for direct evidence of income or consumption). Supporters claim that it is a reliable method; critics say that the approach gives unsatisfactory predictions about who is poor and who is not. Concerns have also been raised about lack of transparency and divisiveness within communities, whereby similar households are treated very differently based on some opaque score on a proxy means test.

We study the performance of this popular method in a number of African countries. Our results point to both the strengths and weaknesses of the method. The good news is that proxy means tests can substantially reduce the inclusion of nonpoor households in an antipoverty program; in most cases we studied, the inclusion error rate can be at least halved. The bad news is that this comes at the cost of substantial exclusion of the poor. And when the objective is to reduce poverty, policymakers should be worried about exclusions.

A key reason for the high exclusion error rates is that the standard proxy means test works less well near the extremes of the distribution of household consumption. The statistical properties of the method often lead it to overestimate living standards for the poorest (and underestimate them for the richest). When we compare actual household consumption to the predicted values from the proxy means test, it becomes clear just how much this overestimation matters. For the poorest 20 percent of households, in terms of actual consumption, proxy means tests yield predicted values that are between 50 percent and 100 percent higher than actual consumption. This means that the test misses many of the poorest households in almost all

Poor predictors

In Nigeria and Ethiopia, proxy means tests do a far better job of excluding from antipoverty programs households that are not poor than in identifying those that are poor. Similar errors occur in most low-income countries.



Source: Brown, Caitlin, Martin Ravallion, and Dominique van de Walle. 2016. "A Poor Means Test? Econometric Targeting in Africa." NBER Working Paper 22919.
Note: The red lines represent the poverty line that divides the households with the lowest 20 percent of consumption (poor) from those who are considered nonpoor. Inclusion error (upper left quadrant) occurs when a nonpoor household is identified as poor and exclusion error (lower right quadrant) when a poor household is incorrectly identified as nonpoor. Proxy means tests use household characteristics in lieu of income or consumption documentation to determine whether a household is considered poor. Consumption data are converted to a log base to improve the representation.

countries: on average, 80 percent of poor households are counted as nonpoor by the test, and 40 percent of nonpoor households are counted as poor.

For two of the countries in our study, Ethiopia and Nigeria, the chart shows the relationship between actual consumption and the scores using a standard proxy means test. In both countries, there is a strong positive relationship between the proxy means test scores and actual consumption; most of those deemed not to be poor based on the score are correctly classified. But there are substantial exclusion errors, strikingly so for Ethiopia, where 95 percent of the poor are identified as nonpoor (compared with 55 percent for Nigeria). But for both countries, and indeed for all those in our study, the commonly used proxy variables are clearly not doing a very good job of distinguishing poor households.

For a fixed budget, we find that a common form of the proxy means test reduces poverty only slightly more on average than a universal basic income, in which everyone gets the same transfer, whether they are rich, poor, or middle income. One can do about as well as the proxy means test by making a uniform transfer based on just a few household-level characteristics, such as gender of the household head or whether the household has young children. Indeed, once the often-long delays in implementing proxy means tests and households' changing circumstances are considered, these simpler targeting methods perform better on average in bringing down the poverty rate. When the costs of constructing and implementing the proxy means test are considered, these simpler targeting methods may be preferable in terms of poverty reduction for a given budget.

Pinpointing poor individuals

Even if poor households could be correctly targeted, it is still unclear whether that ensures that poor individuals will be reached. Poverty is individual deprivation, but is almost invariably measured using household data. Typically, every member of a poor household is assumed to be poor, and every member of a nonpoor household is assumed not to be poor.

But the widely used household-based measures may not do a good job of identifying disadvantaged individuals who may share relatively little in the household's aggregate consumption or face impediments in accessing opportunities outside the household—including health, education, and financial services. Missing data on individual-level poverty present a significant hurdle to examining whether antipoverty programs targeted at poor households reach poor people. Individual-level consumption is not easily collected, and it is difficult to determine how income earned by individuals is shared with other household members. For example, in a household where one member works, income could be shared equally among all members or one of them may take a disproportionate share. Specific

> We can find nonpoor individuals residing in poor households and poor individuals in nonpoor households.

members, such as the elderly or orphans, may be discriminated against. Thus we can find nonpoor individuals residing in poor households and poor individuals in nonpoor households.

One dimension of individual welfare that is suggestive of poverty and can be observed in many surveys is nutritional status. We undertook a comprehensive study of the relationship between household wealth (measured by either an index of assets owned or household per capita consumption) and individual nutritional status for 30 countries in sub-Saharan Africa using the Demographic and Health Surveys.

We find a reasonably robust relationship between household wealth and undernutrition indicators for women and children—that is, the incidence of undernutrition tends to fall as household wealth rises. Nonetheless, about three-quarters of underweight women and undernourished children are not found in the poorest 20 percent of households. And about half are not found in the poorest 40 percent. Moreover, countries with a higher overall incidence of undernutrition tend to be those in which a larger share of the undernourished are found in nonpoor families.

There are several potential explanations for these results. The demographic imbalance between poor and nonpoor households, such as poor households having more children than nonpoor households, does not turn out to be a major factor. While measurement errors are clearly present, our tests do not suggest that this is the main reason for our findings.

Intrahousehold inequality helps explain why such a large proportion of undernourished women and children reside in nonpoor households. We find that a sizable proportion of undernourished women and children live in households where a male head of household is not underweight—although sometimes the male head is underweight and other family members are not.

However, intrahousehold inequality is only part of the explanation. This is evident when we redo our calculations assuming that there is no intrahousehold inequality (every household member is assigned the average household nutritional status). Even then we find that a sizable share of undernourished women and children are not found in poor households as identified in the survey data. That appears to be because both poor and nonpoor households living in impoverished areas often share the same health environment and are thus exposed to similar health risks. We find evidence consistent with this explanation using data on the incidence of illness in children across the household wealth distribution.

No easy solution

Information is not of course the only factor affecting antipoverty policies; government budget constraints (also reflecting the government's capacity to raise revenue), incentive effects (such as when nonpoor people change their behavior to receive benefits intended for the poor), and political economy (when some nonpoor people do not support efforts to help poor people) must also be considered. But information is undeniably an important constraint. Policymakers need to have realistic expectations of what can be accomplished given the reliability of the data available.

Our results suggest that the standard data sources on poverty are not very effective in identifying poor households or poor individuals. To reach undernourished women and children, policy interventions will require either much more individualized information or broader coverage than policies finely targeted to poor households. This is especially true in countries with a high incidence of undernutrition.

There is some potential for using better data and better methods. But the idea that we can easily eliminate poverty by finely targeted transfers is overly optimistic. This is true even before we start to think about the (potentially serious) adverse incentive effects that such a policy could generate. FD

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This article draws on "A Poor Means Test? Econometric Targeting in Africa," a 2016 working paper for the National Bureau of Economic Research, and "Are Poor Individuals Mainly Found in Poor Households? Evidence Using Nutrition Data for Africa," a 2017 World Bank Policy Research Working Paper, both by the authors.

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15. Extent and nature of circulation	Average no. of copies each issue in preceding 12 months	Actual no. of copies of single issue published nearest to filing date (September 2017)
A. Total number of copies	17,394	17,700
B. Paid distribution through the USPS	516	783
C. Total paid distribution	531	810
D. (4) Free or nominal rate distribution outside the mail	12,305	11,805
E. Total free or nominal rate distribution	14,402	13,770
F. Total distribution	14,933	14,580
G. Copies not distributed	2,462	3,120
H. Total	17,394	17,700
I. Percent paid and/or requested circulation	3.55	5.56

I certify that the statements made by me above are correct and complete.
Jeffrey Hayden, Publisher

The Case for Economic Reasoning

Jean Tirole
Economics for the Common Good
Princeton University Press, Princeton, NJ, 2017, 576 pp., $29.95

IN THE WAKE of the global financial crisis, many observers—including the Queen of England, who asked why economists hadn't foreseen the crisis—questioned the usefulness of traditional economics. Heterodox economists even called for alternative approaches. But French economist Jean Tirole spells out the usefulness of rigorous economic thinking for society in deep, yet accessible, language in his book *Economics for the Common Good.*

The strength of the book is its breadth. It brings clarity and simplicity to many complex topics covering various fields in economics ranging from climate change, labor market laws, and the global financial crisis to the euro crisis and the gig economy. Many illustrative examples—mostly from France—make the book accessible, and each chapter can be read on its own.

I particularly recommend the chapters on digitalization and the future of work, as they propose answers for challenges ahead.

The chapter on innovation addresses a number of interesting questions. How should property rights over data be regulated so that new firms won't face barriers to entry? What are the implications

Tirole's book supports policies that improve welfare and regulation backed by careful economic reasoning.

of artificial intelligence and machine learning technologies that allow platforms to break up production into simple tasks and to discriminate among customers via surge pricing? How does the drift to a superstar economy—in which a small group of giant companies dominates—affect the optimal tax system in a dematerialized world of increasingly easy international tax arbitrage? Tirole, to his credit, does not focus simply on the efficiency gains of new technologies but also studies their impact on income and wealth inequality.

The heart of the book proposes a shift away from the classic debate of state versus markets, or left versus right, and steers it toward state-with-markets thinking. The role of governments is not to produce goods instead of markets, but rather to complement markets by regulating them through the establishment of common ground rules. However, instead of simply promoting competition, Tirole's book supports policies that improve welfare and regulation backed by careful economic reasoning.

Most interestingly, Tirole provides numerous examples of misleading simple economic intuition. Intuition often focuses only on direct effects and typically overlooks those that are indirect and equally important. For example, strict environmental laws in one country might reduce oil consumption and hence pollution—the direct effect—and at the same time reduce the demand for oil and hence its price. But the lower price of oil in turn makes it a more attractive energy resource in the rest of the world, possibly increasing pollution—the indirect effect.

In sum, Tirole builds on, but goes beyond, standard economics and explains to the layman the work of an academic researcher. Many readers will benefit from reading this great book, rich with insights into a broad spectrum of policy questions. FD

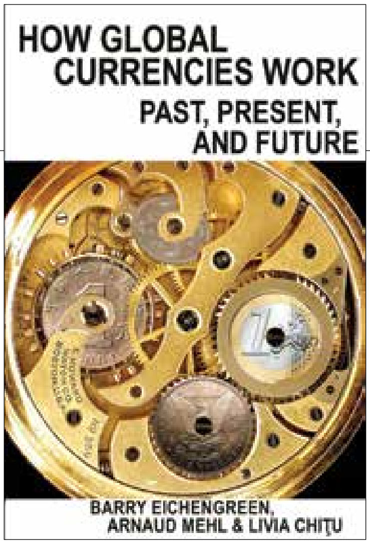
MARKUS BRUNNERMEIER, Edwards S. Sanford Professor of Economics, Princeton University

Jockeying for Position

THE STATUS OF a key currency—one used in international trade and bond issuance and held in official reserves—is more contestable and fluid than most think. So argue Barry Eichengreen, Arnaud Mehl, and Livia Chiţu in a readable and timely book. Their argument generalizes previous research by Eichengreen and Marc Flandreau showing that the dollar caught up with the pound sterling in the 1920s, only to fall behind again in the 1930s.

The book begins with a history of 19th century foreign exchange reserves before describing the founding of the Federal Reserve—or "Fed," as the US central bank is usually called—and the interwar sterling-dollar rivalry. It then analyzes the key roles major currencies can play: trade financing and denominating bonds during the 20th century interwar period and serving as official foreign reserves after World War II. Currency chronicles follow: the retreat of the United Kingdom's pound sterling, the Japanese yen's rise and fall, the euro playing second fiddle, and the prospects for the Chinese renminbi.

Barry Eichengreen, Arnaud Mehl, and Livia Chiţu
How Global Currencies Work: Past, Present, and Future
Princeton University Press, Princeton, NJ, 2017, 272 pp., $39.50



The authors take issue with theorists who say that network effects (a currency, like a language, is handier the more people use it) and inertia (in this case, incumbency of a given currency) lead to a winner-take-all race. Instead, national policies to develop markets made a difference, they say. Through large-scale purchases, the Fed promoted dollar IOUs to finance US exports and imports, thereby reducing US dependence on sterling IOUs. They should note, however, that the Federal Reserve Act of 1913 spared such IOUs costly reserve requirements that, in effect, amounted to a 0.5 percent tax. Eurodollars (dollar deposits at banks outside the United States and beyond the Fed's requirements) enjoyed a similar competitive edge later in the 1950s.

In analyzing currency choices for foreign exchange reserves, the authors face a methodological question: how to measure a currency's domain. Where are network incentives at work? The authors choose the scale of the currency's own domestic economy.

This choice does not jibe with the authors' story about the interwar sterling-dollar rivalry. In the 1930s, sterling returned to its top dog status and replaced the dollar, but not because the UK economy outgrew the US economy. Instead, countries such as Japan shifted their foreign exchange reserves into sterling after they joined the sterling area, a group of jurisdictions that kept their currencies more stable against the pound sterling than against the dollar.

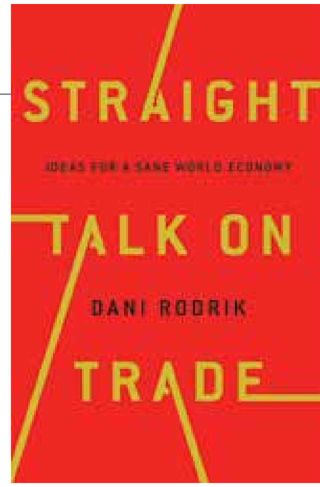
Thus, the dollar area rather than the US economy may define the dollar network. This area includes the US economy, economies such as Hong Kong SAR with dollar-linked currencies, and most of the economies with currencies that move less against the dollar than against the euro. The dollar area covers about half of the global economy, according to the 2015 *Annual Report* of the Bank for International Settlements. Taking the US economy as the dollar's domain is like using the US population to count global English speakers.

Is a renminbi area forming with Asian currencies moving together with the renminbi? Could the dominant international currency change as fast now as it did in the 1920s and 1930s? The book never answers these questions directly, but this sweeping history's idea that policy can boost a challenge to an incumbent key currency leaves the reader well placed to ponder them. FD

ROBERT McCAULEY, senior advisor, Bank for International Settlements

Views expressed are those of the author and not necessarily those of the Bank for International Settlements.

Less Globalization, More Growth



Dani Rodrik
Straight Talk on Trade
Princeton University Press,
Princeton, NJ, 2017, 336 pp., $29.95

STRAIGHT TALK ON TRADE is the latest book in Dani Rodrik's globalization series. The first—*Has Globalization Gone Too Far?*—raised concerns about social cohesion when large groups of people are left behind by trade and technology. He took his thesis further in challenging the global order in his 2011 book *The Global Paradox*. The first book was highly controversial when it was published two decades ago, and many economists dismissed it as stoking protectionism.

But time has proved Rodrik right, at least as a political prognosticator. The blowback he warned about has come true. The Brexit vote and the election of Donald Trump set the stage for this powerful and provocative sequel exploring the survival of democracy and globalization as nationalism rises.

Rodrik stresses ideas in shaping policy and accuses economists of overreaching when translating economic models into policy, especially on trade. Theory implies that unskilled labor will lose from open trade policies in advanced economies. But when economists talk publicly about trade, it is always the aggregate gains they emphasize.

Rodrik does not endorse protectionism or embrace deeper economic integration. Instead, he thinks domestic policy space is needed to manage existing globalization. Developing economies need scope to pursue industrial policies, while advanced economies should protect workers from unfair trade practices, he contends. These goals can be achieved without pitting the global poor against low-skilled workers in advanced economies he says.

The stick of trade remedies is better equipped to manage globalization than the carrot of trade agreements, says Rodrik, and countries that protect workers' rights should be entitled to restrict imports from countries that don't. The alternate strategy of using trade agreements to prod developing economies into adopting higher social standards is ineffective and gives corporations too much influence over public policy and development, Rodrik argues.

While Rodrik is right about tensions in the global system, blaming economists for the backlash against trade seems excessive. Technology, trade, and demand shifts all reduced the need for low-skilled workers in advanced economies, while deregulation reduced workers' bargaining power. The current globalization backlash may have more to do with the need for a villain than with trade's actual role in the process, a point Rodrik concedes. Even so, he continues, deeper integration is a policy choice feeding workers' anger, which not only puts globalization at risk but stokes nationalism and endangers democracy.

Whereas most economists advocate redistribution and investment in education to manage change, Rodrik argues that it is too late for redistribution and that returns to education take years to materialize. Instead, less globalization and more growth are needed. He proposes green industrial policies and public investment to spur growth. The most novel idea is an "innovation fund," a public venture fund for new technologies whose profits would be returned to citizens as an income supplement. If successful, it would improve income distribution, but it could also speed the pace of job loss to technology. Rodrik acknowledges that carefully designed institutions would be needed to ensure that industrial policy and state-managed investment aren't themselves captured. But he does not provide details.

The book offers far-reaching insights on political economy, democracy, and development. A reader expecting a narrative focusing on trade, however, may be disappointed. What is noticeably absent is a delineation of the many benefits of international trade, not to mention a discussion of the long period of global prosperity, poverty reduction, and peace that rising global integration supported. FD

CAROLINE FREUND, senior fellow, Peterson Institute for International Economics

Critical Reception

The new Jane Austen banknote is not universally embraced

John Bishop

IN SOME WAYS, the selection of Jane Austen for the United Kingdom's new £10 banknote seemed a safe choice. The British author of novels such as *Pride and Prejudice* and *Sense and Sensibility* remains one of the country's most beloved figures, with a global community of devotees. Though she died more than two centuries ago, her novels grappled with issues that resonate today.

"Jane Austen was a fantastic and well-respected author and people love reading her books, but there is much more depth to her," Victoria Cleland, chief cashier of the Bank of England, told *F&D*. "She was very interested in women and society, power and leadership…She was probing some quite difficult social issues at the time."

The new note was unveiled at Austen's resting place, Winchester Cathedral, on July 18, 2017, the 200th anniversary of her death. In featuring her likeness on a banknote, the Bank of England gave Austen the validation that it had previously bestowed upon her fellow literary giants Charles Dickens and William Shakespeare.

Yet not everyone was thrilled. The release of a new banknote is always a delicate exercise, but the stakes are raised when a figure as beloved as Austen is involved. So it was perhaps predictable that amid the national enthusiasm over the note's release, some of its most vocal critics were those who knew Austen's work the best.

Out of context

Austen scholars raised a number of concerns, ranging from the portrait of Austen on the bill (too demure for such a slyly transgressive writer) to the image of Godmersham Park, the home of her brother who was adopted by wealthy cousins, which struck some as misrepresenting the precariousness of Austen's financial and social standing, issues that energized her novels.

But far and away, scholars took greatest issue with the quotation chosen for the note: "I declare after all there is no enjoyment like reading." With these innocuous, even anodyne words, the Bank of England raised the hackles of scholars and Austen fans alike.

"To take a quotation from the mouth of an unlikeable, sneering character in *Pride and Prejudice* is pretty perverse," said Janet Todd, the general editor of *The Cambridge Edition of the Works of Jane Austen*.

The quote is a piece of dialogue spoken by Caroline Bingley, the main rival of the novel's heroine, Elizabeth Bennet. A deceitful snob, Bingley actually has no love for reading. Ripping these words out of context struck many as a disservice to Austen.

Critics pounced upon the quote in the days following the bill's unveiling. Nevertheless, some have recognized that the Bank of England faced a formidable challenge in quoting Austen. While poets and philosophers speak for themselves, novelists speak through their characters, an act of ventriloquism that makes it difficult to find a

Expert Opinion

F&D asked some of the world's leading Austen scholars to choose a new quotation for the Austen £10. Here's what they suggested.

"Seldom, very seldom, does complete truth belong to any human disclosure." ***—Emma***

Selected by Claudia Johnson, professor at Princeton University, author of Jane Austen: Women, Politics and the Novel

"Men have had every advantage in telling their own story…the pen has been in their hands." ***—Persuasion***

Selected by Helena Kelly, author of Jane Austen, the Secret Radical

"It is well to have as many holds upon happiness as possible." ***—Northanger Abbey***

Selected by Janet Todd, critic, novelist, and former president of Lucy Cavendish College, Cambridge

"A large income is the best recipe for happiness I ever heard of." ***—Mansfield Park***

Selected by Claire Harman, author of Jane's Fame: How Jane Austen Conquered the World

PHOTO: ISTOCK / WHITEWAY

pithy statement that expresses the author's true beliefs. The task is fraught with difficulty when the writer's stock in trade is wit, satire, and irony.

"A banknote is all about trust, it's a promise to pay," said Deidre Shauna Lynch, a professor at Harvard University and editor of *Janeites: Austen's Disciples and Devotees*. "But because Austen is such an ironic writer, it makes it harder than some writers to identify her with what's trustworthy."

In Jane We Trust

Nevertheless, the new Austen note has a number of features that enhance its trustworthiness as a store of value. Cleland described the bill as the product of a years-long iterative process between the Bank of England, the bill's printers, and the cash industry. The result is a banknote that harmonizes state-of-the-art technology with artistry.

The Austen £10 is the second UK banknote to be printed on polymer, which makes it more durable and difficult to counterfeit than its paper predecessor. The transition to polymer enabled a number of technological innovations, chief among which is a large see-through window that bears Queen Elizabeth's portrait.

Cleland highlighted several security features as representing a technological leap forward in currency design, including an image of Winchester Cathedral that appears in gold on the front of the note and silver on the back.

Affixing foil to what is essentially a piece of plastic is a challenge in its own right. But affixing a foil that has very different images on either side directly behind each other—as was done with the crown on the front of the bill and the copper book emblazoned with the letters "JA" on the back—marks a technological advance.

"The main thing that people are struck by is getting the right mix between science and aesthetics, and all on a tiny piece of plastic that you can fit in a wallet," Cleland said.

While it's impossible to know what Austen would think of the bill that bears her visage, for a novelist who wrote so candidly about money, class, and status, she'd probably find her selection on the £10 quite fitting. It was the same sum she was paid for her first novel. FD

JOHN BISHOP is an institutional affairs officer in the IMF's Secretary's Department.

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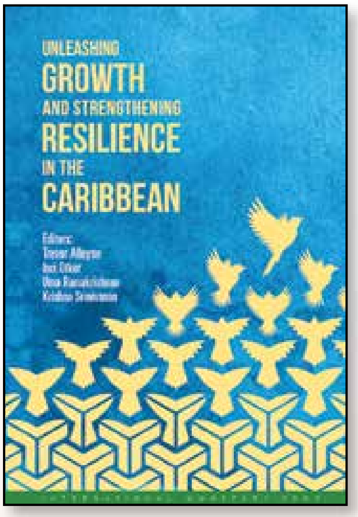

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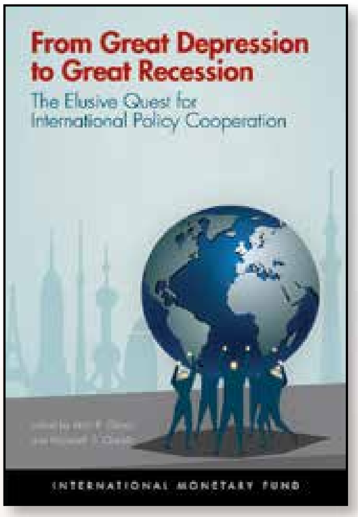

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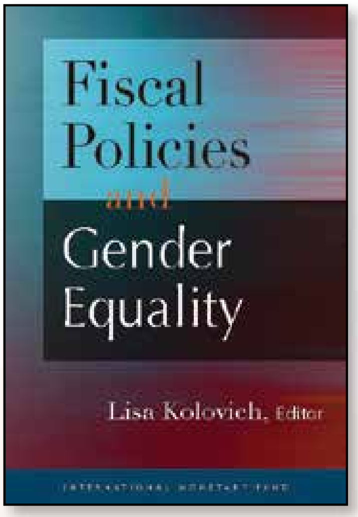

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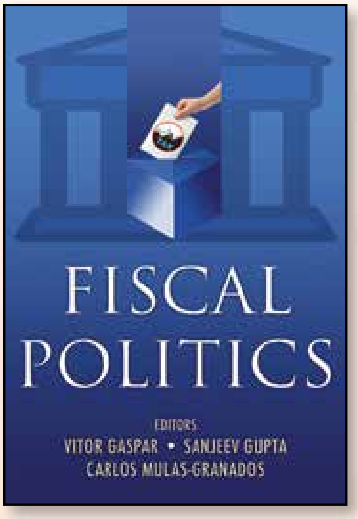

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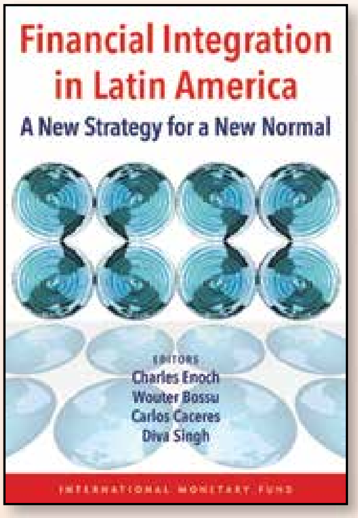

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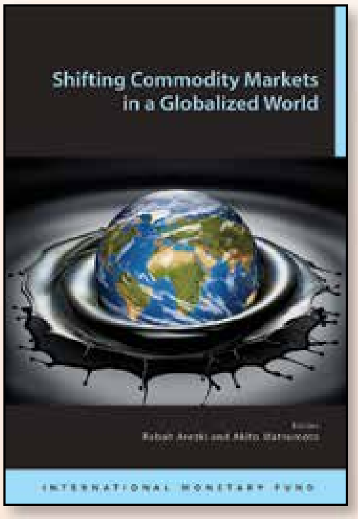

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