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Infrastructure

Rajan on Booms
and Busts

Changing Africa

Rise of a Middle Class

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FEATURES

AFRICA'S MIDDLE-CLASS MOTOR

ALSO IN THIS ISSUE

Africa: Changing the Narrative

ENDURING poverty and conflict are so stark in Africa that it is sometimes difficult to see what else is happening.

In April 2011, a study published by the *Columbia Journalism Review* titled "Hiding the Real Africa" documented how easily Africa makes news headlines in the West when a major famine, pandemic, or violent crisis breaks. But less attention is given to positive trends and underlying successes.

In many cases, despite accelerated economic growth over the past 10 years, the rise of a middle class of consumers, and a more dynamic private sector attracting indigenous entrepreneurs, the narrative about Africa has remained focused on the bad news.

Recently some have started to change this. The World Bank published a book on African success stories, titled *Yes Africa Can*. And the Tunis-based African Development Bank marked 50 years after independence from colonialism for many African nations with a study called *Africa in 50 Years' Time: The Road Towards Inclusive Growth*.

The study says that "Over the past decade, despite the successive global food and financial crises, Africa has been growing at an unprecedented rate. Though it will take decades of growth to make major inroads into Africa's poverty, there is now a growing optimism about Africa's potential."

This issue of *F&D* explores that potential, epitomized by our cover showing Kenyans Susan Oguya and Jamila Abass, cofounders of AkiraChix, who developed a mobile phone application for farmers in rural areas. They are working in a technology hub for IT investors and tech companies. The lead article by Harvard professor Calestous Juma says a growing middle class is shifting perceptions about Africa's prospects. The middle class may have comparatively little to spend by Western or Asian standards, but the traditional focus on eradicating poverty in Africa "distracted both African authorities and international donors from serious consideration of ways to promote prosperity infrastructure development: technical education, entrepreneurship, and trade," he says.

In our "People in Economics" column, we profile Nigeria's economic czar, Ngozi Okonjo-Iweala, who is shaking things up in Africa's most populous country. She says Africa has to make up for lost time in the global race to be competitive.

Undeniably, much remains to be done. Articles in this issue discuss how to tackle poor infrastructure and power shortages and guard against famine.

Separately, we have articles looking at prospects for the euro area, emerging markets, and commodities, and explain econometrics.

Jeremy Clift
Editor-in-Chief

DEPARTMENTS

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Second Time Around

Jeremy Clift profiles Nigeria's economic czar
Ngozi Okonjo-Iweala

"It always seems impossible until it's done."
Nelson Mandela

AMID the drab suits of international finance, Ngozi Okonjo-Iweala's colorful and vibrant traditional African attire always guarantees she will stand out in a crowd. Often wearing a coordinated head wrap, Okonjo-Iweala is a big personality with matching opinions. "I feel very Nigerian, very African, and I love it," she says.

The daughter of two university professors from the Niger Delta region, she has a reputation for no-nonsense straight talk and tough action that has won her the nickname Okonjo-Wahala, or "Trouble Woman," from both critics and legislators back home because of her zeal for reform.

Appointed to the job of coordinating minister in charge of all economic ministries, she has the unenviable job of revamping the economy of Africa's most populous country. One in six Africans is Nigerian, and in a very real sense much of the future dynamism of the continent will be determined in the Nigerian capital.

Africa, says Okonjo-Iweala, has no time to lose. "We, as countries, need to run faster if we are not going to fall behind in this global race."

Tough negotiator

It's second time around for Okonjo-Iweala, who has taken on the demanding job of Nigeria's economic czar, giving up her position as a managing director at the World Bank in July 2011 to return to the capital of Abuja for the second time in a decade.

As managing director, she negotiated a \$49.3 billion funding package last year for the International Development Association (IDA), the Bank's fund for the poorest countries, which plays a key role in working toward the UN Millennium Development Goals.

She had earlier served as Nigeria's finance minister and then briefly as foreign affairs minister from 2003 to 2006—the first woman to hold either position. During her first government stint, she worked to combat corruption and entrenched vested interests, increase financial transparency, and institute reforms to make the economy of Africa's largest oil exporter more competitive and more attractive to foreign investment. She also struck a deal in 2005 for debt relief worth $18 billion from bilateral creditors and secured the country's first sovereign credit rating.

Hardship and malaria

Okonjo-Iweala traces her resilience and determination to her childhood. She grew up partly under British colonialism and later during the devastating Biafran war, when pictures of starving and sick children grabbed world headlines.

"I have lasting memories of children dying around me," she told *F&D* in an interview.

Up to three million people may have died during the civil war and military blockade, mostly from hunger and disease. A daughter of privilege—her father is the traditional Igbo ruler, or Obi, of Ogwashi-Uku in southeast Nigeria—the young Okonjo-Iweala worked with her mother, Kamene, in a soup kitchen for the troops.

Her father, Chukwuka Okonjo—a retired professor of economics—joined the breakaway Biafran army as a brigadier. "Basically, we ran from place to place and my parents lost everything, everything they owned—all their household belongings, all their savings," she remembers. "I spent some time in Port Harcourt with my mother, and we would cook for the armed forces. We spent all day doing that. That was our way of contributing. We had no meat for three years. We couldn't go to school until the last year of the war, when my mother set up a little school."

Before the civil war, Okonjo-Iweala lived for some time with her grandmother in a Nigerian village, while her parents were studying in Germany. "She was very loving but also liked discipline. I had to fetch water from the stream with other children before going to school, do the chores, and go to the farm with my grandmother. I think first growing up in the village and having that type of focus and discipline—and then growing up during the war—made me very hardy, able to survive in very difficult conditions."

Okonjo-Iweala tells how during the civil war, while her mother was ill and her father away in the army, she rescued her three-year-old sister who was sick with malaria and at death's door. She put her sister on her back and walked 10 kilometers to a clinic in a church, where she'd heard there was a good doctor. When she arrived, there were a thousand people outside, trying to break down the door. Undeterred, she crawled through their legs with her sister on her back and climbed through the window to see the doctor. "I knew if she didn't get help she'd die," says Okonjo-Iweala.

The doctor gave the girl a shot of chloroquine and put her on rehydration therapy, and within hours she was back to health. The injection saved her sister's life. "The 10 kilometers home with her on my back, that was the shortest walk of my life. I was so happy," she said.

She has shown the same pluck and determination ever since.

Battling vested interests in Nigeria

When she was appointed to head Nigeria's economic management team, she and Liberian President Ellen Johnson Sirleaf, co-winner of this year's Nobel Peace Prize, were portrayed on the cover of *Africa Report* magazine as two of Africa's Iron Ladies who are spearheading change.

The biggest issue on the continent now is jobs for young people. . . . You have millions of youth coming on the job market.

One of Okonjo-Iweala's first moves was to slash red tape in Nigeria's ports, cutting the number of federal agencies working there from 14 to 6. Other sacred cows, such as fuel subsidies, are also on the chopping block, but reforming the tangled web of poverty, kickbacks, extortion, mismanagement, and ethnic tensions is difficult.

While many laud her drive for reform, critics argue that her determination to slash fuel subsidies, for example, shows she is blind to the interests of the man in the street, who benefits from the lower gasoline price.

Nigeria, with a population of 158 million, is the largest country in Africa, is its biggest oil exporter, and has the largest natural gas reserves on the continent; but more than half the population still lives in grinding poverty, hobbled by power outages, poor roads, and corruption. Despite the problems, the country is home to the largest movie industry in Africa, producing the second largest number of video releases in the world after India and ahead of Hollywood.

"What do we need to do? Our priority in the present budget is first and foremost security. Second is infrastructure, infrastructure, and infrastructure because this is one of the bottlenecks to making the other sectors in the economy work. We also need power, roads, and ports," says Okonjo-Iweala, who coordinates the country's economic agenda.

"We launched port reforms recently; we tried to bring down the cost of going through our ports and saving people the stress that it entails, like taking three to four weeks for clearance of goods. We tried to bring the clearance period to one week and even less, halving the number of agencies at the ports and trying to deal with the corruption, extortion, and other things that go on there, to bring the cost of doing business down."

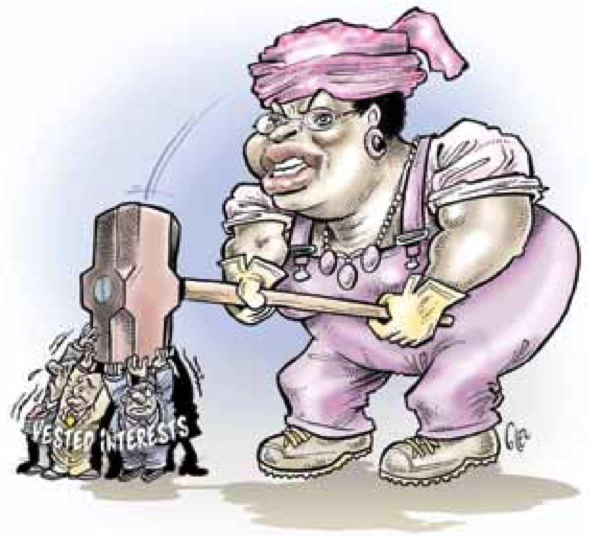
Steady hand

Colleagues say she always had star power. She graduated magna cum laude from Harvard in 1976 (see Box 1) and holds a Ph.D. in regional economics and development from the Massachusetts Institute of Technology. In 1982 she joined the World Bank, where she worked until July 2011 (except during 2003–07, when she was first in Nigeria and later a consultant), rising through the ranks and eventually becoming a managing director.

Affable, approachable, and hardworking, she was known for her rigor and strong technical knowledge. "I would say she is an eternal optimist and a straight shooter," says Tijan M. Sallah, who currently heads the Capacity Development and Partnerships Unit for Africa in the World Bank and who wrote a book with Okonjo-Iweala (see Box 2). "She is also a strong advocate for women," he adds, pointing to her efforts to help promote promising young women into managerial positions in the World Bank. She also helped set up a private equity fund to invest in African women–owned businesses.

She thrives on hard work, cramming appointments into the day. But her flexible approach to time is not for everyone. "I am the type of person who likes to get to the airport two hours before takeoff," says her spokesman, former journalist Paul Nwabuikwu. "She is the type who will show up when there are only five minutes to go," he told *Africa Report*.

Others welcome her steady hand. "Despite the fact that she works incredibly hard, and long hours, Ngozi is always calm and collected—never flustered—which is extremely valuable in the mad rush that characterizes the development business," says Shantayanan Devarajan, chief economist for the Africa Region at the World Bank.



Development economics

Nigerian critics say that her Harvard education and the amount of time she has spent abroad have given Okonjo-Iweala an overly Western perspective and that she is intent on ramming through difficult reforms when security is under stress. A development economist for more than two decades, Okonjo-Iweala has been responsible at various times for programs in countries in Asia, the Middle East, and Africa. She says ideas about development have evolved and gone through several phases.

"I look at it more from the practitioner's viewpoint because most of my career was at the World Bank." When she started out, she says, there was a feeling that all the answers lay out there, in the field. "The whole theory of savings and investment and lack of capital—and if you could just fix that, then the countries would be able to develop.

"When that didn't quite work, the focus shifted to lack of capacity. If you just built up capacity through technical assistance, then all the problems would be solved. But they weren't solved. So we had rather a one-dimensional approach, particularly to Africa, for quite a long time."

In that respect, the findings of the *Growth Commission*, headed by Nobel laureate Michael Spence, were a breath of fresh air. "The admission that there is no one all-perfect answer on the issue of growth and development, that there is good practice and bad practice and we should learn the good lessons and keep away from the bad, and that there is no one magic bullet—it's very humbling and helpful," says Okonjo-Iweala, who was one of the commission's 22 members from around the world. It published its final report in 2008.

But certain things have been consistent, including the emphasis on a strong and stable macroeconomic framework as the bedrock for the development of the real sector. "Without a stable and functioning macroeconomic environment, you really cannot move in a sustainable fashion. The lessons about implementing basic prudent fiscal policies and sensible monetary and exchange rate policies—looking at your competitiveness and keeping that in view, which means that you really have to adjust continuously. Adjustment is not a one-time thing: it is something that you do all the time to manage the economy and that you have got to do to maintain policy consistency.

"Learning those lessons has taken a number of years."

She says Africa wasted a lot of time—during the "lost decades" of the 1980s and 90s in particular.

"What is really interesting to me is that after those lost decades, African countries have really learned the lessons, and that has helped them to do much better in the economic and financial downturn of 2007—until now.

The next BRIC?

Drawing the right conclusions has helped put sub-Saharan Africa on a growth path, even during the current global turmoil.

Box 1

Accidental major

At Harvard, Okonjo-Iweala studied economics. "It was an accidental major," she says. "I was a top student in geography at school and very interested in regional and spatial issues and their impact on development. So I applied to study geography at Cambridge, England. When I, with my family, decided I should go to Harvard, I just assumed this would be a subject there I could major in."

To her consternation, she found on arrival in Massachusetts that Harvard had no geography major.

"When I described my interests to some tutors they said the closest major that mirrored my interests was economics, so there it was. I ended up with that and went into regional economics for graduate school. We were the ones who studied the now forgotten input-output economics of Wassily Leontief, the Nobel Prize winner, and social accounting matrices—which are still used."

All four of her children have also studied at Harvard.

So much so that when she was still at the World Bank, Okonjo-Iweala began talking about Africa as the next BRIC—referring to major emerging markets, such as Brazil, Russia, India, and China. "What trillion-dollar economy has grown faster than Brazil and India between 2000 and 2010 in nominal dollar terms and is projected by the IMF to grow faster than Brazil between 2010 and 2015? The answer may surprise you: it is sub-Saharan Africa!" she told an audience at the Harvard Kennedy School in May 2010.

To turn the BRIC vision into a reality, sub-Saharan Africa needs to grow even faster than it did before the global financial crisis. A big push to build infrastructure is part of the solution.

As in Nigeria, lack of adequate infrastructure, she says, is one of the big factors holding Africa back. Africa's poor roads, ports, and communications isolate it from global markets, and its internal border restrictions fragment the region into a myriad of small local economies. It is neither regionally nor globally integrated.

The problem is how to pay for that infrastructure. Okonjo-Iweala suggests that major donor countries could issue African Development Bonds on the New York market to provide the financing. "Most importantly, issuing a bond like this could change perceptions overnight about Africa as a place to do business. Faced with secure financing of $100 billion, private firms across the world would line up to provide infrastructure in Africa," she predicts.

Together with better underlying economic policies, Okonjo-Iweala predicts that a rising middle class in Africa will fuel growth.

"We don't want to exaggerate it, but you can definitely see that it is there. That gives a bedrock from which one can talk about investment, purchasing consumer goods, to see the continent as an investment destination. Not just for exports but also for the consumer market. If you look at what has happened in the telecommunications revolution in Africa, then you would really know that things are changing. In Nigeria, we now have 80 million phone lines. Within living memory, about 11 years ago, we had just 450,000 land lines. This is changing the way that business is done. It is changing the way development is done and is going to be done in the future."

Jobs for the young

She believes private sector growth will underpin job creation. "The biggest issue on the continent now is jobs for young people. If you look at the demographics, you will see that in most African countries 50 to 60 percent of the population is 25 and under. With that realization, you have millions of youth coming on the job market."

One way of stimulating the private sector is to encourage large numbers of well-educated Africans abroad to come home. "You cannot wait as a diaspora person for everything to be OK, for the economy to be better, for security to be perfect. You can't wait for everything to come together.

"We need them back because they can be the bedrock and the backbone of development in many of these countries. Nigeria, for example, has thousands of doctors in the United States, but here we are badly in need of proper medical care," says Okonjo-Iweala. "We keep sending people abroad for treatment, so why can't these doctors come back and set up? Why should we spend precious resources sending people abroad with complicated cases? We need those skills."

At the same time, receiving countries need to make sure Africans coming home are welcome, and not treated with envy or suspicion.

Box 2

Chinua Achebe "My hero"

When Okonjo-Iweala couldn't find an inspirational book on African heroes for her eldest son while her family was living in Washington D.C., she decided to write her own, in what turned out to be an eight-year project on Chinua Achebe, the well-known Nigerian writer and activist.

"My oldest son loved nonfiction biographies as a child and adolescent, but all the books I could find were on American and British heroes, none on African heroes." She teamed up with Tijan Sallah, an economist and writer from The Gambia, to write a series on influential Africans.

But the first book took so long that so far they have written only about Achebe, author of an acclaimed 1958 English language novel on Nigeria, *Things Fall Apart*. "He is someone who made African culture accessible," says Okonjo-Iweala. "I knew him personally. He is an African who could tell our own stories—simple and direct but at the same time so elegant."

On the day of the book launch, Sallah says, he got a call from retired former U.S. Secretary of Defense and World Bank chief Robert McNamara, asking the location of the Ngozi event. "I knew Ngozi's magic and brand were at work," he said.

Okonjo-Iweala's son Uzodinma Iweala is the author of the novel *Beasts of No Nation*, about a child soldier in west Africa.

Sallah, Tijan M., and Ngozi Okonjo-Iweala, 2003, Chinua Achebe: Teacher of Light *(Trenton, New Jersey: Africa World Press).*

Not for those with thin skins

Returning to Nigeria elicits a combination of emotions for Okonjo-Iweala. "It feels right, it feels joyful, but it's also frustrating. There is so much to do."

"I have a president who really wants change," she says, referring to Goodluck Jonathan, who won the presidential election in April this year. "But we have a long way to go. We have a lot of challenges to meet. We are working on so many programs that we need to correct. But so long as the political will is there, then you just take it one by one.

"There are a lot of vested interests, a lot. They are not just going to allow you do everything without fighting back. And the way they fight back isn't necessarily nice and neat," she says. "On the Internet, they put up all kinds of stories about me or they attack in different ways. What they are trying to do is either take you down or bring your reputation down, because we are trying to correct a few things. So it is not a pretty game. Not a game for those with thin skins or weak stomachs." ■

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

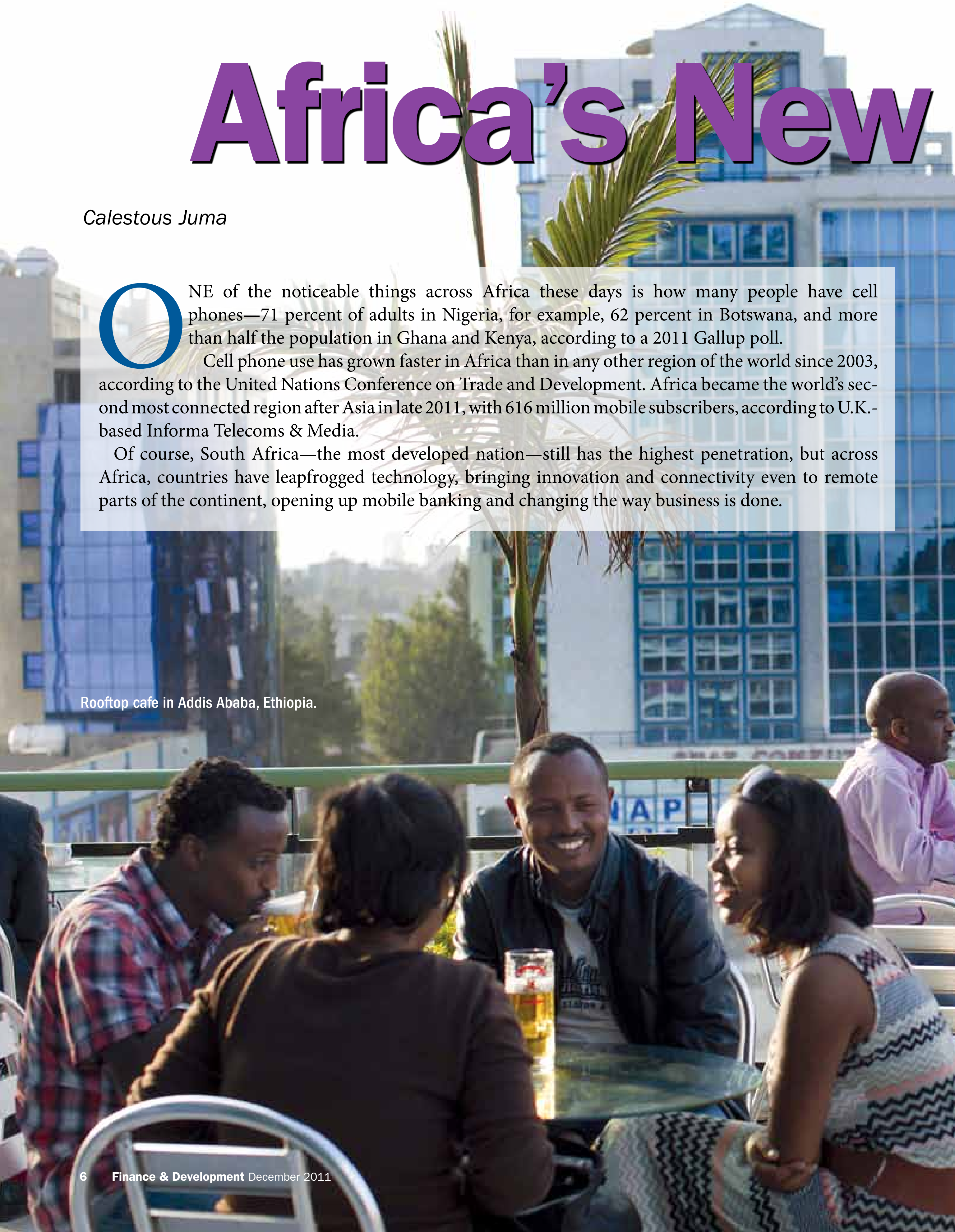
Africa's New

Calestous Juma

ONE of the noticeable things across Africa these days is how many people have cell phones—71 percent of adults in Nigeria, for example, 62 percent in Botswana, and more than half the population in Ghana and Kenya, according to a 2011 Gallup poll.

Cell phone use has grown faster in Africa than in any other region of the world since 2003, according to the United Nations Conference on Trade and Development. Africa became the world's second most connected region after Asia in late 2011, with 616 million mobile subscribers, according to U.K.-based Informa Telecoms & Media.

Of course, South Africa—the most developed nation—still has the highest penetration, but across Africa, countries have leapfrogged technology, bringing innovation and connectivity even to remote parts of the continent, opening up mobile banking and changing the way business is done.



Rooftop cafe in Addis Ababa, Ethiopia.

Engine

Africa looks to its middle-class consumers to drive prosperity

Seeing the cell phone success, banking and retail firms are eyeing expansion in Africa to target a growing middle class of consumers. According to the African Development Bank (AfDB), one of the results of strong economic growth in recent years has been a significant increase in the size of the African middle class.

The middle class will continue to grow, from 355 million (34 percent of sub-Saharan Africa's population) in 2010 to 1.1 billion (42 percent) in 2060, the bank says (AfDB, 2011a). And this middle class is the key to Africa's future prosperity.

Good combination

Following African countries' independence, the continent has struggled with a seemingly endless array of development challenges, from civil war and political instability to chronic food insecurity, droughts, disease, and pervasive poverty and corruption.

But in recent years, Africa has started to see an economic resurgence. Better economic policies, governance, and use of natural resources, coupled with more business-friendly policies and stronger demand for Africa's commodities from emerging economies such as Brazil, China, India, and South Africa, have led to consistently high growth levels in Africa, despite the global downturn.

"Over the past decade, despite the successive global food and financial crises, Africa has been growing at an unprecedented rate. Though it will take decades of growth to make major inroads into Africa's poverty, there is now a growing

Morning street scene in Nairobi, Kenya.

optimism about Africa's potential," says the AfDB report *Africa in 50 Years' Time*.

Poverty will be a fact of life for a long time: one-third of all Africans will still be extremely poor in 2060, living on less than $1.25 a day, according to the AfDB.

To the outside world, the symbolism of helping people living on a mere $1 a day had irresistible appeal. But the emphasis on aid did not encourage Africa to aspire to higher economic performance. A change in focus from poverty to gradually growing prosperity represents a deep shift in the perceptions of Africa's economic future, with profound policy and practical implications.

The traditional emphasis on eradicating poverty in Africa distracted both the African authorities and international donors from serious consideration of ways to promote prosperity: infrastructure development, technical education, entrepreneurship, and trade.

What do we mean by middle class?

It is not an easy task to define what middle class means or how many people fall in that category across the 47 countries of sub-Saharan Africa. But the group we are referring to falls somewhere between Africa's large poor population (defined as those living on less than $2 a day) and the small, rich elite.

These people are not middle class in developed country terms, or even by the standards of emerging markets, but in African terms they have disposable income and are demanding an increasing amount of goods and services that contribute to the overall well-being of society. Their average income is between $1,460 and $7,300 a year.

According to the AfDB, Africa's middle class has been steadily rising since the 1980s. In 1980 the middle class accounted for 26 percent of the population, standing at 111 million. A decade later it had risen to 27 percent, or 196 million, and by 2010 more than a third of the population was middle class (AfDB, 2011b).

Middle-class Africans are young and in the acquisitive phase of life, according to a recent survey of the Nigerian cities of Lagos, Abuja, and Port Harcourt by emerging market investment bank Renaissance Capital. Nearly 70 percent of them are under the age of 40. About half at any given time are in the market for refrigerators, freezers, and other durable consumer goods. And that consumer demand extends to other sectors—such as housing, home improvement, transportation, and leisure.

Consumer spending in Africa is projected by the McKinsey Global Institute to reach $1.4 trillion in 2020, from about $860 billion in 2008. Decisions by major consumer retail chains such as Walmart to establish a presence in Africa reflect global confidence in the economic impetus we can expect from the African middle class.

By 2030, African countries with large populations—such as Ethiopia, Nigeria, and South Africa—will be the main sources of the new middle class, who can be expected to spend $2.2 trillion a year, or about 3 percent of worldwide consumption.

Across Africa, change is in the air. Many of the old problems remain—deep poverty, poor infrastructure, and famine in areas of a continent abundant in natural resources. But equally remarkable is the rise of a new generation of young entrepreneurs creating new opportunities for ancient lands.

Factors that make this change possible range from a business environment that fosters locally based growth to increased regional integration and new forces for globalization that spur increased opportunities for growth.

Business environment and entrepreneurship

Together with government economic policies that foster growth, the emergence of an African middle class has been driven by a robust private sector led by local entrepreneurs, whose rapid adoption of emerging technologies will boost middle-class potential. Advances in information and communications technologies, for example, offer new business opportunities for young people.

This is not to deny that the majority of Africa's labor force will still be in the informal sector, working in low-productivity, low-earning jobs. Even if formal sector wage employment grows at 10 percent a year, the share in the informal sector will still dominate at 60 to 70 percent in 2020.

Rwanda, still remembered for its 1994 ethnic bloodshed, offers a glimpse of what the future of the African middle class could look like. Inspired by the prospect of integrating with the global economy, young Rwandans are tapping into the latest technologies to start new businesses.

Clarisse Iribagiza and other engineering students at Rwanda's Kigali Institute of Science and Technology started HeHe Limited, a mobile applications development firm, in 2010. The company grew out of training the students received from a Massachusetts Institute of Technology program, Accelerating Information Technology Innovation, designed to foster entrepreneurship and software-related business development. HeHe is one of many Rwandan start-up firms seeking to take advantage of the expansion of telecommunications infrastructure—especially broadband.

Similar start-ups are appearing in other African countries. In Kenya, for example, new companies are bringing the latest information technology to fields as diverse as entertainment, communications, education, agriculture, and services.

These start-ups demonstrate the long-term economic impact of investment in infrastructure. In 2009, the Mauritius-based Seacom Company launched a $600 million undersea fiber-optic cable connecting South Africa to Europe via the east African coast. According to Seacom's former CEO, Brian Herlihy, this infrastructure venture catalyzed an additional $6 billion investment in terrestrial fiber built for "national backbone" networks, municipal networks, and mobile towers in eastern and southern Africa.

Seventy-six percent of Seacom's shares are held by African investors, a sign that foreign capital and technology can leverage local investment in megaprojects that boost business development and growth of the middle class. The next phase for Seacom will help Africa leapfrog into broadband-based services such as cloud computing.

The improved business climate will lead to greater emphasis in coming decades on locally based economic growth, especially in cities, which are often centers of creativity. The new middle class will rise in industrial and agricultural clusters that provide opportunities for innovation and entrepreneurship. Current investments in critical infrastructure such as broadband will lead to greater connectivity, mobility, and clustering of economic activity.

The new African middle class will flourish in knowledge centers that are connected to the global economy. The seeds of such growth can be found in places like Ikeja, the nascent computer-based industrial district of Lagos, and emerging knowledge-based industries such as Nigeria's movie production network ("Nollywood") will produce a new crop of entrepreneurs ready to shape the character of the next generation of middle-class Africans.

Regional markets

In addition to promoting local sources of economic growth, Africa is moving rapidly to foster regional integration aimed at creating larger continental markets. The most inspiring of such efforts is the June 2011 launch of negotiations for a Grand Free Trade Area (GFTA) stretching from Libya and Egypt to South Africa.

The proposed GFTA would merge three existing blocs, including the Southern African Development Community, the East African Community (EAC), and the Common Market for Eastern and Southern Africa (see "Data Spotlight: Trade in East Africa," in this issue of *F&D*).

Proponents envision that GFTA will include 26 countries with a combined GDP of over $1 trillion and an estimated consumer base of 700 million people. This significant market will appeal to foreign as well as domestic investors. Local industrial and agricultural development will take center stage, but many inputs will come from abroad, and talks on developing this tripartite free trade area are already under way.

Larger trading blocs facilitate the economic growth that in turn enhances the expansion of the middle class. It is estimated that the free trade area initiatives of the three existing regional blocs in Africa led exports among the 26 member states to increase from $7 billion in 2000 to over $32 billion in 2011.

These efforts build on ongoing integration efforts in the EAC, including a customs union, common market, common currency, and political federation. The five member countries (Burundi, Kenya, Rwanda, Tanzania, Uganda) count 135 million people with a total GDP (at current market prices) of about $80 billion, representing a powerful consumer base.

The region is currently negotiating the establishment of a monetary union to advance and maintain sound monetary and fiscal policy and financial stability. The negotiations are attempting to take into account the limitations of the euro area by including provisions for fiscal integration and financial stabilization. If adopted as envisaged, the monetary union would yield Africa's first genuine regional economy, which would attract foreign direct investment and bolster consumer spending and growth of the middle class.

Meeting the investment challenge

Intra-Africa trade is limited by the continent's poor infrastructure (mainly in energy, transportation, irrigation, and telecommunications). The Democratic Republic of the Congo (DRC), for example, has a total paved road network of about 3,100 kilometers and is four times the size of France, which has nearly 1 million kilometers. The DRC's ability to effectively participate in the free trade area will depend on how fast it invests in infrastructure construction and maintenance.

Couple takes photo with a cell phone in Soweto, South Africa.

Africa as a whole will need nearly $500 billion over the next decade to meet its infrastructure needs (see "Building an African Infrastructure" in this issue of *F&D*). A number of countries have started implementing ambitious plans to fill this infrastructure gap. Senegal, for instance, is upgrading its energy, road, and airport infrastructure with a view to making the country a regional business hub.

Economic growth in Africa and the associated rise of the middle class depend in part on larger international investment triggered by increased trade, particularly with growing emerging markets. China's trade with Africa was valued at $10 billion in 2000 and is projected to exceed $110 billion in 2011; India's, at $3 billion in 2000, is projected to rise to $70 billion by 2015. These ties do introduce risks: Africa's overall growth is so highly correlated with its exportation of raw materials to China that it is vulnerable to manufacturing fluctuations in that country.

Beyond the pressing requirements for social investment in education and health, it will take massive injections of capital to bridge the huge infrastructure gap confronting the continent.

Diaspora support

The African middle class is rising as the continent is integrating with the global economy. Likely to foster global connectivity is the large number of Africans in diaspora (see "Harnessing Diasporas," *F&D*, September 2011)—estimated at 30 million or more, and a possible source of investment.

The main influence of this diverse community has so far been through the money its members send home, which is estimated at $38 billion annually. Unrecorded transfers could make that remittance total closer to $60 billion. These flows, of which a large proportion supports emigrants' families back home, significantly dwarf the $25 billion in official development assistance Africa receives yearly.

But the African diaspora is increasingly an important source of the investment capital that supports the growth of the middle class.

Africans in diaspora are helping build a new generation of universities that not only increase competence but foster the growth of the middle class. One example is Ashesi University College in Ghana, started by Patrick Awuah, a former Microsoft employee and graduate of the Haas School of Business at the University of California, Berkeley. The college aims to train "a new generation of ethical, entrepreneurial business leaders in Africa and to nurture excellence in scholarship, leadership and citizenship."

There are similar developments in even poorer parts of Africa. For example, Northern Somaliland, which declared independence after the fall of Somali military dictator Siad Barre in 1991, has relied significantly on its diaspora to build institutions of higher learning. It started by building the University of Hargeisa, followed by the establishment of Burao University, Amoud University, Somaliland University of Technology, and Gollis University.

The growing contribution of African diasporas to the rise of the middle class is reinforced by greater connectivity and mobility. Direct flights between the United States and west Africa, for example, ease investment flows into the region. Ghanaians working in the pharmaceutical industry in the New Jersey area are starting to invest in health care in their home country. Similar investment flows and trade linkages will help foster the growth of the middle class in West Africa.

Building entrepreneurial competence

Universities and other institutions of higher learning play a key role in providing the local knowledge needed by entrepreneurs. For historical reasons, African universities tend to focus more on traditional education functions than on technical and entrepreneurial skills. First-generation African universities were designed to train postcolonial civil servants; departing colonial administrators had little interest in training Africans to be agents of economic change. This traditional approach became the model for new universities, even though economic demands called for greater emphasis on technology and business.

But as Africa invests in new and updated infrastructure, the associated projects offer an opportunity to build up the region's capabilities in project design, execution, and maintenance. And regional energy, transportation, irrigation, and telecommunications projects in turn will provide the basis for technical training.

Such specialized universities can combine theoretical training with practical work through experiential learning, which will help diversify approaches to higher education without the need to reform existing universities, some of which might voluntarily adopt the new models.

There are already such universities in Africa and elsewhere—for example, Egypt, Ghana, and Kenya have schools dedicated to the telecommunications sector. Moreover, Africa's varied exports, such as minerals and agricultural commodities, are associated with long value chains that provide a rich basis for curriculum development and pedagogical innovation, in diverse locations.

Coffee, chocolate, tea, flower, copper, and diamond production curriculums are just waiting to be developed. Pittsburgh's Carnegie Mellon University has established a branch in Rwanda for graduate training in technology and entrepreneurship, which will position the country as a technology hub and serve surrounding countries as well.

Urban hubs of growth

The rise of the middle class brings growing urbanization—centers of population that can drive growth and creativity.

Lagos, the former capital of Nigeria, was once left for dead after federal leaders retreated to found a new seat of government in the hinterland. Today it is a bustling symbol of economic renewal, thanks in part to the city's dynamic leadership but largely because of Lagosians' entrepreneurial spirit and the rise of the middle class as an economic force.

Nearly 20 percent of Lagosians are now members of Nigeria's growing middle class. The recent survey by Renaissance Capital predicts that the Nigerian middle class in Lagos will significantly boost local and international demand for manufactured goods.

One way to tap into the urban potential is to reposition cities as innovation hubs. Lagos, for example, recently set up the Innovation Advisory Council, aimed at supporting government efforts to upgrade its technological and entrepreneurial dynamism. The council is chaired by the state minister for science and technology, whose functions are changing from the traditional role of supporting research to a new focus on fostering innovation.

This shift will go a long way toward enhancing the role of the middle class as an economic force in the region.

Room for an agricultural revolution

But new technology sectors and urban-based vision are not the only sources of growth. There is also vast untapped potential for African agriculture, which has actually regressed. World food production has increased by 145 percent since 1960, but sub-Saharan African food production is 10 percent lower today than it was 50 years ago, largely as a result of underinvestment in agriculture.

For example, fertilizer use is strikingly low—only 13 kilograms a hectare in sub-Saharan Africa compared with 71 kilograms in northern Africa. Only 24 percent of cereal production uses improved seeds compared with 85 percent in eastern Asia.

The lack of nutrient input has led to a dramatic depletion of soil quality; 75 percent of farmland in sub-Saharan Africa has been degraded by overuse. Only about 4 percent of Africa's crops are irrigated, compared with about 40 percent in south Asia, which leaves sub-Saharan Africa vulnerable to fluctuations in world food prices.

New knowledge and technologies combined with flexible local techniques, resources, and experience will kick-start the development of new local products and services, harness technological innovation, encourage entrepreneurship, increase agricultural output, create markets, and improve infrastructure. Improved food processing and storage can help stabilize agricultural markets and promote rural innovation.

The rise in food prices has stimulated outside interest in investing in African agriculture. In early 2011, Saudi Star Agricultural Development, a food company owned by billionaire Sheikh Mohammed al-Amoudi, announced plans to invest $2.5 billion in Ethiopia by 2020 to produce rice. Ethiopia-based firms will farm idle arable land in the lowlands of the country as part of Ethiopia's plan to lease 3 million hectares to private investors over the next four years. Ethiopia has more than 74 million hectares of cultivable land, of which only 15 million is being farmed. Bringing the remaining land into cultivation is an initial step toward fostering rural development and expanding the middle class.

Branching out with new opportunities

The forces of globalization—trade interdependence, connectivity, and mobility—offer Africa new opportunities for growth and open up the potential for trade with the rest of the world.

The forces of globalization—trade interdependence, connectivity, and mobility—offer Africa new opportunities for growth.

Political and economic policy changes begun more than a decade ago are stirring optimism. Combined investment in infrastructure and technical training will support technology-based companies with the dynamism needed to propel economic prosperity. The emergence of such firms will in turn stimulate innovation in the financial sector, leading to growth in domestic venture funding activities.

As Africa's middle class grows, policymakers should place a premium on regional economic integration and the associated investment in infrastructure, technical training, and support of entrepreneurs. Investing in consumers will bring prosperity to Africa—and not just for the middle class. ■

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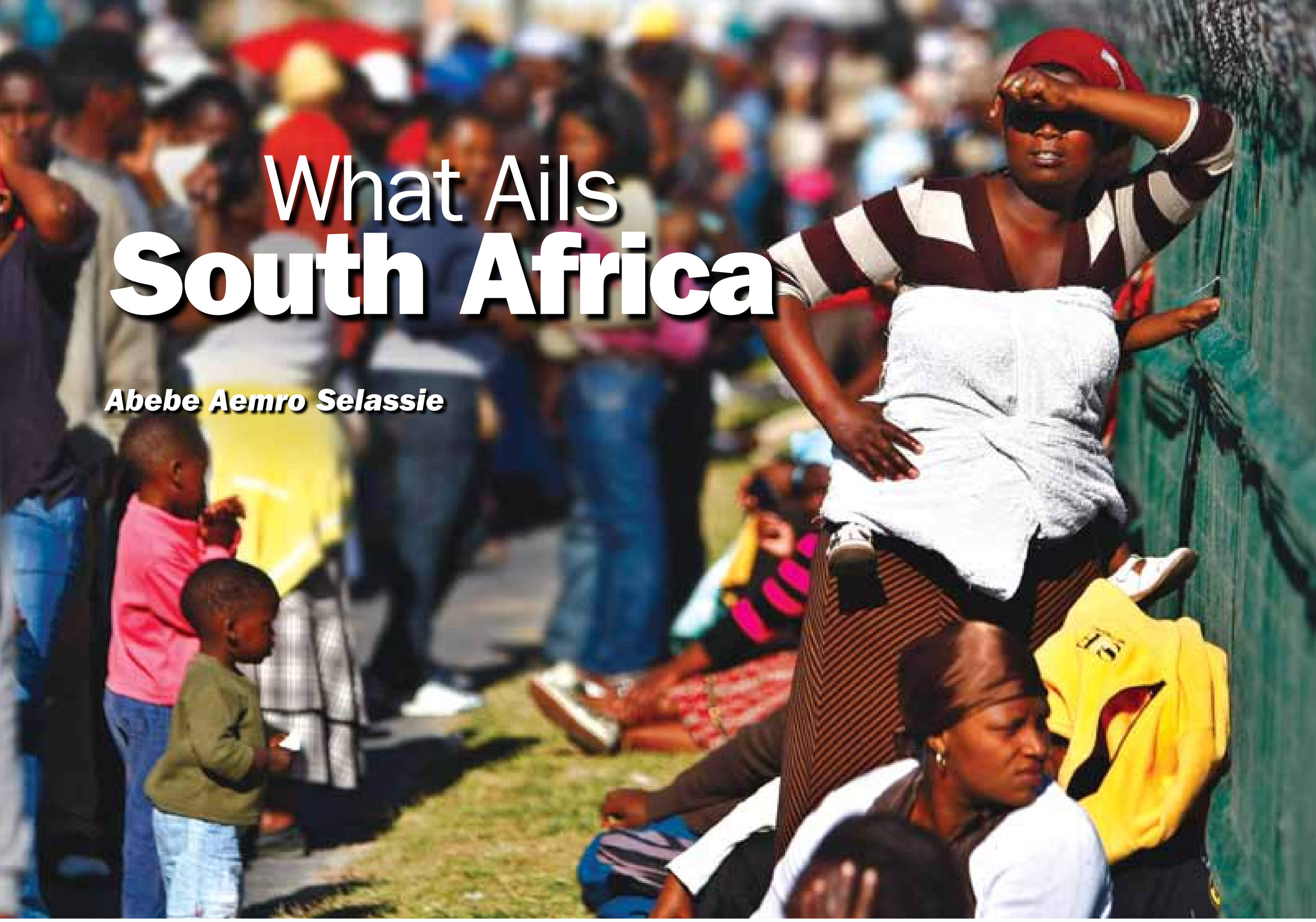


What Ails South Africa

Abebe Aemro Selassie

South Africans in line outside Guguletu Social Services office in Cape Town, South Africa.

Plagued by high unemployment and closely tied to Europe, South Africa struggles

SOUTH Africa, the largest economy on the continent, should be a driving force behind African development.

But, in the wake of the global financial crisis, while much of Africa has escaped with relatively modest bruises and has seen economic growth recover, South Africa's performance remains anemic.

After fairly strong growth between 2003 and early 2008, the country slumped into recession during 2008–09 and, unlike in most other large emerging markets (see Chart 1), its recovery has been hesitant and in some important ways incomplete.

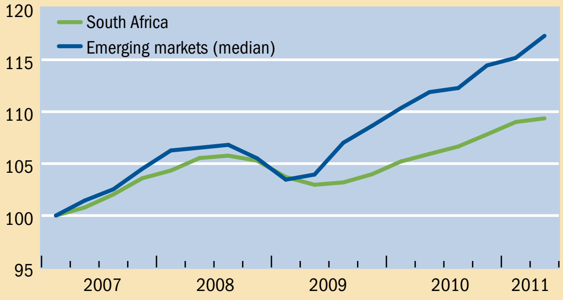
Private investment and exports, for example, remain well below precrisis levels. Worse still, the country lost an astonishingly high number of jobs—akin to job losses in the countries at the epicenter of the global crisis. And only a small fraction of these lost jobs have been recovered more than two years after the recession. The effect has been to worsen the country's already high level of unemployment and inequality.

Chart 1

Halting and incomplete

South Africa's recovery has lagged that of other emerging markets.

(real GDP index; first quarter 2007 = 100)



Source: IMF, *World Economic Outlook*.

Lest it need stressing, the country's economic revival matters not only for its 50-odd-million population, but also for the rest of sub-Saharan Africa. Its economic weight in the region resembles that of Germany in the euro area. Beyond this, South African companies have extensive investments in sub-Saharan Africa in sectors such as finance, retail, and telecommunications that are important drivers of economic activity.

Three factors—shocks, policies, and institutions—explain this weak and hesitant economic recovery.

Not one but three shocks

In the past few years, South Africa was hit by a string of shocks. The global financial crisis and subsequent worldwide economic slowdown was the third—and by far the most damaging—in a series of blows, but the other two were hardly trivial.

The first of the adverse shocks was the electricity shortages that started in 2007. Mainly because of failure to invest in new generating capacity, coupled with temporary supply disruptions, many parts of the fairly rapidly expanding economy were abruptly forced to slow down. The sudden nature of the shock did not give companies time to adjust. Moreover, it soon became clear that the effects of this shock would be long lasting. It would take higher electricity tariffs to pay for new generation capacity, and until this new capacity was up and running, it would be difficult to expand investment, particularly in energy-intensive activities such as mining.

Around the time the electricity shortages began, global food and fuel prices surged, and inflation soared to well above the South African Reserve Bank's (SARB's) inflation target range of 3–6 percent. To combat the increase in prices, the SARB raised its policy interest rate quite sharply—by some 5 percentage points between 2006 and 2008. This was a second factor that contributed to slow growth in 2008 and 2009.

The global financial crisis, the third and final shock to the economy, was particularly damaging to South Africa for at least two reasons. It hit an economy that was already reeling, and the crisis and subsequent slowdown engulfed countries in Europe and the United States—the destination for most of South Africa's higher value–added exports.

These multiple shocks and their severity thus go some way to explaining South Africa's current travails, but could better macroeconomic policy management have cushioned the blow? Alternatively, did institutions—particularly, labor and product markets and the inflation-targeting framework—aggravate the shocks' impact?

Got policies right

It is difficult to see how fiscal policy could have been more supportive. South Africa's fiscal accounts swung from a surplus of 1¾ percent of GDP in 2007/08 to a deficit of 6½ percent of GDP in 2009/10. And the fiscal deficit has remained fairly elevated since then, resulting in a significant, albeit manageable, increase in the debt burden.

Admittedly, much of the widening deficit reflects a drop in tax revenues rather than increases in discretionary spending. Still, even by passively accommodating the fall in revenues, the government left more resources for private sector consumption and investment, thus supporting economic activity. Further, scaling up public investment quickly, as elsewhere in the world, has proved difficult.

Comparing the change in structural fiscal balances (the fiscal balance adjusted for the impact of the business cycle) to the drop in output (see Chart 2) is another way to measure the fiscal policy response. This measure, too, indicates that the fiscal stimulus in South Africa during this period was among the most aggressive among a group of comparable countries.

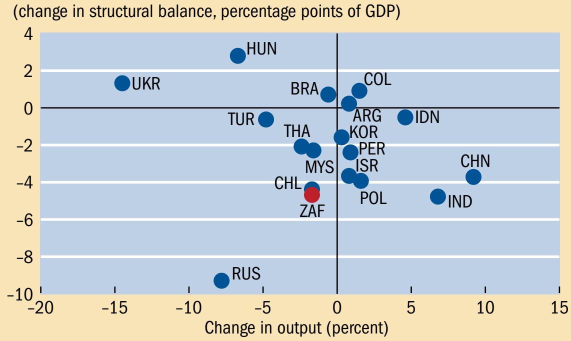
It is not as easy to assess how appropriate monetary policy has been. We now have the full benefit of knowing how output and inflation evolved, but the SARB had to rely on projections when it came to setting interest rates. One way to judge the response is to compare South Africa's monetary policy to that of other countries. As with fiscal policy, the SARB's policy easing has been comparable to that of other

Chart 2

Supporting role

South Africa's 2008–10 fiscal stimulus was more supportive than that of most emerging economies.

(change in structural balance, percentage points of GDP)



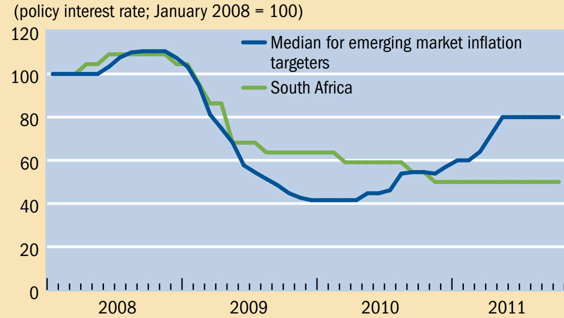
Source: IMF, *World Economic Outlook*.
Note: ARG = Argentina, BRA = Brazil, CHL = Chile, CHN = China, COL = Colombia, HUN = Hungary, IDN = Indonesia, IND = India, ISR = Israel, KOR = Korea, MYS = Malaysia, PER = Peru, POL = Poland, RUS = Russia, THA = Thailand, TUR = Turkey, UKR = Ukraine, and ZAF = South Africa.

Chart 3

Easy does it

The South African Reserve Bank is keeping its policy interest rate low in response to the economy's weak recovery.

(policy interest rate; January 2008 = 100)



Source: Haver Analytics.

similar large emerging markets (see Chart 3). And consistent with the weaker recovery that eased inflation pressures in South Africa, while other emerging market central banks tightened monetary policy, the SARB has kept the policy rate low for an extended period of time.

Overall, then, both fiscal and monetary policies turned accommodative when the recession struck and appropriately have remained in that vein since. Because the interest cycle eased more gradually in South Africa it may appear that there was more scope to cut rates earlier on, but inflation and wage growth had been stubbornly high, which supports the central bank's more gradual easing approach.

Debate over wider framework

The hesitant recovery in South Africa has triggered debate over the broader parameters of economic policy. The macroeconomic framework in particular, and especially the inflation-targeting regime, as well as the structure of the labor and product markets, have come in for criticism. It is generally hard to ascribe short-term fluctuations in output to slowly changing factors such as institutional frameworks, but the interaction between shocks and institutions can nonetheless influence economic outcomes.

The inflation-targeting framework has been implemented in a flexible manner, and, as noted, the SARB reduced interest rates at least as much as other countries did when the crisis hit. Admittedly, the policy rate at the start of the easing cycle was somewhat higher in South Africa, but inflation in South Africa was also higher and has persisted at higher levels since. Moreover, forthcoming research by the IMF's African Department shows that when the recession hit, the central bank placed markedly more weight on output relative to inflation.

But could South Africa have enjoyed still lower interest rates without the inflation-targeting framework? This is inherently a difficult question to answer but it seems that it would have been unlikely. In recent months, the policy rate has been at its lowest in more than 30 years—even lower than the rates that prevailed before the introduction of inflation targeting in 2000.

South Africa's labor and product markets are of greater concern. Even before the crisis, it was clear that the labor market was dysfunctional, with unemployment well above 20 percent even in the strong growth years. Many of South Africa's goods and service markets are also highly concentrated and lack competition for complex and historical reasons.

In the case of the labor market, a host of structural factors, such as an apartheid-induced geographic mismatch between population and economic activity centers, coupled with skills shortages, play a role. And the product market problems are partly policy induced—for example, regulatory entry barriers—but also partly natural (geographic).

Still, even allowing for this, it seems that more efficient labor and product markets would have muted the shocks that hit South Africa. Unfortunately, these markets have functioned poorly: since the onset of the recession collective bargaining has emphasized wages over productivity, and real wage increases have outstripped productivity gains, which has led to a marked decline in employment in many of the sectors where

Unemployed man working as informal recycler in Johannesburg, South Africa.

this was the case; and with their captive product market, firms' pricing power and profit margins have not been affected much.

But this view that high real wage growth has contributed to the country's unemployment problem is not universally accepted.

The unions point to the decline of the labor share in national income—from 50 percent in 1999 to about 43 percent in 2007. They argue that the recent partial reversal of this trend—on account of both real wage growth and the contraction in GDP in 2009—needs to be seen in a broader context. But the declining share of labor in total income could in part reflect a preference for capital- over labor-intensive production, reflecting the increase in the relative cost of labor.

The declining labor share may also indirectly reflect the impact of rising commodity prices over the past decade, which is benefiting sectors that depend relatively less on labor, including for technological reasons. Lastly, the decline in the labor share since 2000 is not unique to South Africa, and in sectors subject to international competition, such as manufacturing, the labor share in South Africa has actually increased markedly.

Taking action

South Africa's current economic predicament, then, is partly on account of exogenous factors, but its sclerotic labor and product markets have also played a role—and their ineffectiveness has not gone unnoticed by policymakers. With an eye to addressing these issues and with job growth its central objective, the government launched a new development strategy in late 2010, the New Growth Path, which recognizes the need to better align productivity and wage increases. The government has also already started efforts to tackle anticompetitive practices in key industries. Much rests on the success of the new strategy. ■

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The Quality of Growth

Poor households are benefiting from sub-Saharan Africa's high growth and wider global reach

Antoinette Sayeh is Director of the IMF's African Department.

SUB-SAHARAN Africa has had a great start to the 21st century—at least that's what the numbers show. Year after year the region has racked up solid economic growth, even when the global economy was anything but sound. Low-income countries have done particularly well. Not only have average per capita incomes mounted steadily, but inflation has generally been tamed, debt pruned, and opportunities for foreign trade and investment opened up.

But the questions that continually nag at me concern the quality of this growth. In particular, is it inclusive—are the poor and the young benefiting—and is it sustainable?

We have some positive evidence on the inclusiveness of growth in sub-Saharan Africa. In most countries, the proportion of the population living in poverty has been falling over time, and living standards and health and education indicators have improved for poorer households. We know less, however, about whether the poor have benefited as much from growth as, say, the newly prosperous urban middle class (see "Africa's New Engine" in this issue of *F&D*). And we don't know how much of the improvement in the living standards of the poor is attributable to the actual pace of growth. This may be critical for a region in which some countries have seen average per capita incomes rise more than threefold since 2000 while others have seen their average standard of living stagnate or even decline.

As for sustainability, we saw remarkable resilience in low-income countries during the recent global recession. Growth slowed only slightly and briefly, despite the turmoil in financial markets and the collapse in world trade. The ultimate test of the quality of Africa's growth will be whether everyone in the region, and particularly the young, is able to engage in income-earning activities or access productive employment. But a key factor in the near future is whether the region's trading partners will be diverse and prosperous enough to support high and rising demand for the region's products and resources in an ever more volatile global environment.

To gain a better understanding of the quality of the region's growth, the IMF African Department examined recent evidence for two critical factors: first, whether the poorest households in the region actually shared in the increased consumption available to the wider population, particularly in the fastest-growing economies, and second, the likely implications of shifting trade patterns from traditional partners in the West to emerging markets (IMF, 2011).

Growth helps the poor

To assess whether the region's most vulnerable people are enjoying the fruits of growth we looked at detailed survey information on household activities and characteristics in six fairly typical lower-income countries in sub-Saharan Africa. The sample is of course rather small—and it didn't include any major oil exporters or fragile states—but we gleaned insight into how changes in the standard of living of the poor correlate with each country's growth and into the factors that lifted poor people in these countries, as measured by their consumption.

One strong finding was the solid rise in average living standards of relatively poor households in each of the four higher-growth countries in our sample—Ghana, Mozambique, Tanzania, and Uganda—during the early 2000s. In contrast, poor households in Cameroon and Zambia—the two slowest-growing countries—fared less well in terms of changes in their consumption levels.

In all six countries, the head of household's education level mattered—a lot. Households headed by a college-educated individual consumed more than those headed by someone with only secondary education—and more again than those whose head had only primary schooling or no formal education at all. Moreover, those who worked in services (private or public) fared better on average than those in manufacturing and (even more) than those in agriculture. Urban households tended to consume more than rural ones, even allowing for food that rural residents grow and consume themselves and controlling for regional differences.

But there were stark differences in the way segments of the population in our sample countries either maintained or increased spending against the backdrop of a growing economy. In some countries, poorest households' spending rose more (or fell less) than that of other population segments. In others, better-off households did best.

Nevertheless, two features stand out. First, the poorest 25 percent of households consumed more when economic growth per capita was higher. Second, when consumption of the poorest 25 percent of households rose, the number of people in absolute poverty fell. In other words, poor households *did* share in the benefits of growth. Furthermore, we know that among fast-growing countries in general, those that grow the fastest tend to see headcount poverty fall the most.

Countries in our sample where the poorest 25 percent of the population did particularly well also showed sharp improvements in agricultural employment, especially in rural areas. So agricultural incomes seem to play an important role in making growth more inclusive.

Lessons for policymakers

It's clear to me—both from experience and from this recent analytical work—that economic growth is critical to raising the quality of life for the poorest in society. But it's equally clear that growth alone is not enough. Economic growth must generate the right sort of employment and, over the longer term, solid gains in education and human capital accumulation. For young people, in particular, school plus experience is essential for true inclusion in society.

Customer in Dakar, Senegal, buys baguette made with imported wheat.

At least in the short to medium term, there seem to be two main ways to raise the living standards of the poor. The first is through income-generating opportunities in agriculture, from which most poor households derive their livelihood—for example, by promoting more productive farming methods (use of fertilizers, seeds) and building the appropriate infrastructure (roads, electrification, irrigation). Second, economic assistance must be targeted to the most vulnerable households. Information from the surveys about the factors most associated with poverty can help identify those most at risk.

Shifting patterns of trade and investment

Agriculture will be the main income generator for the majority of households in sub-Saharan Africa for some time, but ongoing shifts in the destinations of the region's exports—and of the sources of its imports and foreign investment—also have profound implications. These changes may eventually cause sizable adjustments in the structure of the region's industry, and hence to its productivity and stability. Most critically for the quality of growth, these shifts may contribute significantly to sub-Saharan Africa's future employment potential.

Over the past decade, sub-Saharan African trade and other economic ties have shifted from traditional partners in the West toward the emerging markets of Asia, Latin America, and eastern and central Europe, with enormous implications for growth.

Most obvious is China, which has dramatically increased its economic involvement in Africa. In just the past decade, China has gone from having a barely significant presence in Africa to being a major recipient of sub-Saharan African exports, especially oil, gas, and other commodities; a large supplier of imports, including consumer and other manufactured goods; and a key investor in the region. But other emerging market economies in Asia, Latin America, and eastern and central Europe—most notably India and Brazil—also want a stake in sub-Saharan Africa. And countries in the region are trading much more with each other too.

Much of this additional interaction simply reflects the fact that the region's trade is growing fast. There has been enough growth for all to claim a piece. But the relative importance of emerging markets compared with sub-Saharan Africa's traditional trading partners has clearly surged. The share of the region's exports going to members of the Organization for Economic Cooperation and Development's Development Assistance Committee (DAC), made up primarily of advanced economies, fell over the past decade from 70 percent to 50 percent. That decline was equally fast for sub-Saharan African non-oil-exporting and oil-exporting countries. And DAC countries' share of sub-Saharan Africa's imports declined from 60 percent to 40 percent. Just as important, neither trend shows any signs of slowing.

What then are the implications of this switch from advanced to emerging economy partners for the region's quality of growth?

Less volatility, more opportunities

Simply broadening the base of the region's interactions with the rest of the world is a major plus. Diversification reduces risk. The region is now less vulnerable to events in a specific country or market, which puts a damper on volatility in external demand and points to more likely lasting growth. Avenues are opening up for technological transfer and innovation, more partners are interested in infrastructure investment and fostering local development, there are more opportunities to benefit from lower input prices and higher-added-value export markets, and the time is ripe for exploiting the region's comparative advantages.

These factors are working in a number of ways. The reduction in volatility meant that during the recent global recession and the subsequent, somewhat hesitant, recovery most emerging market economies outpaced advanced economies. Demand from non-DAC countries has in fact long been the impetus for growth in sub-Saharan African exports, and it has helped limit the slowdown in financial inflows and investment. Without this stabilizing force, the region would have suffered much more from adverse external developments.

Enhanced technology transfer is mostly a result of greater diversity of inward investment. Because emerging market investors are gaining importance across a range of sectors—not just natural resources, but also manufacturing, agriculture, tourism, and financial services—they are broadening the transmission of know-how, including what works in a developing country setting. Many of the companies involved are important innovators in their fields.

Some emerging market economies are taking on more substantial aid and development roles, providing access to a wider range of economic transformation models. Increased resources devoted, for example, to infrastructure, including transportation and power, are driving lower-income countries' ability to compete on equal terms with the rest of the world.

Finally, the region's wider choice of trading partners has opened up access to lower-cost inputs and consumer goods, helping lower production costs and raising consumer purchasing power. Outsourcing to sub-Saharan African countries is an option for the region's new partners experiencing rising labor costs themselves and moving increasingly into higher-value-added production. And perhaps most important, larger external markets allow for more intense specialization and the benefits from economies of scale that specialization can generate. Regional integration can enhance the impact of all these processes.

Caution lights

This is an attractive set of opportunities. But there are risks too. Some worry, for instance, that emerging markets present the potential for new forms of colonialism—plundering the region's natural resources or exploiting low-income workers or consumers. Certainly, inadequate safeguards in some countries have in the past left them vulnerable to exploitation. And globalization could affect social priorities and increase the region's exposure to contagion from volatile overseas markets. But there are many ways to address the potentially adverse effects of powerful global forces.

Improved management of exhaustible natural resources should be a priority for many countries. Increased foreign interest in this sector merits rigorous attention by national officials—from robust governance of the extraction process (tenders, contracts, taxation) to effective macroeconomic management (to minimize the impact of volatile exports and revenues). To maximize net benefits to the region recipient countries must carefully evaluate proposals and take into account both the implications for national revenues and any assistance offered for infrastructure or local development.

The structural changes brought about by more diversified trade will produce losers as well as winners. Some businesses will be undercut by lower-cost foreign suppliers, and some workers will find their skills redundant. But a transformation to an increasingly industrialized economy is not likely without such transitional costs. Some support can go to the people affected to help them adjust. But resisting such changes, for example by intervening selectively in the economy or controlling imports, is usually self-defeating and costly.

I am enthusiastic about the implications for sub-Saharan Africa of its rapidly broadening global interaction, which is a vote of confidence in the region.

Looking ahead

I am enthusiastic about the implications for sub-Saharan Africa of its rapidly broadening global interaction, which is a vote of confidence in the region and offers exciting possibilities for broad-based development and structural transformation as well as for access to more varied and cheaper consumer goods and services.

To take full advantage of this potential, and to ensure that the resulting growth is of high quality and benefits everyone, there are several ways the region can help itself. First, countries must maintain sound macroeconomic policies and open markets within a stable political environment. Second, they must carefully manage the region's precious natural resources and pay attention to the needs of agriculture. Finally, the region must continue to focus on building up human capacity—through improved health care and quality education—to sustain a well-qualified and flexible labor force.

Then Africa's high growth will mean good news for everyone, including the poor. ■

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The New AFRICA

Building an Infrastructure

Paul Collier

Key political decisions are needed to build critical rail networks for a continent well suited to them

THE coming decade could be Africa's opportunity for investment. Globally, there is a massive pool of investable private resources. Prospects in the advanced economies look bleak, and in the major emerging economies—the so-called BRICs: Brazil, Russia, India, and China—the future is looking more uncertain. Although Africa is not immune to global risks, its continued growth is likely to rest on the potential for further resource discoveries and for commercial cultivation of its vast, underused agricultural land.

New transportation infrastructure is vital to harness these two potential sources of growth. At the top of the list is the classic form of economic infrastructure: railways.

The continent is a huge landmass, well suited to railroads. Yet during the past half-century Africa's rail network, never very extensive, has shrunk. Even the United States, a huge landmass with relatively low population density, has one kilometer of track for every 43 square kilometers of land. By contrast, Nigeria, home to one-fifth of the population of sub-Saharan Africa and one of its most densely populated countries, has but one kilometer of rail for every 262 square kilometers. Nigeria is not atypical: by radically reducing transportation costs, railways could open up vast tracts of Africa to economic opportunities, especially in agriculture and mining, which many countries are relying on for future growth. The continent needs a decade of massive investment in rail networks.

Politics at play

Railways are hardly technologically challenging. They represent the oldest continuous industrial technology. Africa's lack of railways compared with other regions is primarily a consequence of politics. Although railways are technologically simple, they are politically complicated—for three fundamental reasons:

- *Railways are a primary example of a network industry.* The key feature of a network industry is that its operations are so interconnected that it is more efficient to run it as a single entity. This presents

African

an unavoidable role for public policy: how to manage a monopoly provider in the public interest.

- *They are a classic example of high fixed costs relative to operating costs*. In the parlance of economics, the marginal cost—the cost of producing one more unit—is well below the average cost. For social efficiency, prices should be set around the marginal cost, but for an activity to be commercially viable prices must at least equal the average cost. This tension in pricing calls for a political solution: typically either a subsidy from the government or cross-subsidization from users who are not very price sensitive to those who depend on cheap rail service.
- *The mainland continent of Africa is split into so many countries that inevitably rail lines need to be international*, especially because many of the countries that would benefit most are landlocked. Yet a transnational network investment is potentially at risk from each national polity. Indeed, each time rolling stock crosses borders a valuable asset moves into a new jurisdiction.

Because African governments have yet to tackle these three political challenges, the African rail network remains inadequate.

Organizing a network industry

Railways are not the only network industry. Telephone service and electricity are other important examples. In Africa phone networks are usually provided by the private sector but subject to regulation; electricity is usually in the public sector and run as a public monopoly. A rail network could be run under either of these models. However, in Africa public ownership and management of the rail network is unlikely to be the best approach. Governments have so many other pressing needs that they cannot afford to finance the huge cost of a rail network—new or rehabilitated. Furthermore, African governments' resources are already stretched so thin from management of their core functions that peripheral tasks are best organized by the private sector.

The Tanzania Zambia Railway Authority (TAZARA), the rail link between Zambia and Tanzania built by China in the 1970s, offers a salutary lesson. TAZARA today barely functions. Building a line is not enough; it must be well managed and linked to potential commercial users. Currently, many African governments could get financing for more such Chinese-built lines in exchange for mineral concessions, but granting mineral concessions means mortgaging Africa's limited wealth and should not be done lightly.

Africa's particular needs suggest that a rail network should be a regulated private monopoly, with both financing and managerial expertise from a private company. But regulation poses difficulties that may be insuperable. It is not possible to anticipate all eventualities: presenting a public rail regulator with a set of agreed rules to be implemented is not enough. To cope with unforeseen circumstances, the regulator must have some discretionary room. But in African governance environments such discretion would likely kill private investment. With the region's reputation for corruption, even an honest regulator's decisions would be subject to allegations and expectations of bribery. Once a regulator is given the power to set prices that could bankrupt either the railway company or its customers, neither group would be willing to risk investment.

Fortunately, there is a viable alternative to a domestic regulator with discretionary power—namely, an international dispute settlement board whose members are approved by governments, investors, and customers. This is a standard means of international contract enforcement, and indeed one commonly used both by foreign investors in China and by Chinese investors in Africa. The record of these boards is good. Despite frequent findings against governments, there is a high rate of compliance with decisions. Before investment, a government, an international rail investor, and commercial rail users can negotiate a mutually satisfactory agreement and lock it in by including a contract clause that refers disputes to such a procedure.

TAZARA train leaving Dar es Salaam, Tanzania.

Differential pricing

As noted above, because the fixed costs of rail investment are so large, marginal costs are substantially below average. This would generally argue for public ownership, with government using tax revenues to subsidize the fixed costs of the network to keep the price to users around the marginal cost. The importance of such low pricing is not just hypothetical. Although rail networks can open up huge tracts of little-used land to commercially viable agriculture, the amount of usable land is likely to be highly sensitive to transportation costs.

While marginal cost pricing would be very helpful for opening up African agriculture, African governments are in no position to finance such a subsidy. Indeed, even if a government were to provide a subsidy, it might actually deter investors because of the government's limited long-term credibility. Neither potential rail operators nor potential commercial farms would trust a government commitment to a long-term subsidy.

As with regulation, there are feasible alternatives: *price discrimination among users* is one. Price-sensitive users can pay only marginal costs, if higher-profit industries less sensitive to transportation costs pay more. In Africa, rail networks have two principal potential users, mining and commercial agriculture.

Many natural resource discoveries will be far from coasts and will require lengthy rail links to move ore to ports. Without these rail links vast tracts of underused land would have no commercial value. The core economic challenge is to organize the rail network in a way that meets the needs both of the extraction industries and of agriculture.

Mining operations require railways and ports. Were there no agricultural users, the mining companies themselves could finance the rail network from some of the high profits generated by extraction. As long as these rail links serve agriculture and resource-extraction users, agriculture need pay only the marginal cost of operation. In effect, the differential profitability of mines and agriculture creates the potential for price discrimination between them.

Mining companies, eager to open up resource-laden lands, have offered to set up such railways, even though these companies are not likely to welcome or desire multifunctional use of the rail network. Mines are accustomed to dedicated services. With the price for agricultural users set close to the marginal cost, the hassle for the mining company of serving other users would far outweigh the benefit from the revenue. For governments, however, a multiuser rail network is very desirable. Especially in light of the uprisings in north Africa, the imperative across the continent is to generate jobs.

Modern mining, which is becoming increasingly capital intensive, generates few jobs and is often damaging to the environment. As a result, the local population may see few direct benefits from mining operations alone. But commercial agriculture can generate both mass wage employment and opportunities for small farmers—a large constituency that will benefit from a rail network made viable by resource extraction.

Who will run the railway?

Such a multiuser rail infrastructure, while attractive, is organizationally demanding. Who will run it? As noted above, *it would be beyond the core competence and natural interest of a mining company to run a railway that prices its service for farms at their marginal cost*. As a result, even if a mining company were to provide such rail service, farms would likely mistrust it because of its peripheral nature for the mining company. Further, resource endowments are unlikely to be discovered all at once. A single rail company would, in effect, have acquired the exclusive right to any undiscovered minerals. Other resource-extraction companies would not be likely to explore if they had to depend on the single rail company to ship their ore. In that situation, the government would have radically less future bargaining power over mining concessions.

Yet, as already discussed, government control is probably not a good solution either. *A third-party commercial operator with core competence in infrastructure but without mining interests appears to be the most credible option*. All rail contracts would include an agreement with the government and commercial users—enforced by reference to a dispute settlement board—that builds in price discrimination. The agreement would ensure that the difference between average and marginal costs is covered by the high profits of natural resource extraction, with agriculture charged only the marginal cost.

Such contracts could provide the underlying security needed for a rail company to raise sufficient money to build a rail network, ensuring recovery of the initial investment from income generated by resource companies. Conversely, it would reassure resource-extraction companies of consistent railway service free from political motivation, and commercial farms would be assured low-cost transportation to market.

An intergovernmental rail authority must be established that has sufficient power to negotiate credibly with a rail company and its commercial users.

An international rail line

In many cases the track of African railways must cross national borders. For example, South Sudan, Uganda, Rwanda, Burundi, Zambia, Malawi, and the eastern Democratic Republic of the Congo all need rail links to the coast of east Africa—through Kenya, Tanzania, and Mozambique. Similarly, the most efficient route to the coast from eastern Guinea, which has many valuable minerals, is through Liberia. Yet for the past half-century the governments of these countries have not sustained the necessary political cooperation to make such transnational lines work.

If a rail line is transnational, pricing issues become more complex. For example, *the natural resource may be in one country (at the rail head), while most of the agricultural land to be opened up may be in another country*. Moreover, because much of the output—ore or agricultural—is for export, the monopoly position of the port gives the government of the coastal country the ability to negate a pricing agreement confined to rail charges by inflating port charges. Another complication occurs because the rolling stock keeps crossing borders. *Unless there is a coordinated approach to legal recourse, the engines and cars cannot be used as collateral for loans,* which will make the financing cost unnecessarily high. Finally, *because the goods transported by the railway cross borders, they are vulnerable to delays because of slow or predatory customs procedures*. Hence governments must make credible commitments to maintaining the free flow of goods in transit.

For a transnational rail line to be commercially viable, the risks for investors and customers must be addressed at the start of negotiations. In effect, the governments involved must agree in advance to a limited but clearly specified degree of pooled sovereignty. An intergovernmental rail authority must be established that has sufficient power to negotiate credibly with a rail company and its commercial users. Clearly, the decision to set up such authorities is beyond the realm of ministers of transportation and rests with presidents and parliaments.

The way forward

After half a century of neglect, it is tempting to resolve the need for rail investment by succumbing to the offers of mining companies. While that would undoubtedly get railways built, it would come with two hidden costs. Once a particular mining company owns a rail network, other mining companies will be reluctant to depend on it, which would give the network builder enormous bargaining power with respect to future resource discoveries. Governments tend to look at the short term, but mining companies have learned to consider the long term. Further, mining companies have little interest in multiuser railways. They are liable to regard low-value agricultural users as a nuisance. In contrast, governments have an overwhelming interest in ensuring that rail networks serve many users. During negotiations, mining companies will doubtless tout their willingness to provide comprehensive rail service to all, but afterward governments may be in a bind if a mining company finds so-called facts on the ground that it says prevent construction of a multifunctional railroad.

In the scramble to negotiate mining deals, African governments risk missing a historic opportunity to transform the transportation arteries of the continent. The past impasse over rail provision did not stem from a lack of financing, but from inadequate political design. Because railways are network industries, they cannot be kept in check by competition nor—because of deficiencies in African governance—by regulation. The solution is to write contracts subject to dispute settlement boards. Because railways have high fixed costs, social efficiency will require subsidies for price-sensitive users. Subsidies cannot come from cash-strapped governments, but can be achieved through price discrimination. In Africa, rail arteries must be transnational, which can lead to intercountry disputes and holdups that would deter private investment. Yet these risks can be addressed by subregional rail authorities with decision-making power.

Africa's current generation of political leaders has the opportunity to open the physical geography of the region. The decisions they must make are complicated, and much is at stake for the economic well-being of the continent. But forewarned is forearmed. ■

Paul Collier is Professor of Economics and Director of the Centre for the Study of African Economies at Oxford University.

Preventing Famine

Josette Sheeran

The ongoing drought and famine in the Horn of Africa make a case for using global risk management to achieve food security

THE images of emaciated children with eyes so hollow they seem to be looking death squarely in the face have faded from our morning papers and evening news programs. Yet, as I write this, more than 13 million people across the Horn of Africa are still in urgent need of assistance.

In southern Somalia alone, a combination of drought, conflict, and lack of humanitarian access has left 3 million people in crisis. Tens of thousands more could perish unless humanitarian assistance is allowed to flow freely. The famine stems not from the failure of the country's structures and systems, but from their complete absence.

On a recent trip to the region, I spoke with countless women who told me they had to leave their children behind to die as they made the long journey out of nowhere—villages in southern Somalia with no infrastructure, no safety nets, no aid programs—to reach aid hubs where other children who were strong enough for the journey could receive life-saving assistance. After two decades of civil war and the worst drought in 60 years, Somalis are faced with the terrible choices left to people without food: migrate or die.

Droughts like the current one in east Africa may not be preventable, but famines are. The international community has the tools to prevent the "roads of death" we are witnessing in parts of Somalia. In areas where the humanitarian community has access, millions of hungry people are being reached with life-saving action. We can't stop the droughts of tomorrow, but the deployment of lasting hunger solutions covering the full spectrum of food security—from support for smallholder farmers to antihunger safety net programs and an African-owned risk-pooling facility that helps protect the most vulnerable—will build resilience against crises and enable a timely response.

The first global humanitarian disaster, the 2008 food crisis, led to a structural change in food markets that had been stable for nearly 30 years. From 1969 to 2004, an ever-increasing food supply and lower prices resulted in a 40 percent decline in the proportion of hungry people. Since 2008, however, risk and volatility in both price and supply have become the new norm. Many countries, including those in the Horn of Africa, lack shock absorbers such as national food reserves to deal with such volatility.

The estimated 80 percent of people in the developing world who have no safety net to ensure adequate access to food and nutrition during crises are forced to bear the environmental, political, and economic risks of everyday life on their dinner plates. Rather than allowing volatile food prices and supplies to harm those most in need in areas that are the most vulnerable, we must enhance food security through the use of global risk management.

Like all systems that face great risks, food security requires investment in the development and support of productive safety net

Boy holding bowl of rice and beans in Somalia.

programs that prevent the poor, through transfers and subsidies, from falling below a certain poverty level and protect them and their families against future crises.

The current drought is certainly terrible, but the number of people now in need of life-saving assistance in the Horn of Africa could be much higher. There are 4.5 million people in Ethiopia, Kenya, and Uganda who now benefit from productive safety nets thanks to United Nations World Food Program (WFP) government partnerships.

Josette Sheeran is Executive Director of the United Nations World Food Program.

Through a community adaptation program called MERET, the Ethiopian government, with WFP support, has built a sustainable land management and rain catchment program that has vastly increased food production and mitigated the impact of the drought.

In the dry Karamoja region of northern Uganda, local communities are showing more resilience than they did during the 2007–09 droughts, thanks to a new system of communal food stocks that are replenished at harvest time. In Kenya, WFP is reaching over 670,000 children through a school-feeding safety net to help households in the drought-stricken northeast.

WFP's Purchase for Progress program buys from smallholder farmers and connects them to reliable markets. The result is greater agricultural production and improved business capacity. Between 2010 and 2011, nearly 25,000 metric tons of maize was purchased locally in support of the Ethiopian safety net program. Even in the Horn, WFP is saving lives with regionally procured food.

WFP is developing another risk-management tool, in partnership with the African Union Commission—with support from the International Fund for Agricultural Development, the Rockefeller Foundation, the U.K. Department for International Development, and the World Bank—to capitalize on the natural diversification of weather risk across the African continent. Known as the African Risk Capacity (ARC) Project, this African-owned disaster risk–financing facility will disburse resources to participating governments immediately after droughts or other natural disasters hit.

Preliminary findings suggest that if African countries were to pool their drought risk, the pool's capital requirement would be only half of what it would cost each country to finance its own reserves—making a pan-African risk pool an attractive financing mechanism in support of African food security. In the case of the Horn, such a facility would have enabled participating governments to tap funds in early 2011, as soon as it was clear that another rainy season had failed to materialize and the emergency was building. ARC will help reduce funding-related implementation delays, ensure timely and effective assistance for the most vulnerable, and minimize disruption to other critical in-country programs.

Emergency interventions are still the backup plan for life-saving food assistance when all else fails. The good news is the growing evidence of the tremendous benefit of recently developed nutrition products, or "smart foods," in the treatment of malnutrition in the Horn of Africa.

In Pakistan, WFP has developed a highly fortified paste from locally produced chickpeas. Development of a similar smart food is now expanding in Ethiopia. Such ready-to-use supplementary foods pack essential nutrients, and their production means jobs and opportunities for local communities. These power-packed foods require no water, cooking, or refrigeration and are saving lives in the Horn of Africa right now.

Addressing vulnerability is doable. In Dolo, Somalia, I met severely malnourished 18-month-old Sadak, who had traveled with his mother for 14 days from central Somalia to the border of Ethiopia in search of food. He was so severely malnourished that many thought he would not survive. Five weeks after receiving treatment, including the ready-to-use peanut-based supplement Plumpy'Sup, Sadak is healthy. His round face and uplifting smile are proof that this investment pays off in lives saved.

Research in the British medical journal *The Lancet* confirms that children who do not have adequate nutrition for the first 1,000 days from conception to the age of two are at risk for inadequate brain development and permanent damage. Hunger and malnutrition are long-term economic problems that reduce the earning potential of individuals and the human capital of nations.

A study conducted in Latin America by WFP with the Inter-American Development Bank and the UN Economic Commission for Latin America and the Caribbean shows that malnutrition can result in an average economic loss of 6 percent of GDP. Using the 6 percent average for the 36 countries with the highest burden of malnutrition, the figure is over $260 billion in lost GDP.

Such losses pale, however, next to the terrific return on investment from fighting malnutrition. The World Bank estimates that $10.3 billion a year in nutrition interventions in those same 36 countries would prevent more than 1.1 million child deaths, cut in half the prevalence of severe malnutrition, and result in 30 million fewer children suffering from stunted growth.

We need to counter the cynical view that nothing works. We need to make the case that fighting hunger and malnutrition is not just for humanitarians, but for finance ministers, presidents, and prime ministers. This is why I am so pleased that French President Sarkozy and other leaders have put food security on the Group of Twenty agenda. The IMF's commitment to flexible and timely response to sudden emergencies is another important step toward future collaboration on the establishment of global risk management of food security.

Working together to address vulnerability over the longer term will ensure that children like Sadak do not pay the price for global, regional, and national disorder. The world has the knowledge and the tools not only to prevent famines but to end malnutrition and hunger now. It's not only about compassion, but about creating jobs up the entire supply chain and managing risk while saving lives. ■

Africa: A Look into

What will the continent be like in 50 years' time?

Restaurant in Nelson Mandela Square, Johannesburg, South Africa.

OVER the past decade, Africa has been growing at an unprecedented rate, despite the successive global food and financial crises. Although it will take decades of growth to make major inroads into Africa's poverty, there is now growing optimism about the continent's potential.

Africa has an abundance of natural resources and is the world's most youthful continent (as a share of total population). If it invests more in its young people and in the hard and soft infrastructure required for growth, Africa could become one of the world's most dynamic and productive economies, according to a new report from the African Development Bank (AfDB).

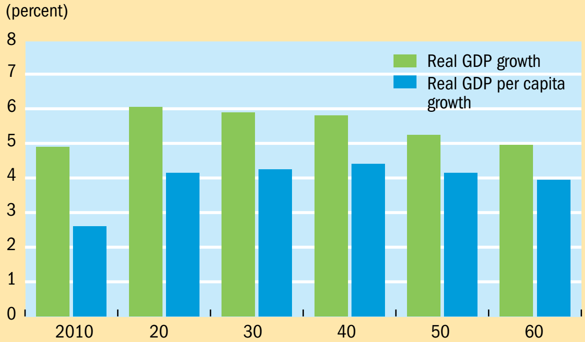
Growth and poverty

The report's estimates—based on extrapolations of current economic performance—suggest that both economic output and output per capita will increase steadily between 2010 and 2060. By that time, most African countries—whose populations are expected to peak at 2.7 billion by 2060 (compared with 1 billion in 2010)—will attain upper-middle-income status.

One of the results of the strong economic growth of the past two decades has been a significant increase in the size of the African middle class (defined as those earning between $4 and $20 a day). The middle class will continue to grow—from 34 percent of Africa's population in 2010 to 42 percent in 2060. Conversely, poverty rates are expected to fall, with the proportion of the population living on less than $1.25 a day declining from 44 percent in 2010 to 33 percent in 2060.

Africa is expected to continue growing more than 5 percent a year during 2010–60.

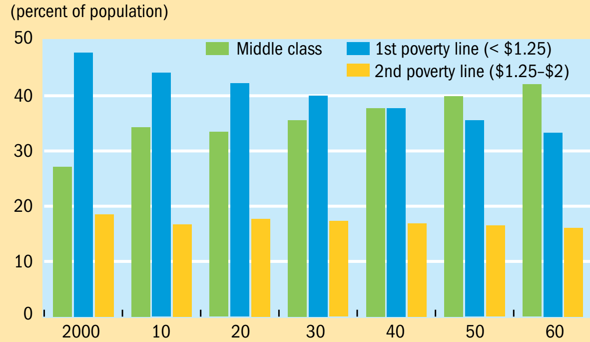
(percent)



Source: African Development Bank, *Africa in 50 Years' Time: The Road Towards Inclusive Growth.*

The middle class will get bigger and poverty is expected to fall.

(percent of population)



the FUTURE

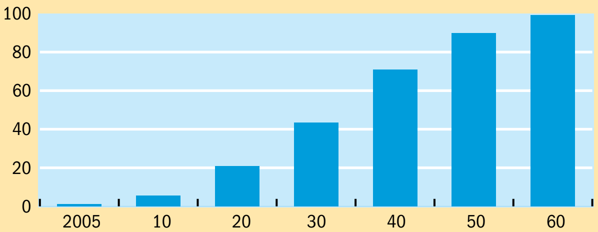
People shop in a supermarket in downtown Nairobi, Kenya.

Technology and education

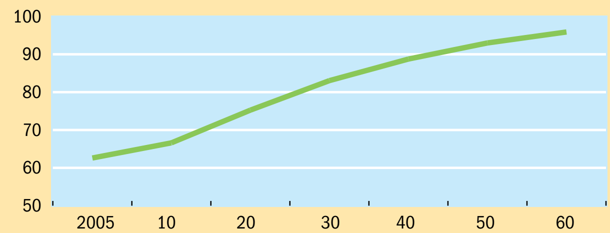
Africa will need substantial investment to ensure strong and sustainable growth over the next 50 years. Investments are needed in almost all the infrastructure subsectors—transportation, telecommunications, water and sanitation, and energy supply. Broadband penetration has picked up in the past five years, thanks to the continent's efforts to develop that industry, and is expected to reach 99 percent of the population in 2060.

The ability to take advantage of new technologies will depend largely on human capital: a skilled workforce is essential for the adoption of new technologies and for globally competitive production. Access to primary, secondary, and higher-level education in Africa continues to increase, and literacy rates are expected to reach 96 percent in 2060, the AfDB says.

Broadband penetration is expected to increase steadily.
(percent of population)



The current trend of rising literacy rates is projected to continue.
(percent)



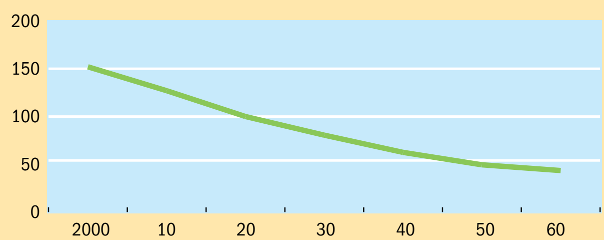
Source: African Development Bank, *Africa in 50 Years' Time: The Road Towards Inclusive Growth*.

Health and mortality

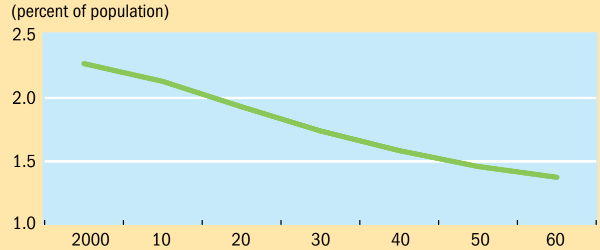
Africa has already made important progress in improving the health of its population, a trend that is expected to continue. Child mortality is projected to decline from 127 per 1,000 live births in 2010 to 45 per 1,000 live births in 2060, largely thanks to higher incomes, improved water supply and sanitation, and better health services.

The HIV/AIDS prevalence rate is also projected to drop substantially, as a result of HIV prevention programs and improved access to antiretroviral treatment. However, malaria is still endemic in most African countries and continues to be a major cause of mortality on the continent.

Good progress is expected in reducing child and infant mortality.
(child mortality under-5 rate; deaths per 1,000 live births)

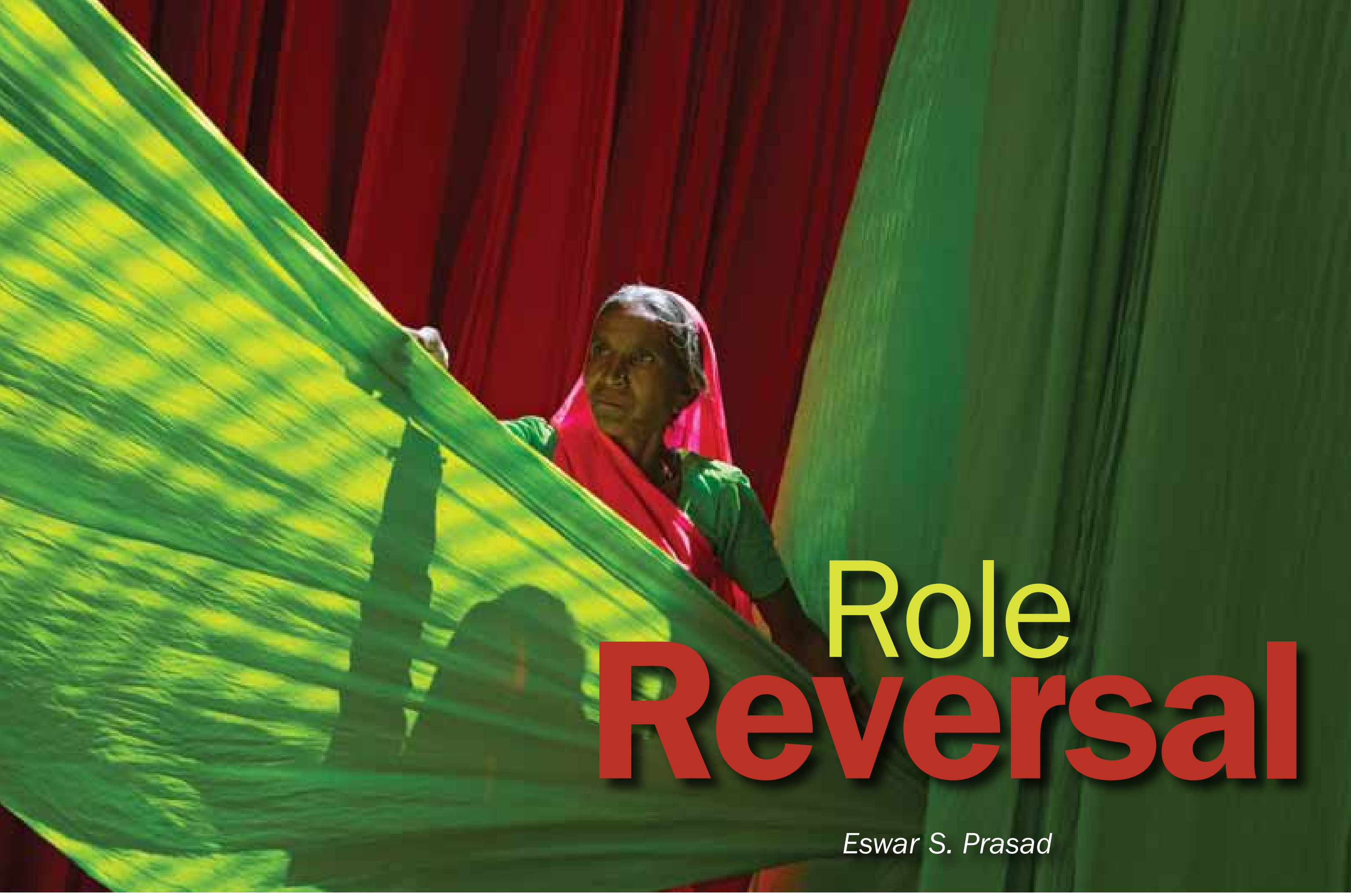


HIV/AIDS prevalence rates will continue to fall.
(percent of population)



Source: African Development Bank, *Africa in 50 Years' Time: The Road Towards Inclusive Growth*.

Prepared by Natalie Ramírez-Djumena. Based on Africa in 50 Years' Time: The Road Towards Inclusive Growth, *published in September 2011 by an African Development Bank staff team led by Mthuli Ncube.*



Role Reversal

Eswar S. Prasad

Sari factory in Rajasthan, India.

Emerging economies are less dependent on debt, less vulnerable to volatile investment sentiment, and are rethinking the role of capital flows

TIMES have changed for emerging economies.

In a break from past patterns, a majority of middle-income emerging market economies have bounced back relatively quickly and sharply from the global economic crisis, while advanced economies continue to experience deep and prolonged downturns.

Moreover, unlike in days past when global financial turmoil would lead domestic and international investors to rush for the exits, precipitating meltdowns, emerging economies today appear more resilient to the volatility of capital flows. Few major emerging markets still depend heavily on foreign financing. Some, like Turkey and a few emerging markets in eastern Europe, still do—and are vulnerable to shifts in foreign investors' sentiments. But they are exceptions rather than the norm. Indeed, even countries like Brazil and India that have more money going out than coming in (that is, are running current account deficits) have large stocks of foreign exchange reserves that help them deal with capital flow volatility. Many emerging markets have in fact faced the curse of plenty—surges in capital inflows in recent years.

Underlying these developments are fundamental changes in the nature of international capital flows that will reverberate for a long time. These changes will reshape the debate about the benefits and risks of global financial integration. For emerging economies, international capital flows had come to be seen as a destructive force, increasing volatility and setting off devastating crises, rather than as promoting growth or helping diversify risk by increasing investment opportunities. The shifts documented in this article suggest that emerging economies may now be in a better position to reap the benefits—but they face a new set of risks—from capital flows.

Tighter financial linkages

In a process that started in the mid-1980s, picked up pace over the past decade, and was only briefly affected by the crisis, emerging markets have substantially increased their integration into global financial markets. This is evident from their rising stocks of international assets and liabilities.

Rising stocks portend greater risks even for a country whose assets and liabilities are balanced. If a country has large holdings of international assets and liabilities, currency fluctuations and even modest portfolio rebalancing of international investors can result in greater volatility of net flows (the difference between capital entering and capital leaving a country). If an economy comes under pressure, inflows can stop and outflows rise simultaneously, leading to a double blow in terms of net flows.

The magnitude of these effects depends on the shares of liabilities and assets that are in the form of debt versus those that have an equity component—either direct, where the foreign investor has a durable stake in the asset, or portfolio, where the investor is seeking only a financial return. Where an equity component is involved, there is more sharing of risk between domestic and foreign investors. Although rising total positions clearly have a major impact, a closer examination of the structure of external assets and liabilities is warranted because of its implications for both growth and volatility.

Balance sheet transformation

The international investment position (IIP) is essentially a country's balance sheet in relation to the rest of the world. One side of the balance sheet contains a country's total foreign assets, the other its external liabilities. The types of assets and liabilities are broken down on each side of the balance sheet. An analysis of changes in the IIPs of major economies reveals large shifts in the structure of global finance.

The external liabilities of emerging economies once were mainly debt. Now foreign direct investment (FDI) and portfolio equity combined predominate (see Chart 1). In 2010, FDI and portfolio equity accounted for more than half of the total liabilities of emerging economies (see table). This pattern held for the five major emerging markets known as the BRICS (Brazil, Russia, India, China, South Africa). For Brazil, China, and South Africa, FDI and portfolio equity account for about two-thirds of external liabilities. By contrast, in advanced economies, portfolio debt (such as bonds issued by corporations) and bank loans together still constitute the major share of external liabilities.

The changing structure of emerging market balance sheets was striking in the years leading up to the recent financial crisis. Over the period 2000–07, changes in FDI liabilities alone accounted for nearly half of the increase in overall liabilities. FDI and portfolio liabilities together account for about 70 percent of the increase.

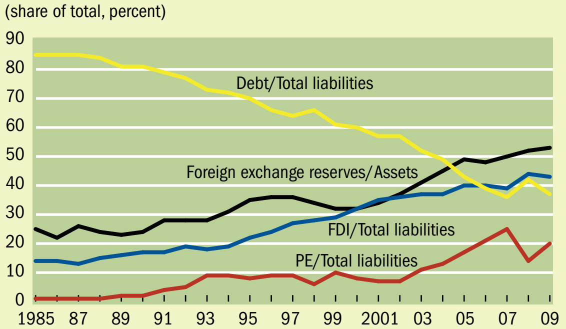
Short-term external debt denominated in foreign currencies once was the scourge of emerging markets. These countries faced not only the risk of being unable to refinance the debt if they fell out of favor with international investors but also further trouble if their currencies depreciated, which increased the domestic currency cost of the debt. FDI and portfolio equity are far more desirable forms of capital, and the external debt of these countries is increasingly denominated in their own currencies. When the value of these investments falls either in domestic terms or because of a currency depreciation (or both), foreign investors bear part of the capital and currency risk.

There are interesting developments as well in the asset positions of emerging markets, which are increasingly dominated by foreign exchange reserves. These assets are mostly held in government bonds issued by the four major reserve currency areas (United States, euro area, Japan, United Kingdom). On average, reserves accounted for more than half the total external assets of emerging markets at the end of 2010 (see table). In China and India they accounted for about two-thirds of total external assets.

Chart 1

Shifting sources

Emerging market liabilities used to be predominantly debt, but now foreign direct investment and portfolio equity dominate. Foreign exchange reserves are the major asset.



Source: Author's calculations based on the work of Philip Lane and Gian Maria Milesi-Ferretti.
Note: Stocks of foreign direct investment (FDI), portfolio equity (PE), and debt are shown as a percentage of total external liabilities. Foreign exchange reserves are shown as a percentage of total external assets.

Bulked up

At the end of 2010, well over half of emerging market liabilities were in the relatively more stable form of foreign direct investment and portfolio equity.

	FDI/ Liabilities	PE/ Liabilities	FDI and PE/ Liabilities	Foreign exchange reserves/Assets
Advanced economies				
Median	19.7	9.9	31.4	1.2
Group average	14.9	13.6	28.5	3.0
Emerging economies				
Median	40.5	8.2	56.2	38.8
Group average	6.4	14.5	60.9	52.7
Key emerging economies				
Brazil	36.5	33.3	69.8	47.1
China	63.2	8.8	72.1	69.0
India	32.5	18.5	51.1	67.9
Russia	38.6	17.5	56.1	36.6
South Africa	41.5	35.0	76.5	13.4

Source: Author's calculations.
Note: Median represents the point at which half the group has a higher ratio and half a lower ratio. Foreign direct investment (FDI) occurs when an investor has a durable stake in an asset. Portfolio equity (PE) represents stock purchases for the purpose of financial gain. Liabilities and assets refer to a country's external liabilities and external assets.

During 2000–07, reserve accumulation accounted for about half the overall increase in external assets of emerging economies. These results are not driven by China alone. A majority of emerging markets experienced an increase in the share of foreign exchange reserves in total external assets over this period. These countries build up reserves as a by-product of intervention in foreign exchange markets to keep their currencies from appreciating, which would reduce their trade competitiveness. But reserves also act as a rainy-day fund, providing self-insurance against capital flow volatility.

The recent global financial crisis, along with the rise in total asset and liability positions, has increased emerging economies' demand for precautionary reserves. Indeed, reserve accumulation by these economies peaked in 2007 and slowed during the crisis, but has picked up again (see Chart 2). Meanwhile, the public debt burdens of advanced economies are rising steeply, putting the safety of these assets in jeopardy. As a result, the risk on emerging market external balance sheets has, paradoxically, shifted to the asset side.

Self-insurance gets expensive

The accumulation of reserves has been associated with a search by emerging markets for safe assets—typically government bonds of advanced economies. The supply of such bonds is driven by the trajectories of net government debt around the world.

The financial crisis triggered a sharp increase in global public debt levels. Advanced economies account for the bulk of the increase in global net public debt since 2007, both in absolute terms and relative to gross domestic product (GDP). Here are some striking statistics constructed using data and forecasts from the IMF (all at market exchange rates):

- Aggregate debt of advanced economies will grow from \$18 trillion in 2007 to \$30 trillion in 2011, and rise further to \$41 trillion in 2016. The corresponding estimate for emerging markets is \$7 trillion in 2016, up \$2 trillion from the 2011 level.
- The ratio of aggregate debt to aggregate GDP for advanced economies will rise from 46 percent in 2007 to 70 percent in 2011 and to 80 percent in 2016. For emerging markets, the ratio is 21 percent in 2011, after which it will decline gradually.
- In 2007, emerging markets accounted for 25 percent of world GDP and 17 percent of world debt. By 2016, they are expected to produce 38 percent of world output and account for just 14 percent of world debt.
- In 2011, the four major reserve currency areas together account for 58 percent of global GDP and 81 percent of global debt.

The contrast between advanced and emerging market economies is even sharper in terms of their contributions to the growth in world debt and world GDP (see Chart 3).

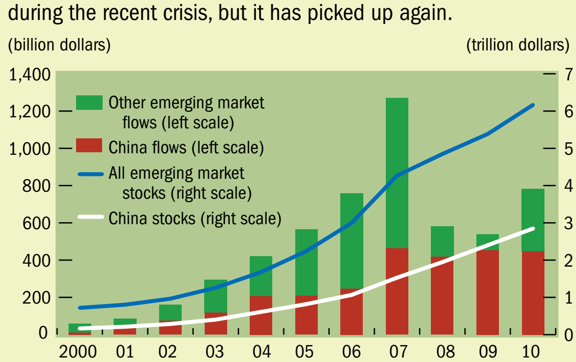
- Emerging markets account for 9 percent of the increase in global debt levels from 2007 to 2011 and are expected to account for 13 percent of the increase from 2011 to 2016. Their contributions to increases in global GDP over these two periods are 66 percent and 56 percent, respectively.
- The major advanced economies will make a far greater contribution to the rise in global debt than to the rise in global GDP. The United States will account for 37 percent of the increase in global debt from 2007 to 2011 and 40 percent from 2011 to 2016. Its contributions to the increases in global GDP over those two periods will be 8 percent and 18 percent, respectively.

These figures paint a sobering picture. The major reserve currency economies face daunting trajectories of public debt bur-

Chart 2

Building reserves

China and other emerging market economies have been adding foreign exchange reserves rapidly. Reserve accumulation slowed during the recent crisis, but it has picked up again.

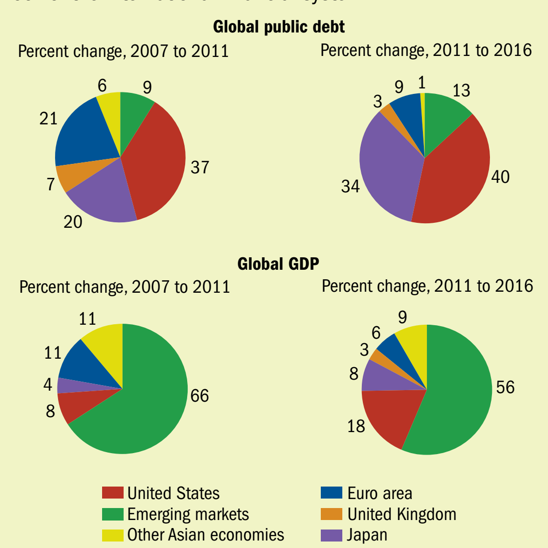


Sources: IMF, Currency Composition of Official Foreign Exchange Reserves database, June 30, 2011; and People's Bank of China.
Note: Flows refer to the annual addition of reserves (left scale); stocks refer to the amount of reserves held by emerging economies at the end of the year (right scale).

Chart 3

Changing places

Emerging markets have replaced advanced economies as the rock of the international financial system.



Source: Author's calculations based on IMF data.
Note: The charts show the percentage contribution of countries or country groups to the changes in the absolute levels of global net government debt and global GDP (measured in a common currency at market rates).

dens and weak growth prospects that look worse in light of their low levels of population growth, rapidly aging populations, and rising costs of health care and other entitlement programs.

Reserve currency economies issue sovereign debt in their own currencies, transferring currency risk to the foreign purchasers of their sovereign debt. Moreover, high and rising debt levels imply crowding out of private investment and lower productivity growth in advanced economies relative to emerging markets. These productivity differentials imply that emerging market currencies will eventually appreciate against those of advanced economies, resulting in a significant wealth transfer from poorer to richer countries.

This wealth transfer presents an intriguing paradox—the accumulation of foreign reserves by emerging economies searching for self-insurance is driving up the costs of such insurance, funding advanced economies' fiscal profligacy, and worsening risks worldwide by perpetuating global current account imbalances. In the United States, for instance, foreign investors, both official and private, finance about half of the buildup of net public debt.

Just how safe are advanced economy sovereign assets? Rising debt levels, particularly in "safe haven" economies such as the United States, raise serious concerns about the safety of these bonds from the perspective of emerging market investors. The U.S. Treasury bond market is, of course, very large and has high turnover. That means that the rush into U.S. Treasury bonds in response to instances of global financial turmoil may be more a flight to liquidity and depth than a flight to safety.

The path ahead

Traditionally, emerging markets were exposed to risks through their dependence on capital inflows and the structure of their external liabilities. But today, few significant emerging economies depend heavily on foreign financing, and most have large stocks of international reserves. The problem of short-term, foreign currency–denominated debt has diminished substantially. Flexible exchange rate regimes adopted by many emerging markets have also made currency crashes less of a concern (see Kose and Prasad, 2010).

Greater integration of emerging economies into world financial markets does imply that emerging markets are subject to more danger from policy spillover and transmission of shocks from abroad. But these risks are modest relative to domestic ones. Indeed, many emerging economies face a problem of plenty because their strong growth prospects tend to fuel surges in capital inflows and place pressure on domestic inflation, asset prices, and exchange rates.

The major risks emerging economies face as a result of openness to foreign capital are now mainly the tendency for capital flows to magnify domestic policy conundrums. Capital inflows can add fuel to domestic credit booms and asset bubbles that then turn into busts. Inflows and the resulting pressure for currency appreciation also affect income distribution, heightening inequality by feeding into inflation and hurting industrial employment growth.

It is in the self-interest of emerging economies as a group to foster financial market development and broaden domestic access to their formal financial systems.

The solution to a lot of these problems involves financial market development, especially a richer set of financial markets that would improve the ability of emerging economies to absorb capital inflows and manage volatility. For instance, corporate bond markets—which are still minuscule in major emerging markets such as China and India—can provide investment opportunities that would help absorb inflows and effectively channel them into productive rather than speculative activities. The imposition of capital controls, on the other hand, often simply adds economic distortions and is of little lasting value in stemming the tide of inflows.

It is in the self-interest of emerging economies as a group to foster financial market development and broaden domestic access to their formal financial systems. This will allow them to invest more among themselves rather than financing debt buildups in advanced economies. More flexible exchange rate regimes would also reduce reserve accumulation and free up monetary policy to control inflation.

Rather than relying on good policies in advanced economies, emerging economies should focus on managing their own economic destinies. Through their policy choices, they could set an example for advanced economies, which need to swallow the medicine of macroeconomic and structural reforms they have so long prescribed for others. ■

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Land For Sale

Raghuram Rajan and Rodney Ramcharan

Clues to whether easy credit causes booms and busts in asset prices can be found in U.S. farmland prices a century ago

DOES easy credit inflate into asset price bubbles and hurt the rest of the economy when the bubbles pop? Policymakers are asking these questions in light of the recent boom and bust in house prices in the United States and elsewhere. Concerned that easy bank credit may have led to the recent financial crisis, many countries are seeking to tighten lending rules to keep their banks from taking excessive risks. The idea that central banks should "lean against the wind" to resist asset price and credit booms—rather than solely manage inflation—has gained greater currency.

Indeed, policymakers in some commodity-exporting countries today are facing such a quandary about what approach to take. Commodity prices have risen sharply during the past decade, and many commodity producers have experienced concomitant upsurges in credit and asset prices—a joint credit and asset price boom. Credit growth and property prices in Brazil have skyrocketed, for example, and some argue that farmland prices in the United States have entered bubble territory, despite the otherwise weak U.S. economy.

How then should policymakers approach the possible connection between credit availability, which governments can affect, and asset price booms and their similarly sharp aftermaths, busts? There is burgeoning research into this question driven by the recent nationwide boom and bust in house prices, but a look back at the most recent nationwide land boom in the United States in the early part of the previous century offers valuable historical context. Regulatory features of the time also help uncover the potential role of credit in shaping asset price fluctuations.

Credit availability

Students of financial panics have long argued that credit availability may play a causal role in booms and busts, citing experiences as varied as the Dutch tulip mania of the 1630s and the Japanese real estate bust of the 1990s (Kindleberger and Aliber, 2005). Research inspired by the Great Depression of the 1930s

U.S. land prices in the early 20th century went boom and bust.

also points to the interaction between credit availability and asset prices. An initial positive shock to an asset such as land—say an increase in the price of the crops grown on that land—raises a borrower's net worth, which enhances the landowner's ability to borrow and amplifies the demand for land. On the way down, perhaps because of a drop in commodity prices, lower land prices mean lower net worth, less collateral, a reduced ability to borrow, and a significant contraction in demand for land. The price decline is further amplified by fire sales, which depress prices (Fisher, 1933; Bernanke and Gertler, 1989; Kiyotaki and Moore, 1997).

The incentives for banks to lend or not also affects the boom-bust cycle. When credit is expanding, banks may be unwilling either to stop renewing bad loans (often called evergreening) or to hold back on new lending for fear of realizing losses or signaling a lack of lending opportunities—which would also reveal their earlier failure to assess properly the quality of the loans they were making (Rajan, 1994). As a result, good times can lead to excessive credit. In contrast—because loan losses are more likely in bad times and creditworthy lending opportunities are more limited—all banks have an incentive to take advantage of this more forgiving environment to cut back on credit, blaming losses on economic conditions rather than their inadequate assessment ability. Thus expanded credit may follow cycles that amplify real shocks, both positive and negative, especially in areas where banks are more competitive.

Theory and practice

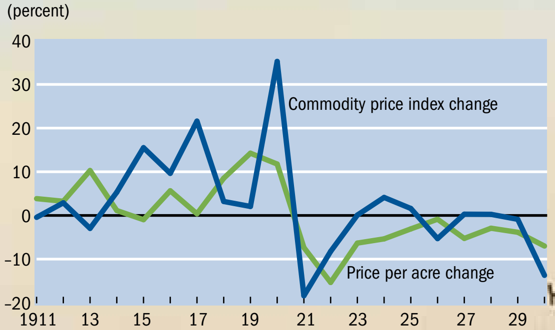
That is the theory. In practice, though, there is still considerable uncertainty surrounding the role of credit availability in inflating asset prices beyond their apparent fundamental value—an asset price bubble. After all, asset price booms and busts often center on changes in fundamentals or beliefs, and more credit is likely to flow to entities with better fundamentals. This fact also makes it difficult for policymakers to react to periods of rapid asset price inflation and credit expansions. Raising interest rates or otherwise restricting credit growth may prevent asset prices from fully reflecting positive fundamentals. Yet credit that is too easily available may itself cause asset prices to overshoot fundamentals, laying the foundation for a bust.

For example, the house price boom of the past decade was driven in part by the widespread belief that house prices would always appreciate. And this belief in turn may have made it easier for banks to justify their large expansion of mortgage credit and more difficult for policymakers to judge in advance whether households had overborrowed and whether house price growth was excessive. Similarly, there are many reasons for the current boom in commodity prices; a common narrative points to unprecedented structural change. In the case today, the industrialization of such emerging markets as China and India, and the threat of global warming along with uncertainty over global agricultural production, are the narratives that have helped underpin the current boom in U.S. agricultural commodities and farmland prices.

To better understand the potential impact of credit availability on asset price booms and busts, we turned to the most recent, if long past, nationwide boom and bust in land prices in the United States—1900–30. The United States was the hot new emerging market at the turn of the 20th century, and America's rapid industrialization helped precipitate a boom in world commodity prices. Demand for rubber, oil, and agricultural goods rose sharply, along with incomes in the United States and Europe and the widespread adoption of new technologies such as the automobile (Blattman, Hwang, and Williamson, 2007; Yergin, 1991). As it has today, this rise in world commodity prices also engendered an equally sharp rise in farmland prices in the United States (see chart).

Fueled by commodities

During the early years of the 20th century, a sharp increase in world commodity prices engendered an equally sharp rise in U.S. farmland prices.



Sources: U.S. Department of Labor; and U.S. Department of Agriculture.

Banks burgeon

Banks in turn proliferated throughout the country, and credit became increasingly available and less costly—with some practices reminiscent of those during the most recent housing boom. Borrowers could put down only 10 percent of the price, borrowing 50 percent from a bank and taking out a second or junior mortgage for the remainder. Loan repayments were typically "bullet" payments—that is, borrowers paid only interest until the loan matured, when the entire principal was due. As long as refinancing was easy, borrowers did not worry about principal repayment. And the long history of rising land prices gave lenders confidence that they would be able to sell repossessed land easily if the borrower could not pay. So they lent willingly: mortgage debt per acre increased 135 percent from 1910 to 1920. World War I and the Russian Revolution disrupted the supply of many commodities—especially wheat and oil—which added to global uncertainty and further intensified the commodity boom and land price inflation.

But as abruptly as it began, World War I ended. And desperate for hard currency, the new government in Russia quickly resumed exports. European agriculture also recommenced much faster after the war than was anticipated. As a result, world commodity prices plummeted in 1920, declined annually throughout the 1920s, and crashed again during the Great Depression. Farmland prices in the United States followed a similar trajectory and did not increase again until World War II—some two decades after the initial bust. Throughout the 1920s, the United States also experienced about 6,000 bank failures—or about 20 percent of the existing banks at the peak of the boom in 1920. This was the depression before the Depression.

Fundamental divergences

We used detailed county-level data on the price of land, the acreage of crops grown, and the structure of the local banking system. Such a fine level of disaggregation helps identify more precisely the interaction between local fundamentals—in this case the prevailing value of the underlying commodities grown in the county, the dividend yield on the land—and credit availability emanating from local bank competition. Our evidence points to the dual nature of credit availability in shaping asset prices.

Credit availability did indeed help land prices align better with fundamentals during the boom. In areas with banks and credit access, land prices were better able to reflect local fundamentals—measured as an index composed of changes in the world price of seven commodities weighted by the acreage in the county devoted to production of each commodity. Moreover, because land purchases are large-ticket items, credit availability may have led to more efficient allocation of land, with more productive farmers better able to obtain credit to buy more.

However, *there is also evidence that in areas with a large number of banks—and, presumably, the most intense competition among local banks—land prices became increasingly detached from local fundamentals (at least with the benefit of hindsight)*. This is consistent with the idea that, in an environment of expanding credit, banks may be unwilling to stop evergreening bad loans or to hold back on new lending for fear of realizing losses or losing market share in competitive areas. Thus, very competitive banking systems could lead to excess credit, amplifying real shocks on asset prices.

Although the data are relatively detailed, and we were able to control for a number of geographic and demographic variables that may determine both land prices and the location of banks, the evidence rests on statistical correlations that may allow other explanations for the relationship between bank competition and land prices. For example, the number of banks in a county may reflect aspects of fundamentals that are not captured by the value of the crops per acre, the size of the commodity price shock in the county, or the other observables included in the various specifications.

The bank failure rate during the 1920s was highest in areas that began the decade with the most banks and in areas that grew commodities with the biggest price run-up during World War I.

More convincing evidence

However, an interesting feature of credit markets in the 1920s allows us to offer more convincing evidence that the availability of credit had an independent effect on land prices. Interstate bank lending was prohibited in the United States in the early 1920s. If the number of banks reflects primarily fundamentals associated with land, then the number of banks in neighboring counties should affect land prices in a county the same way, regardless of whether the neighboring counties are within or out of the state—counties on either side of a state border tend to have similar geographic fundamentals.

If, however, the number of banks reflects the availability of credit, then banks in neighboring counties within a state should affect land prices much more (because they can lend across the county border) than banks in equally close neighboring counties that are outside the state (because they cannot lend across the county border).

Similarly, the difference in land prices across a county border should correlate positively with the difference in the number of banks across the border, but more so when the border is also a state border, because banks cannot lend across the border to equalize price differences. We find evidence for the above-predicted effects, implying that the availability of credit did affect asset prices, over and above any effect of the change in fundamentals themselves.

Differences in bank regulations across states can also help determine whether the relationship between banks and prices reflects credit availability or some unmeasured factor. Some states had deposit insurance systems in place. Well-known arguments suggest that poorly designed deposit insurance programs can induce banks to finance riskier investments and extend credit more widely than warranted—especially in areas where banks operate under deposit insurance and face stiff local competition. Consistent with these ideas, the data suggest that the impact of credit availability on land prices may have been particularly strong during the boom in counties located in deposit insurance states relative to counties in states without such insurance. These differences in the relationship between banks and prices across deposit insurance systems appear significant even in the case of counties located at the border of states with and without deposit insurance, where presumably counties share similar economic characteristics and grow similar crops.

Commodity price collapse

The collapse in world commodity prices after World War I wreaked havoc on the banking system in general. But the bank failure rate during the 1920s was highest in areas that began the decade with the most banks and in areas that grew commodities with the biggest price run-up during World War I. Of course, the evidence that credit availability was important for the boom does not necessarily mean that it would exacerbate the bust. Easier availability of credit in an area could in fact have cushioned the bust. But the rise in asset prices and the buildup in associated borrowing were so high that there were significantly more bank failures (resulting from farm loan losses) in areas with greater credit availability before the bust. Taken together, these results suggest that *credit availability driven by competition among banks may have amplified the impact of the positive commodity price shock on land prices and borrowing.* Once the boom proved evanescent, the rise in borrowing may have led to more bank failures in areas with greater credit availability.

Thus, with the benefit of hindsight, restricting credit could have averted much of the subsequent damage. But regulators do not have the luxury of hindsight. Moreover, it would be too simple to argue that credit availability should have been restricted across the entire country during the boom. After all, credit did help prices align better with fundamentals in many areas. And expectations of land price increases may well have been rational given the uncertainties surrounding the timing of the end of World War I, the pace of resumption of European agriculture, and the willingness of the Russians to resume exports.

A more reasonable interpretation is that greater credit availability tends to make the financial system and asset prices more sensitive to all fundamental shocks, whether temporary or permanent. Prudent risk management might then suggest that regulators could lean against the wind, using more targeted supervisory tools in areas where the perceived shocks to fundamentals are seen to be extreme, so as to dampen the fallout if the shock happens to be temporary.

A corollary to this interpretation is that prudent risk management requires careful monitoring of the overall banking system, including the so-called shadow banking system—hedge funds and large nonbank financial firms that extend credit. A reading of the contemporary literature in the 1920s suggests that regulators had only a limited appreciation of the run-up in land prices or the extent of bank competition at the peak of the boom in 1920. Even during the ensuing banking collapse of the 1920s, information on bank failures was relatively scarce, and it was heavily fragmented among national and state bank regulators in the United States. For example, in one study from the time, it took regulators a year to collect data from a sample of banks in just one region of the United States (Upham and Lamke, 1934). This lack of information may have paved the way for policy mistakes—for example, encouraging the rapid sale of failed bank assets, which may in turn have further depressed land prices and exacerbated the crisis. ■

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This article is based on "The Anatomy of a Credit Crisis: The Boom and Bust in Farm Land Prices in the United States in the 1920s," available at http://faculty.chicagobooth.edu/raghuram.rajan/research/papers/land_sales_5.pdf

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To Sell or Not

***John Quiggin*, author of *Zombie Economics*, looks at the pros and cons of privatization**

SELLING public enterprises to private businesses was a central theme of economic policy in many countries during the final decades of the 20th century and in the years leading up to the global financial crisis of 2008.

Although the push for privatization took different forms in different parts of the world, it was part of a broader movement aimed at reducing the role of government in the economy and at increasing reliance on markets and prices. In particular, the movement toward privatization reflected the presumed superiority of financial markets over governments in allocating capital.

In the wake of the financial market breakdowns that characterized the global crisis, though, much of the theoretical and policy rationale for privatization has come into question. On the other hand, the adoption of austerity programs aimed at reducing public debt has led to increased focus on the sale of publicly owned assets as a way to reduce that debt, for example, in Europe.

The balance between the public and private sector is always changing, so privatization is not of itself good or bad. The only general answer to the question of whether to sell public assets is: “It depends.” Before looking at the central arguments that determine the desirability of privatization in any given case, it is useful to consider the policy in its historical context.

A global phenomenon

For most of the 20th century, the range of economic activities undertaken by government generally expanded—a result both of nationalization and of the establishment of new government enterprises where private sector provision was seen as inadequate. This trend reversed toward the end of the century.

In the English-speaking world, the United Kingdom led the way in this reversal. The privatization programs of the government of Prime Minister Margaret Thatcher represented a rejection of the previous consensus on the role of government in a mixed economy, a consensus widely seen as having failed in the economic chaos of the 1970s.

In addition to selling existing assets, the Thatcher government pioneered new approaches to private provision of new public infrastructure, often referred to as public-private partnerships (PPPs). In a typical PPP arrangement, public infrastructure, such as schools and hospitals, is built and operated by private firms under long-term contracts; the associated health and education services are provided by the government.

Privatization took place on a larger scale in the last decade of the century, following the collapse of communism in Russia and eastern Europe—where all large enterprises and many small ones were publicly owned and subject, at least nominally, to central planning. The development of a market economy required the transfer of most of these enterprises to private ownership.

In the developing world, the general movement toward privatization was hastened by an emphasis on asset sales as an essential element of structural adjustment programs financed by the IMF and other international agencies.

The pace of privatization slowed in the 2000s, as governments ran out of easily salable assets and problems with earlier privatization emerged.

Perhaps the most striking examples of those problems were in the United Kingdom. Following a series of serious train accidents and ongoing questions about safety and performance, the government renationalized Railtrack, the privatized owner of the nation’s

rail network. A few years later, the partial privatization of the London Underground network, through a PPP arrangement, was plagued by mismanagement in one of the private companies responsible for operating the subway. Like the rail network, the London subway was renationalized. More recently, the U.K. Private Finance Initiative, responsible for PPPs at the national level, has come under severe criticism from members of Parliament, including government ministers.

The appeal of infrastructure built with no apparent cost to the public has been replaced by the reality of the need to service a large debt at the rates of return demanded by private investors in such projects—usually substantially higher than government bond interest rates.

A temporary reversal

A big reversal in the trend toward privatization occurred immediately after the global financial crisis began in 2008. Banks in the United States and Europe were rescued by their national governments on terms that amounted to nationalization, either implicitly or explicitly. Interestingly, some of these same banks had been leading advocates of privatization, which a number continued to support even when they were in public ownership. The process went beyond banks in the United States, where General Motors, long emblematic of private enterprise, was temporarily nationalized to prevent its failure.

With the emergence of sovereign debt problems as a central policy concern, however, privatization is back on the agenda. Selling assets seems to be an easy way for governments to raise cash. Meanwhile, economic arguments about the costs and benefits of private and public ownership remain unresolved, and have been further complicated by the challenges to economic theory posed by the financial crisis.

While there are many arguments for and against privatization in particular cases, in general the most common argument for privatization is that it provides hard-pressed governments with a source of ready cash. But this argument is not as clearcut as it might seem. Selling an asset yields an immediate financial benefit, but it requires governments to forgo the earnings or services the asset would otherwise have generated.

The obvious question is whether the proceeds from selling an asset are more or less than the value of the earnings forgone. In principle, this is a straightforward question. We can look at the amount of interest saved if the proceeds from the sale were used to repay public debt and compare those savings to the earnings that would be generated under continued public ownership. Alternatively, but equivalently, we can convert a projected stream of future earnings into a present value, discounted at the rate of interest on public debt. If the proceeds from the sale exceed the present value of forgone earnings, privatization has improved the government's fiscal position.

There are two factors that will determine the outcome of an exercise of this kind:

First is *the operational efficiency of the firm under private and public ownership*. In general, a firm operating in a competitive market will do better under private ownership. However, if the market requires extensive regulation—to deal with monopoly or externality problems—the advantages of private ownership are diminished and may disappear.

Second is *the relative cost of capital, taking appropriate account of risk*. In general, even after allowing for default risk, governments can borrow more cheaply than private firms. This cost saving may or may not outweigh the operational efficiency gains usually associated with private ownership.

Still, it remains relatively rare to see privatization subjected to this simple empirical test. I have analyzed a number of Australian and British privatizations of the 1980s and 1990s and found that very few of them increased public sector net worth (Quiggin, 1995; 2010). The privatizations undertaken by the Thatcher government, widely applauded at the time, were among the worst in terms of their effects on the net worth of the public sector. Most notable was the sale of 50 percent of British Telecom for a mere £3.7 billion, at a time when its pre-tax earnings were about £2.5 billion a year.

Public sector suffers

There are a number of reasons why privatizations have left public sector net worth less well off. In some cases, including that of British Telecom, governments have deliberately underpriced assets for political reasons. Particularly in the case of a public sale of stock in an enterprise, governments often want to ensure that the share issue is fully subscribed and that buyers do not lose money through a decline in the share price. Both these incentives lead to underpricing.


Notting Hill Gate Underground station, London, England.

Worse still, as in parts of the former Soviet Union, are cases in which the privatization process was corrupted. In many cases, small numbers of people have gained control of vast assets, while the public got little in return. Cases of this kind pose a sharp dilemma. On the one hand, it is undesirable to have public assets operated by a corrupt and unaccountable government. On the other hand, when such governments are put in charge of the sale of public assets, even larger losses accrue all at once.

But even where governments are motivated to seek the full market price for public assets, the benefits of lower debt often fail to match the cost of forgone earnings. The problem is that investors generally demand a substantially higher return on equity capital than on the high-grade debt issued by governments. This differential—called the *equity premium*—cannot be explained simply by the fact that returns on equity are riskier. Twenty-five years of analysis of the so-called equity premium puzzle has failed to produce a fully satisfactory explanation for its existence.

In most sectors of the economy, the higher cost of equity capital is more than offset by the fact that private firms are run more efficiently, and therefore more profitably, than government enterprises. But enterprises owned by governments are usually capital intensive and often have monopoly power that entails close external regulation, regardless of ownership. In these situations, the scope to increase profitability is limited, and the lower value of the asset to a private owner is reflected in the higher rate of return demanded by equity investors.

When it makes sense

Sometimes the sale of public assets as a way to raise revenue makes sense.

First, like all large organizations, *governments have changing goals and objectives. Assets that were useful in one context may be superfluous in another*. For example, as the U.S. military has become smaller and more professional, the need for army bases has declined, and some have been closed and sold. Rational asset management makes sense regardless of views about privatization and public ownership.

Second, *some enterprises are unprofitable under public ownership, perhaps because of political constraints on such matters as hiring and firing, but can be sold to private investors who are not subject to these constraints*. In cases of this kind, there is a clear fiscal benefit. However, it is important to consider whether the constraints in question are inherent in public ownership and whether the question of structural reform can be separated from that of private or public ownership.

Finally, *if a government is in such dire straits that it can no longer borrow at the prevailing low rates for high-quality public debt, often it makes sense to sell income-earning assets*. The interest saved is more than the earnings forgone. In cases of this kind, privatization may take place at fire-sale prices—not an optimal outcome. A preferable alternative is for international lenders such as the IMF to provide liquidity while efficient adjustments (including asset sales where these pass the benefit-cost test) are undertaken.

In general, however, the idea that governments can improve their financial position to any significant degree by selling assets is an illusion arising from a focus on accounting numbers rather than economic realities. The economic argument for privatization is that it will lead to more socially efficient provision of goods and services, more competitive markets, and greater responsiveness to consumer needs and preferences. The strength of this argument, and of counter-arguments based on market failure, varies from case to case.

The strongest case for privatization arises in the wake of rescues like that of General Motors in the United States and, several decades earlier, of Rolls-Royce in the United Kingdom. Firms like these, operating in competitive markets and with no particular need for regulation, never belonged in the public sector. In the ordinary course of events, faced with severe financial difficulties, they would have gone out of business. However, given their iconic status, governments were willing to risk public money to keep them going. In both these cases, the rescue was successful and the firms were returned to private ownership.

No competition

At least in the developed world, however, such cases are rare. Most cases of public ownership across developed countries reflect the lack of many goods and services in competitive markets or special characteristics that require regulation. Infrastructure services of various kinds are commonly subject to public ownership. There are several reasons for this:

- These enterprises are usually capital intensive, so the low cost of public sector borrowing is more important.
- Infrastructure services are typically natural monopolies—a given area needs only one electricity network, water supply system, and so forth. This means that, even under private ownership, extensive regulation is needed, so the choice is between one form of government intervention and another.
- In many cases, such as that of road networks, it is difficult or impossible to impose prices that reflect the true social cost of provision.

Still, the temptation to move costly infrastructure investments off the books has proved irresistible for many governments, most notably in the case of toll roads. While toll road projects look good in an accounting sense, they are often failures in economic terms. The risk associated with owning just one part of a large road network means that private investors demand high returns. The cost of a toll road project, as measured by the discounted present value of toll revenue, is typically as much as twice the cost of a similar road financed by public debt and serviced by gasoline taxes or other indirect road user charges.

Moreover, the pattern of prices associated with toll roads is usually the opposite of what would be indicated by economic analysis. The primary cost of using a specific road is the resulting increase in congestion, which is why economists support congestion charges such as those imposed in central London. But, as in the case of London, it is typically the oldest roads that are most congested. Imposing a toll on a new, and uncrowded, road often increases the flow of traffic on older, more congested roads, reducing and sometimes wiping out the net benefits of the road project.

Health and education

Separate concerns arise with services such as health and education. For various reasons, these services are funded primarily by governments and provided either by public institutions or by private (often religiously based) nonprofit organizations. For-profit provision of health and education services has generally been problematic and, in the case of education, almost uniformly unsuccessful.

The problem in these cases is that there is no real market. The patients and students to whom health and education services are provided rarely pay directly for the services they consume. Instead, providers operate in pseudo markets created by governments and insurers. In this context, the sharp focus on profitability associated with private ownership works not to meet consumer need, but to seek out opportunities to game the system. For-profit health providers often engage in cost shifting, focusing on high-return services while pushing costly cases over to the public sector. For-profit higher education providers can exploit the weakness of student grant and loan systems.

Given the weakness of market incentives, only organizations with a strong ethic of professional service can provide high-quality services such as health and education. But such an ethic cannot be wished into existence, and it rarely works perfectly; it is almost impossible to maintain a service ethic while at the same time using managerial controls to increase efficiency. Nevertheless, experience suggests that there is no alternative.

The strongest case for privatization arises in the wake of rescues like that of General Motors in the United States and, several decades earlier, of Rolls-Royce in the United Kingdom.

Technologies and social priorities change over time, with the result that activities suitable for public ownership at one time may be candidates for privatization in another. However, the reverse is equally true. Problems in financial markets or the emergence of new technologies may call for government intervention in activities previously undertaken by private enterprise.

In summary, privatization is valid and important as a policy tool for managing public sector assets effectively, but must be matched by a willingness to undertake new public investment where it is necessary. As a policy program, the idea of large-scale privatization has had some important successes, but has reached its limits in many cases. Selling income-generating assets is rarely helpful as a way of reducing net debt. The central focus should always be on achieving the right balance between the public and private sectors. ■

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What Is Econometrics?

Taking a theory and quantifying it

Sam Ouliaris

ECONOMISTS develop economic models to explain consistently recurring relationships. Their models link one or more economic variables to other economic variables (see "What Are Economic Models," *F&D*, June 2011). For example, economists connect the amount individuals spend on consumer goods to disposable income and wealth, and expect consumption to increase as disposable income and wealth increase (that is, the relationship is positive).

There are often competing models capable of explaining the same recurring relationship, called an empirical regularity, but few models provide useful clues to the magnitude of the association. Yet this is what matters most to policymakers. When setting monetary policy, for example, central bankers need to know the likely impact of changes in official interest rates on inflation and the growth rate of the economy. It is in cases like this that economists turn to econometrics.

Econometrics uses economic theory, mathematics, and statistical inference to quantify economic phenomena. In other words, it turns theoretical economic models into useful tools for economic policymaking. The objective of econometrics is to convert qualitative statements (such as "the relationship between two or more variables is positive") into quantitative statements (such as "consumption expenditure increases by 95 cents for every one dollar increase in disposable income"). Econometricians—practitioners of econometrics—transform models developed by economic theorists into versions that can be estimated. As Stock and Watson (2007) put it, "econometric methods are used in many branches of economics, including finance, labor economics, macroeconomics, microeconomics, and economic policy." Economic policy decisions are rarely made without econometric analysis to assess their impact.

A daunting task

Certain features of economic data make it challenging for economists to quantify economic models. Unlike researchers in the physical sciences, econometricians are rarely able to conduct controlled experiments in which only one variable is changed and the response of the subject to that change is measured. Instead, econometricians estimate economic relationships using data generated by a complex system of related equations, in which all variables may change at the same time. That raises the question of whether there is even enough information in the data to identify the unknowns in the model.

Econometrics can be divided into theoretical and applied components.

Theoretical econometricians investigate the properties of existing statistical tests and procedures for estimating unknowns in the model. They also seek to develop new statistical procedures that are valid (or robust) despite the peculiarities of economic data—such as their tendency to change simultaneously. Theoretical econometrics relies heavily on mathematics, theoretical statistics, and numerical methods to prove that the new procedures have the ability to draw correct inferences.

Applied econometricians, by contrast, use econometric techniques developed by the theorists to translate qualitative economic statements into quantitative ones. Because applied econometricians are closer to the data, they often run into—and alert their theoretical counterparts to—data attributes that lead to problems with existing estimation techniques. For example, the econometrician might discover that the variance of the data (how much individual values in a series differ from the overall average) is changing over time.

The main tool of econometrics is the linear multiple regression model, which provides a formal approach to estimating how a change in one economic variable, the explanatory variable, affects the variable being explained, the dependent variable—taking into account the impact of all the other determinants of the dependent variable. This qualification is important because a regression seeks to estimate the marginal impact of a particular explanatory variable after taking into account the impact of the other explanatory variables in the model (see "Regressions: Why Are Economists Obsessed with Them?" *F&D*, March 2006). For example, the model may try to isolate the effect of a 1 percentage point increase in taxes on average household consumption expenditure, holding constant other determinants of consumption, such as pretax income, wealth, and interest rates.

Stages of development

The methodology of econometrics is fairly straightforward.

The first step is to suggest a theory or hypothesis to explain the data being examined. The explanatory variables in the model are specified, and the sign and/or magnitude of the relationship between each explanatory variable and the dependent variable are clearly stated. At this stage of the analysis, applied econometricians rely heavily on economic theory to formulate the hypothesis. For example, a tenet of international economics is that prices across open borders move together after allowing for nominal exchange rate movements (purchasing power parity). The empirical relationship between domestic prices and foreign prices (adjusted for nominal exchange rate movements) should be positive, and they should move together approximately one for one.

In practice econometrics is an art that requires considerable judgment to obtain estimates useful for policymaking.

The second step is the specification of a statistical model that captures the essence of the theory the economist is testing. The model proposes a specific mathematical relationship between the dependent variable and the explanatory variables—on which, unfortunately, economic theory is usually silent. By far the most common approach is to assume linearity—meaning that any change in an explanatory variable will always produce the same change in the dependent variable (that is, a straight-line relationship).

Because it is impossible to account for every influence on the dependent variable, a catchall variable is added to the statistical model to complete its specification. The role of the catchall is to represent all the determinants of the dependent variable that cannot be accounted for—because of either the complexity of the data or its absence. Economists usually assume that this "error" term averages to zero and is unpredictable, simply to be consistent with the premise that the statistical model accounts for all the important explanatory variables.

The third step involves using an appropriate statistical procedure and an econometric software package to estimate the unknown parameters (coefficients) of the model using economic data. This is often the easiest part of the analysis thanks to readily available economic data and excellent econometric software. Still, the famous GIGO (garbage in, garbage out) principle of computing also applies to econometrics. Just because something can be computed doesn't mean it makes economic sense to do so.

The fourth step is by far the most important: administering the smell test. Does the estimated model make economic sense—that is, yield meaningful economic predictions? For example, are the signs of the estimated parameters that connect the dependent variable to the explanatory variables consistent with the predictions of the underlying economic theory? (In the household consumption example, for instance, the validity of the statistical model would be in question if it predicted a decline in consumer spending when income increased). If the estimated parameters do not make sense, how should the econometrician change the statistical model to yield sensible estimates? And does a more sensible estimate imply an economically significant effect? This step, in particular, calls on and tests the applied econometrician's skill and experience.

Testing the hypothesis

The main tool of the fourth stage is hypothesis testing, a formal statistical procedure during which the researcher makes a specific statement about the true value of an economic parameter, and a statistical test determines whether the estimated parameter is consistent with that hypothesis. If it is not, the researcher must either reject the hypothesis or make new specifications in the statistical model and start over.

If all four stages proceed well, the result is a tool that can be used to assess the empirical validity of an abstract economic model. The empirical model may also be used to construct a way to forecast the dependent variable, potentially helping policymakers make decisions about changes in monetary and/or fiscal policy to keep the economy on an even keel.

Students of econometrics are often fascinated by the ability of linear multiple regression to estimate economic relationships. Three fundamentals of econometrics are worth remembering.

- First, the quality of the parameter estimates depends on the validity of the underlying economic model.
- Second, if a relevant explanatory variable is excluded, the most likely outcome is poor parameter estimates.
- Third, even if the econometrician identifies the process that actually generated the data, the parameter estimates have only a slim chance of being equal to the actual parameter values that generated the data. Nevertheless, the estimates will be used because, statistically speaking, they will become precise as more data become available.

Econometrics, by design, can yield correct predictions on average, but only with the help of sound economics to guide the specification of the empirical model. Even though it is a science, with well-established rules and procedures for fitting models to economic data, in practice econometrics is an art that requires considerable judgment to obtain estimates useful for policymaking. ■

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Fixing the Flaws in EMU

The euro area's long-term survival requires a fundamental transformation of policymaking

Florence Jaumotte

DURING its first decade, the euro delivered on its promises. Economic and Monetary Union (EMU) led to strong economic and financial integration among its members and prompted a catching-up process for the poorer countries on Europe's geographic periphery, aided by capital pouring in from the richer countries in northern Europe. EMU's apparent success led many to forget some initial misgivings. Was it really an optimal currency union? Would countries have enough flexibility to handle shocks without recourse to the exchange rate or an independent monetary policy? Did current account imbalances really not matter in a currency union?

These questions are back with a vengeance. Imbalances clearly matter. Many countries are buckling under large public and private debt and collapsing housing markets. Private capital is fleeing the periphery faster than it arrived. Pressure has spilled over into the rest of the euro area, leaving policymakers scrambling to come to grips with a broader, near-existential crisis.

This raises two questions: How did things go so wrong? What can be done to prevent a recurrence of these problems?

The burden of success

EMU worked almost too well. During the run-up to currency union, countries undertook reforms to achieve the fiscal and inflation standards required to join the club. These policy improvements and the elimination of exchange rate risk led to a decline in the cost of borrowing for the countries adopting the euro, helping achieve fiscal sustainability for all. The buoyant growth prospects in the periphery countries attracted abundant capital during a period of macroeconomic stability and high growth in a number of euro area countries.

However, the low interest–rate environment led to excessive borrowing and inflated bubbles in some periphery countries, which started living beyond their means by accu-

EU flags in front of the EU Commission in Brussels, Belgium.

mulating debt owed mainly to other euro area countries. This would have been fine if they had used the borrowed resources to build production capacity, including in the export sector. But much of the money went into real estate investment, other nontradable sectors, and household and government consumption. The resulting boost in domestic demand triggered higher wages and prices, which decreased competitiveness relative to the rest of the world. The integration of China and other emerging economies into global production chains also cost many periphery countries market share abroad.

Widening imbalances

National policies and institutions, financial markets, and a lack of proper euro area policy coordination all contributed to widening imbalances.

First, *policymakers adopted a very short-term perspective*. Some governments went on a spending spree (Greece, for instance, and to a lesser extent Portugal), aggravating the boost in domestic demand from the flow of credit. In other cases, governments failed to tame booming private demand—for example, by building up sufficient fiscal surpluses and saving for a rainy day. As often happens, temporary increases in output caused by an oversized real estate sector and booming tax revenues were mistaken for permanent improvements in the budget position and were used to fund tax cuts and expenditure increases that proved unsustainable when the global economic crisis hit.

Second, *the structure of product and labor markets often contributed to excessive wage and price increases*. Especially in the periphery countries, limited competition in the service sector enabled firms to charge high markups and grant large wage increases because these costs could be passed on to customers via higher prices. And wage bargaining between social partners at the industry or regional level often failed to adequately account for the impact of wage demands on the overall level of employment and competitiveness. Widespread indexation of wages to inflation also contributed to the persistence of high inflation in some countries.

Third, *financial markets failed to impose market discipline*. Despite the increasingly unsustainable growth pattern and mounting foreign debt of periphery countries, financial markets as well as regulators and supervisors showed little concern until mid-2007. This may be attributable in part to a global decline in risk aversion during this period—large-scale financial crises were seen as only a remote possibility—leading to more risky investment behavior. Also, with the advent of EMU, there was a belief that current account imbalances would not matter and that the Stability and Growth Pact (SGP)—the European Union's mechanism to keep budget deficits and public debt in check—would be enough to prevent crises.

Fourth, the emergence of imbalances resulted from a *failure to properly coordinate policy at the euro area level*. The SGP was inconsistently applied, and flouted even by some of the largest countries. The euro area's inability to monitor and enforce the SGP contributed to the Greek sovereign debt crisis.

The lack of progress toward fiscal federalism may also be partly to blame for the emergence of imbalances—the currency union was not well equipped to smooth out regional economic disturbances. The European Financial Stability Facility (EFSF) and the recent proposal for a euro area fiscal authority go some way toward risk sharing and strengthening governance but came too late to prevent the current crisis.

Finally, regulatory and supervisory policies for the financial sector were insufficiently coordinated, making it difficult to spot excessive exposure or borrowing. Stricter euro area–wide banking regulation could have helped prevent bubbles in periphery countries.

Fixing the currency union

The debate over what it takes to achieve a well-functioning currency union is not new. The optimum currency area theory emphasizes price and wage flexibility, labor mobility, and fiscal transfers as adjustment levers in the absence of a national exchange rate and interest rate. Price and wage flexibility enables a country to adjust to adverse economic shocks and restore competitiveness by reducing wages and prices relative to other countries. Labor mobility allows people to move to faster growing regions, and well-designed fiscal transfers from stronger countries or regions to weaker ones can help smooth adjustment.

But while the initial debate focused on how individual countries would adjust to negative shocks, the years leading up to the global economic crisis highlighted another challenge—how to prevent domestic demand bubbles in a currency union. Such bubbles have undesirable lasting consequences: the accompanying wage and price increases are hard to reverse in a currency union, and debt-financed bubbles expose a country to refinancing risk once confidence wanes.

This raises yet another challenge specific to currency unions—how to fend off speculative attacks on individual countries without an exchange rate buffer or a national lender of last resort.

The four must-haves

In light of these old and new challenges, what are the prerequisites for a well-functioning currency union in Europe?

1. ***Stronger fiscal discipline.*** Reforms must enhance fiscal discipline at the national level and promote more active countercyclical use of fiscal policy. The economic governance reform package that was approved by the European Union in fall 2011 (the "six-pack") goes in this direction: it limits expenditure growth, enables the activation of excessive deficit procedures for countries with debt above the 60 percent limit set out in the Maastricht Treaty, and strengthens enforcement through quicker and semiautomatic sanctions. However, the new measures fail to significantly alter the incentives for responsible fiscal policies. To ensure bullet-proof discipline, the following measures should be considered:

- Embedding structural balanced budget rules in constitutional law at the country level, as was done recently in Germany.
- Further strengthening fiscal surveillance through the SGP, including by initiating excessive deficit procedures

through reverse qualified majority (this decision-making rule implies that the European Commission's assessment prevails unless the Council of Ministers decides otherwise by qualified majority). An even stronger measure would be to subject national budgets in violation of SGP limits to a veto from a euro area fiscal authority, established jointly by the Council and the Commission.

- Introducing an automatic EU-level fiscal transfer system to offset temporary country-specific shocks. Without control over interest rates, national spending and tax policies are the main tools to regulate domestic activity and cool excessive demand. An EU-wide system would help countries save more in good times because part of the temporary surge in government revenues would be transferred to a central budget instead of financing hard-to-reverse growth in primary expenditure. Countries would also have more room for fiscal expansion in downturns without further increasing their debt because they would benefit from transfers.

2. ***More effective crisis-fighting tools.*** The euro area needs a common defense system to protect individual countries against self-fulfilling speculative attacks, without jeopardizing incentives for fiscal discipline.

Under the newly created EFSF (which will later become the European Stability Mechanism), a member can receive assistance through guarantees or loans from other countries. But limited resources have been committed so far, which raises doubts about the effectiveness of this new contingency fund.

In the short run, to the extent that the euro area is facing a confidence crisis, the European Central Bank (ECB) could play a larger role to keep monetary conditions uniform throughout the currency union. But there are drawbacks. ECB intervention may weaken the perceived need for adjustment and jeopardize its independence and credibility. In the longer run, common euro area bonds (with joint liability and adequate guarantees that national governments will pursue sound fiscal policies) are an attractive option and a credible form of fiscal integration.

3. ***Improved competitiveness.*** Prices and wages must be set with a view to preserving or regaining competitiveness. So far, not enough has been done to fundamentally reform euro area labor and product markets with this objective in mind.

A new "excessive imbalances procedure" adopted in fall 2011 aims to monitor competitiveness and indebtedness and ensure that countries respond appropriately and quickly to address emerging imbalances, but the conditions for its effectiveness are lacking. The commitments made by national leaders under the Euro Plus Pact to strengthen competitiveness and employment do not live up to expectations. Crisis management tools should also be used more actively to make financial support conditional on structural reforms, as is increasingly the case for the countries that are receiving financial support through joint EU-IMF adjustment programs.

Some labor and product market institutions are more conducive to adjustment than others. When labor market institutions see maintaining competitiveness—and thus jobs—as a shared responsibility, higher levels of employment and growth generally follow.

Either full decentralization to the firm level or national coordination of wage setting seems to yield superior outcomes, particularly when wages are not indexed to inflation. Equal employment protection for all workers and removal of barriers to hiring and firing are also beneficial, along with active labor market policies and adequate unemployment compensation to help workers retrain and move into new jobs. Labor market reform should be complemented with stronger competition, especially in nontradable sectors shielded from foreign competition.

4. ***Euro area–wide financial safeguards.*** Cross-border capital flows in the euro area increased dramatically in the wake of EMU and with the elimination of exchange rate risk, though the current crisis has led to some retrenchment. Institutions must adjust to the reality of a highly interconnected financial system and to the need to break the adverse feedback loop between weak public finances and weak banks. Strong supervision at the euro area level must spot excessive exposure or expansion of banking systems. Banks can no longer be treated as purely national institutions: a euro area–wide approach to crisis management and resolution is needed, with a common fund available to support troubled financial institutions.

Progress on reform is probably greatest in the financial area, thanks to the new European Supervisory Authorities responsible for coordinating microprudential supervision and the establishment of the European Systemic Risk Board, charged with macroprudential oversight at the European level. However, the agenda and its implementation must be more ambitious, with faster progress toward a single rule book, a European resolution authority, and unified deposit-guarantee and resolution programs.

Finally, obstacles to equity flows should be removed. Equity flows buffer the impact of a crisis because private investors share in losses, easing some of the burden of adjustment on debtors. Unified financial regulations and less national economic protectionism will facilitate cross-border equity flows.

In conclusion, fixing the current problems and preventing new imbalances call for a fundamental transformation of policymaking at both the euro area and national levels beyond recently adopted measures to fully internalize the constraints of monetary union. Only then will its 17 member countries be able to safely reap the full benefits of Europe's common currency. ■

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A Cushion for the Poor

Oil and gas plant in Novy Urengoy, Russia.

Commodity-exporting governments can reduce debt and still protect their least well off citizens

Evan Tanner and Jorge Restrepo

PRICES for many primary commodities in world markets posted substantial gains over the past decade—even after taking into account the declines during the global crisis. For countries that rely heavily on commodity revenues, such price booms are a bonanza that their governments can either spend or save and use to reduce debt.

Spending this revenue, although tempting, is fraught with danger. If commodity prices fall at a later date, spending may also have to be cut—perhaps sharply. By basing its spending on commodity revenues, a government essentially introduces global volatility into the domestic economy.

A seemingly more prudent path would be for governments to use the revenue windfall to reduce their debt and add to their assets. Some countries have taken this approach. For example, oil-exporting Norway and copper-exporting Chile have cut the link between short-term commodity price fluctuations and government spending. Both countries have used a fiscal rule—a restriction on spending and/or taxes, often legally mandated—to maintain discipline and reduce volatility. Other countries have chosen a similar path. In the past decade oil exporters Nigeria (see chart, left panel) and Russia (see chart, right panel) have reduced their government debt from about 100 percent of GDP to about 10 percent. Debt reduction helped them weather the recent crisis: both governments were able to maintain or increase noninterest government expenditures (including social spending) without jeopardizing their debt sustainability over the long run.

Although saving rather than spending commodity revenue seems the better policy for a country's finances, does it mean citizens will truly be better off? Economists have long recognized that the best way to assess economic policies is to evaluate their impact on economic well-being, or *welfare*. We examine the welfare implications of alternative fiscal policies for a country that exports a primary natural resource—oil or minerals. We use what is called a *dynamic general* *equilibrium model* (see box). Such a model allows us to use actual economic information to simulate how an economy is affected by different policies or by external factors (called shocks). As is the case in some countries, we assume that the government owns the company that exports the commodity, which ties public revenues directly to the fortunes of the commodity. External shocks that affect a country's export prices, then, will also have a direct impact on the government's budget.

We find that the most prudent path is a fiscal rule that links government spending to long-run circumstances. But we also find that the best way to shield the poor from economic volatility is with a rule under which the government accumulates, up to a point, assets that may be tapped to aid poorer households during economic downturns. We call this a structural surplus rule.

Boom-and-bust spending cycles

In our model, we assume that when the government spends its commodity revenues, it purchases goods and services from the private sector. The government, then, is a conduit for the transfer of the export revenues to private agents through its purchases of goods and services and must choose when to spend these revenues—that is, how the export proceeds should be distributed over time.

In one policy option in the model, the government simply spends the commodity revenue when it receives it. That policy results in cycles of fiscal booms followed by fiscal busts: spending rises when commodity prices climb, only to be cut when those prices fall. Under such a policy, the government essentially brings global volatility into the domestic economy.

This volatility does not affect all households in the same way. The poorer households without access to financial services are the most vulnerable to economic volatility. We assume that poor households that live paycheck to paycheck (or even more precariously) cannot smooth out their consumption because they are unable to borrow and they have not accumulated enough savings to tide them over if their income is disrupted. Indeed even in better times some poor households must rely on assistance from the government. Such households can suffer dramatic cuts in their standard of living during a recession—especially if their income falls at the same time the recession forces the government to reduce benefits to the poor and unemployed.

There are alternatives to such a boom-and-bust regime. The government could link spending to a long-run (rather than current) level of export prices.

For another segment of society, though, volatile government spending may be a less pressing concern. Households with access to asset and credit markets—so-called optimizing consumers—are able to smooth out such volatility by themselves. But less affluent households must rely on public policy to shield them from volatility.

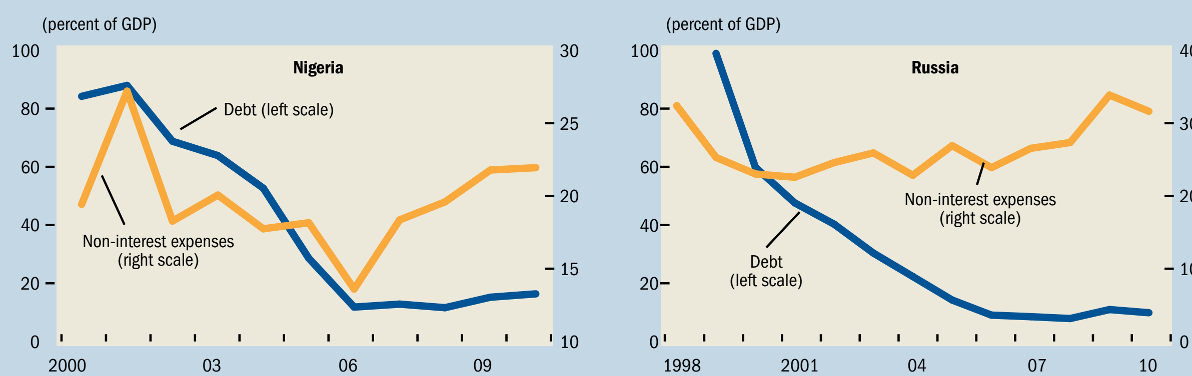
Winners and losers

There are alternatives to such a boom-and-bust regime. The government could link spending to a long-run (rather than current) level of export prices, which would shield the domestic economy from global volatility. That would mean more stable spending, in both bad times and in more prosperous ones.

Such a policy can be implemented through a fiscal rule that places limits on a government's spending and/or borrowing. In some cases, a well-designed fiscal rule can support fiscal discipline and reduce volatility. But a fiscal rule cannot eliminate the fundamentals that often give rise to less disciplined fiscal policies—for example, shortsighted

Bringing down debt

Nigeria and Russia used the boom in commodity prices to bring down government debt as a percent of GDP while maintaining or increasing spending during the global crisis.



Source: IMF, *World Economic Outlook*, September 2011.
Note: Debt is gross general government debt.

The dynamic general equilibrium model

In our model there are two kinds of consumers: optimizing (often called Ricardian), who have access to capital markets and are able to borrow and save, and hand-to-mouth, who do not enjoy such access. Hand-to-mouth consumers spend all their disposable income and are more vulnerable to market volatility than are their Ricardian counterparts.

Members of both kinds of households work in firms that produce intermediate products (which require further processing) and final consumption goods. Because the market environment is imperfectly competitive, firms earn a markup margin over their costs. Firms may readjust their wage and price schedules only when they receive a signal to do so (Calvo, 1983). These staggered wage and price changes give rise to fluctuations in output and employment in the short run. When the government spends its export revenue, it purchases goods and services from the same firms that employ household labor. In this indirect way, the government transfers export revenues to its constituents. If the government makes its expenditures in an uneven way, the Ricardian households (but not the hand-to-mouth ones) can neutralize such publicly induced volatility by borrowing and lending.

governments that curry favor with today's voters and leave future generations to pay the bill. Several commodity-exporting countries have successfully implemented a fiscal rule similar in spirit to the one we propose. For example, Nigeria explicitly linked spending to a long-run reference price (Okonjo-Iweala, 2008). Russia's framework mandates that revenues be placed in a stabilization fund, rather than consumed, when oil prices exceed a certain level (Balassone, Takizawa, and Zebregs, 2006). However, a rule like the one we consider would have to be tailored to fit an individual country's circumstances. Moreover, our model takes into consideration one-off (temporary) shocks to the price of a resource whose supply is not expected to be exhausted anytime soon. The model would have to be modified in the case of a permanent change to the commodity's price or a resource that will be exhausted in the foreseeable future.

A first step

But simply linking spending to a long-run commodity price may be only a first step toward cushioning citizens from economic volatility. To raise the welfare of their constituents, governments should do what individuals cannot do for themselves. To shield their most vulnerable people from economic volatility, governments should save and accumulate a precautionary cushion of assets on their behalf.

To this end, a government could adopt a structural surplus rule, under which it commits itself not only to smoothing out expenditures but to reducing its debt and accumulating assets. After such a rule is implemented, a debtor government's financial position would steadily improve. At some point, the government ceases to be a debtor and becomes a creditor. Under the rule, government spending is also linked to asset holdings. As the government accumulates more assets, it also gradually spends more. Asset accumulation slows down over time and eventually stops, at which point, government assets will have reached their upper bound.

With such a bounded stockpile of assets, governments would have resources to fund expenditures during severe recessions—even if commodity prices fell dramatically and even if they were unable to sell bonds. Hence during recessions or commodity price busts, governments would not be forced to cut critical safety net expenditures. Instead, under the structural surplus policy, the government could safeguard its safety net with the accumulated assets. For these reasons, hand-to-mouth consumers are better off under a structural surplus rule than under other fiscal arrangements. The government helps them smooth their consumption stream through what is in essence a precautionary saving program on their behalf.

Optimizing households do not benefit from a structural surplus policy to smooth government expenditures. For these households—which can borrow on world capital markets if they need to and can accumulate their own cushion of precautionary assets—such efforts are redundant.

But optimizing households may even be made worse off under such a policy. Government expenditure levels rise steadily from an initial low level as the government accumulates assets. In the initial periods of this rising time profile, the government accumulates assets that optimizing households otherwise could have acquired. As a result, optimizing households have fewer resources to invest under the structural surplus rule than under other policies.

For this reason, society as a whole may be best off under a less extreme form of the structural surplus rule. To address the welfare of optimizers, the government may design a modified structural surplus that permits some of the external volatility to enter the economy by permitting government spending to grow slightly during a boom period and by adopting a somewhat more level long-term spending profile. ■

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This article is based on "Fiscal Rules in a Volatile World: A Welfare-Based Approach," by Carlos Garcia, Jorge Restrepo, and Evan Tanner, which appeared in the July–August 2011 Journal of Policy Modeling.

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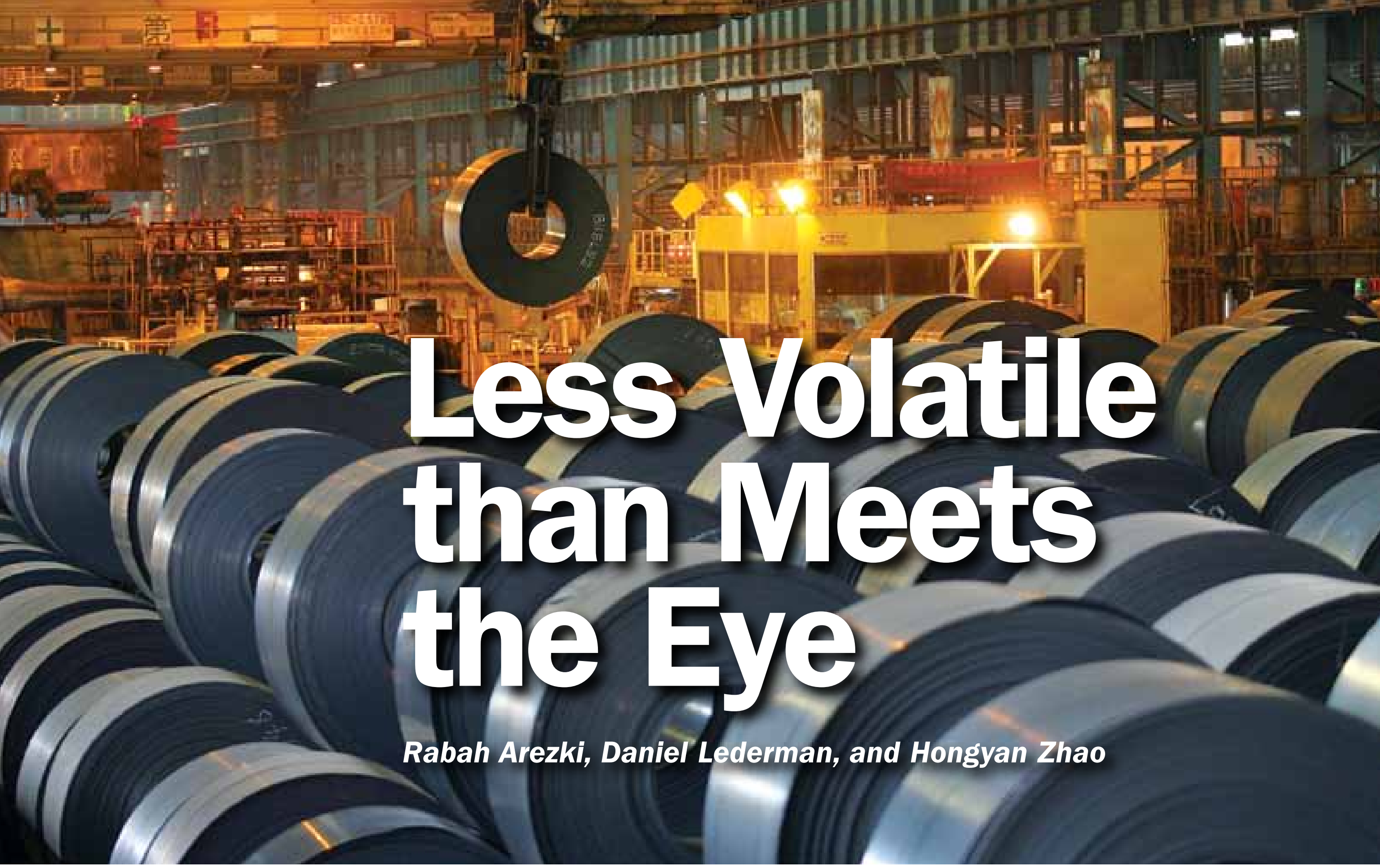


Less Volatile than Meets the Eye

Rabah Arezki, Daniel Lederman, and Hongyan Zhao

Steel factory in Kaohsiung, Taiwan Province of China.

Contrary to popular wisdom, commodity prices can be more stable than those of manufactured products

MOST economists think economic development requires the reallocation of resources from low-productivity to high-productivity uses. The commodity, or primary, sector is seen as a low-productivity area, whereas the manufacturing, or secondary, sector is considered high productivity. Historically, as economies developed, the size of the commodity sector tended to shrink and the noncommodity sectors grew (Kuznets, 1966). Although there are a few exceptions, such as Norway, this apparently consistent relationship between development and the relative size of the commodity sector suggests that an economy will develop successfully if it relies less on commodities and diversifies into other—generally, manufactured—products.

Development economists cite several reasons for encouraging such diversification. A major argument is the perceived greater stability of manufacturing prices than of commodity prices, whose volatility chokes efficiency and makes life difficult and unpredictable for consumers, businesses, and government. Our research suggests otherwise. Overall manufacturing price indices are less volatile than those for commodities, but when those indices are broken down into their individual parts (there are about 18,000 different manufactured items) a dramatically different picture emerges.

Prices of individual manufactured goods are often more volatile than those of commodities. Because few developing economies can diversify into more than a handful of new products, the swap may simply be from one volatile product to another. There are valid reasons to diversify away from commodities, but containing price volatility likely should not be among them.

Long-run trend in commodity prices

Probably the oldest and most prominent justification for diversification is the so-called Prebisch-Singer hypothesis (Frankel, forthcoming, surveys the gamut of arguments). The hypothesis, which is controversial, says that in the long run, the prices of mineral and agricultural products relative to the prices of manufactured and other products follow a downward trend because world demand for primary products does not change proportionally to a change in world incomes. This *inelastic* behavior, as economists put it, means that a 1 percent increase in income would lead to a less than 1 percent increase in the demand for raw materials. The hypothesis echoes what is known as Engel's Law, which stipulates that households spend a smaller fraction of their income on food and other basic necessities as they get richer. If true, the hypothesis (developed independently by Argentine Raúl Prebisch and German Hans Singer) would argue against specializing in natural resources.

Commodity price volatility

If the Prebisch-Singer hypothesis is among the oldest justifications for diversification, the relative volatility of commodities in relation to manufactured products is among the newest. Cashin and McDermott (2002) provide evidence that the price trend Prebisch and Singer identified is overwhelmed by the volatility of commodity prices.

Oil and natural gas prices are the most volatile, and close behind are those of aluminum, bananas, coffee, copper, and sugar, to name but a few. To compare the prices of raw commodities with the prices of numerous manufactured products, aggregate price indices are often used. Chart 1 shows greater volatility in various international commodity price indices than in manufactured product price indices. Manufactures prices are derived from the manufactured product price indices of U.S. imports and exports calculated by the Foreign Trade Division of the U.S. Census Bureau. We use an index based on U.S. trade data because the size and advanced nature of the U.S. economy guarantee representation of the whole spectrum of goods—that is, the United States imports or exports nearly all goods traded among countries. Chart 1 suggests that countries specializing in raw commodity exports face far greater volatility than those specializing in the exportation of manufactured products.

Volatility and growth

Some economists have suggested that volatility in commodity prices is a source of many of the evils developing countries face. Volatility can cause the factors of production (labor, land, capital) to jump around among sectors (for example, among mining, agriculture, manufacturing, services), which gives rise to expensive transaction costs. Volatility can lead to unemployment, incomplete utilization of the capital stock, and incomplete occupancy of housing—which represent important economic and social losses. Volatility not only complicates the saving and investment decisions of households and businesses but also makes it more difficult for government authorities to conduct spending, tax, and monetary policies. And the failure of policies to address volatility may, more often than not, exacerbate boom and bust economic cycles.

Without a broad-based domestic financial sector and access to international financial markets, developing econo-

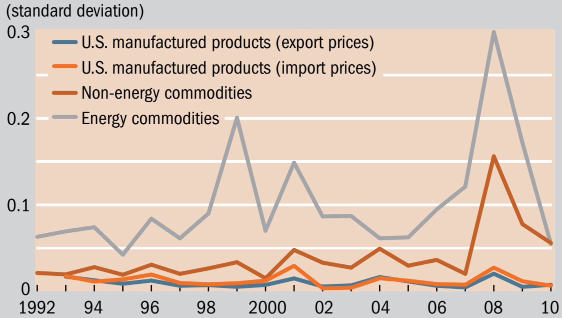
Volatility can lead to unemployment, incomplete utilization of the capital stock, and incomplete occupancy of housing—which represent important economic and social losses.

Chart 1

Taken as a whole

When lumped together, prices of manufactured goods appear far less volatile than overall raw commodity prices.

(standard deviation)



Sources: IMF, Primary Commodity Price Tables; and U.S. Census Bureau, Foreign Trade Division, index of U.S. imports and exports.

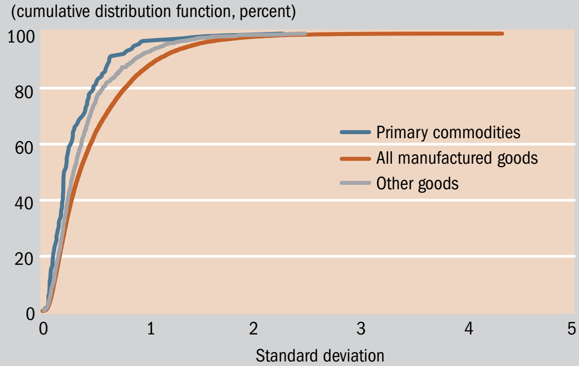
Note: The standard deviation is a measure of volatility.

Chart 2

Dancing separately

When prices of commodities and manufactured goods are measured price by price rather than by indices, manufactured goods seem to be more volatile than commodities.

(cumulative distribution function, percent)



Sources: U.S. Census Bureau, Foreign Trade Division's Harmonized System (HS); and North American Industry Classification System.

Note: The cumulative distribution function measures each product's share of total volatility. The standard deviation is a measure of volatility. Prices were measured monthly between January 2002 and April 2011. HS measures about 20,000 goods, nearly all of them manufactured products.

mies may feel an even greater impact from volatility. If commodity prices are truly more volatile than the prices of manufactured goods, the dramatic economic consequences of volatility make a strong case against specializing in the commodity sector.

The source of commodity volatility

The conventional explanation for commodity price volatility is their low short-run demand elasticity. In other words, for any given increase in price, demand does not fall much in the short run nor does supply rise. That resistance to change occurs largely because the capital stock at any point in time is designed to operate with a particular ratio of energy or raw materials to output. So, for example, an increase in the price of coal will not reduce the amount a utility buys in the short run. Supply elasticity as well is often low in the short run, and for a similar reason—it takes time to adjust output. As a result, if there is a shock, such as a bad harvest (reducing the supply of agricultural products) or a cold winter (raising demand for energy products), the corresponding price must rise a lot to clear the market. Some commentators have also argued recently that financial innovation has allowed speculation to play an important role in the volatility of commodity prices. Those elements may explain why commodity prices are volatile in absolute terms. But does that mean that commodity prices are relatively more volatile than the prices of manufactures and other goods?

Our evidence suggests that specialization in the manufacturing sector does not necessarily lower, but may in fact increase, volatility.

A misconception about commodity volatility

We questioned the premise that commodity prices are more volatile than the prices of manufactures and other goods. We used individual monthly prices between January 2002 and April 2011 from the Harmonized System—a detailed list of about 20,000 goods constructed by the Foreign Trade Division of the U.S. Census Bureau. When we compared volatility across individual goods, we found that machinery and electrical product prices were the most volatile.

We then classified goods as primary commodities or manufactured products, using the U.S. Census Bureau's North American Industry Classification System (NAICS). Using standard statistical methods, we determined which group was more volatile. Chart 2 shows that prices of manufactures, such as machines that make flat-panel displays, are more volatile than those of commodities.

This result contradicts the information in Chart 1. Why? We think that the use of aggregate indices in comparing prices across classes of goods is subject to an *aggregation bias*. That is, some price swings in one direction cancel out swings in the other direction, which makes for an overall index that looks more stable than its components. Of course that same effect is also at play in commodity price indices, but there are far fewer commodities than manufactures, so fewer prices cancel each other out. According to NAICS, manufactures account for more than 90 percent of the goods in our data set. It is misleading to compare price volatility using the aggregated data of indices. The data must be disaggregated and volatility computed for each category of goods.

Alternate theories

It is possible that our results had nothing to do with whether the goods were manufactures or commodities. But our examination shows otherwise.

One explanation for our finding involves whether goods are *homogeneous*, as are most commodities, or *differentiated*, as are most manufactured products. Differentiation may explain why manufactured products are more volatile than commodities. In our sample, 95 percent of manufactured goods are differentiated, as opposed to only 35 percent of commodities. Overall, we found that homogeneous goods, which can be easily substituted for one another, are less volatile than differentiated products. We used existing categorizations into homogeneous and differentiated products and compared the volatility of individual prices across commodities and manufactures for homogeneous and differentiated groups separately. We found that when we held the level of differentiation constant, individual commodity price volatility was below that of a manufactured product. Whether a good is a commodity or a manufactured good is thus important in determining its relative level of volatility.

Some classes of products disappear over time because of reclassification: certain goods, especially manufactures, change—sometimes rapidly. But do these changes explain our main finding? It is possible that over time incomplete data for the categories that disappear biases our results. But if we limit the analysis to the categories that survived over the entire sample period, our main finding—that the prices of commodities are less volatile than those of manufactures—holds.

Policy implications

This robust empirical evidence from disaggregated trade statistics challenges a commonly held view that commodity prices are relatively more volatile than manufactures prices. In broad terms, this finding calls for reorientation of the development debate from a focus on the danger posed by exports of relatively more volatile commodities to a look at the pitfalls of activity concentrated in the commodity sector.

Perhaps, as some authors argue, lack of "connectedness" of the commodity sector with other sectors is what handicaps commodity-exporting countries (Hausmann and Klinger, 2007). In other words, in commodity-exporting countries it is more difficult to reorient factors to produce noncommodity products. This difficulty may stem from the difference in the production processes of commodities and other goods or from scant cross-fertilization of know-how between the commodity sector and other sectors, or both.

Our evidence suggests that specialization in the manufacturing sector does not necessarily lower, but may in fact increase, volatility. Moreover, manufacturing may prove more challenging than commodity specialization: production processes need constant upgrading to keep up with international competition. Although specializing in manufactures should not be ruled out, government authorities must bear in mind the need for a strong capacity to innovate and adapt. Domestic production of manufactured items, however, could be beneficial as a buffer against import price volatility.

Nearly all developing countries have much smaller economies than major industrialized countries and are more likely to specialize in the exportation of basic commodities. This concentration in their export baskets is associated with volatile terms of trade, so management of external volatility and economic diversification remain important long-term policy challenges for developing countries. But not simply because of the volatility of commodity prices. ■

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This article is based on the forthcoming IMF Working Paper "The Relative Volatility of Commodity Prices: A Reappraisal," by Rabah Arezki, Daniel Lederman, and Hongyan Zhao.

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Are the Critics Right?

A new study finds that public education and health spending get a boost when low-income countries receive IMF financial support

Masahiro Nozaki, Benedict Clements, and Sanjeev Gupta

ONE of the most often repeated criticisms of the International Monetary Fund (IMF) is that the economic reform programs it supports restrict social spending by governments. The main argument goes something like this: countries must cut public spending to meet budget targets that are too tight, which squeezes high-priority expenditures on education and health and in turn hurts the poor.

But the numbers paint a different picture.

Our recent study suggests that IMF support helps countries' efforts to boost critical social spending (Clements, Gupta, and Nozaki, 2011). The positive effects on health and education expenditures are most pronounced in low-income countries.

It would be foolish to assert that, in the IMF's long history, there have never been exceptions. However, our results suggest that IMF-supported programs are consistent with countries' aspirations to increase social spending in support of economic and human development.

Social spending: A snapshot

Improving education and health is a priority for emerging and low-income economies. Public expenditures on education and health average about 4½ percent and 3 percent of GDP, respectively (see Chart 1). These expenditures represent a significant share—together about one-quarter (on average)—of government budgets.

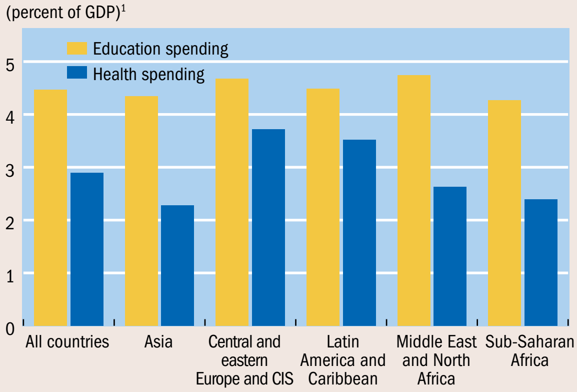
Empirical studies show that higher government spending in these areas can improve education and health outcomes (Baldacci and others, 2008). At the same time, excessive government spending can contribute to high budget deficits, macroeconomic instability, and lower economic growth. These, in turn, can adversely affect education and health indicators. To improve education and health, countries must find the right balance between spending on these services and maintaining a sustainable fiscal position. Policymakers also must address inefficiencies that hinder the effectiveness of spending on education and health outcomes.

Chart 1

Big deal

Education and health represent a significant share of government spending across all regions.

(percent of GDP)[1]



Source: IMF staff calculations based on the social spending database compiled in Clements, Gupta, and Nozaki (2011). The data set is available at *www.imf.org/external/pubs/ft/sdn/2011/data/sdn1115.xls*

Note: CIS = Commonwealth of Independent States.

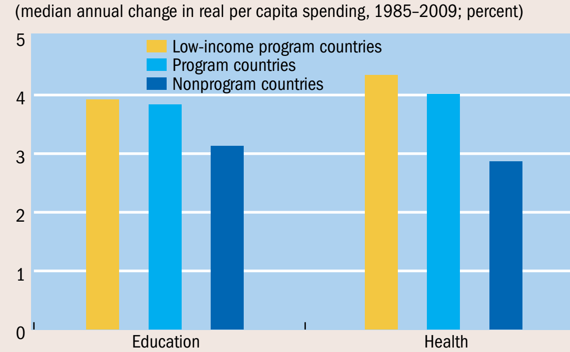
[1]Unweighted averages, based on the latest year for which data are available.

Chart 2

Rising spending

Spending on education and health rose more in program countries, especially low-income program countries, compared with nonprogram countries.

(median annual change in real per capita spending, 1985–2009; percent)



Source: IMF staff calculations based on the social spending database compiled in Clements, Gupta, and Nozaki (2011). The data set is available at *www.imf.org/external/pubs/ft/sdn/2011/data/sdn1115.xls*

Note: Countries are included in the program sample only for the years during which they have an IMF-supported program. For other years, they are part of the nonprogram sample.

Schoolchildren in Siem Reap, Cambodia.

When countries facing economic instability seek IMF financial assistance and policy advice, debate over the impact of reform programs on social spending naturally follows (see Box 1).

New findings

Given the small number of empirical studies to date—the last comprehensive statistical study on the subject was in 2003—and the availability of new data from the past decade, our work takes an additional step to address the critics' claims.

The data set we use is the most comprehensive ever assembled for this purpose. It draws on public spending data for education and health for 1985–2009 from 140 developing countries, including 70 low-income countries eligible for concessional IMF financing. Thus, our study adds weight to earlier empirical analysis by assessing the relationship between IMF program support and changes in social spending since 2000.

While education and health spending accelerated for all countries—program and nonprogram—in our sample, this spending increased faster in program countries, including low-income countries (see Chart 2).

- Both education and health spending increased each year by about 4 percent on a real per capita basis, compared with 3 percent increases for nonprogram countries.
- The benefits were most pronounced for the Middle East and North Africa, as well as for sub-Saharan Africa.
- Changes in the composition of spending, with a larger share for health and education, have been stronger in countries with programs.

Many other factors—the population age profile, income levels, and macroeconomic conditions—affect a country's social spending. So a true assessment of the impact of IMF-supported programs must take these factors into account. Using statistical techniques (see Box 2) that isolate the impact of an IMF-supported program, we again find that IMF support has a positive and statistically significant effect on social spending, including as a share of total government spending.

A sustained period of IMF support can have a substantial impact, raising social spending as a share of government spending and as a share of GDP. We estimated the effect of five consecutive years with IMF program support (see Chart 3). The results show a rise in education and health spending on a per capita basis by about 19 percent and 41 percent, respectively, after five

Box 1

Responding to the critics

Critics have long debated the effects of IMF-supported programs on social spending (for example, Stuckler and Basu, 2009). Here are some frequently raised points and the IMF staff's response (see IMF, 2009a).

- ***The IMF is preoccupied with keeping inflation under control and/or government debt low, leading to unnecessarily tight budgets.*** Programs have become more flexible in recent years about accommodating high budget deficits and inflation—this was evident during the global food and fuel price hikes in 2008 and the global crisis in 2009, when many low-income countries implemented countercyclical fiscal policy for the first time.
- ***Unnecessarily tight budgets restrict government spending on education and health.*** IMF-supported programs increasingly emphasize protection of social spending and of the poor. Studies of programs between the mid-1980s and mid-1990s found that social spending increased more in program than in nonprogram countries (for example, Gupta, Clements, and Tiongson, 1998; IMF Independent Evaluation Office, 2003; Center for Global Development, 2007). More recently, programs for low-income countries have, where appropriate, incorporated minimum social spending targets (IMF, 2009b).
- ***The IMF requires limits on overall government spending, including wage-bill ceilings, which may stymie employment growth in social sectors, such as health.*** The IMF introduced a new policy to curtail the use of such ceilings in 2007. As a result, none of the 26 IMF-supported programs in low-income countries has a wage-bill ceiling as a performance criterion, and only 2 have one as an indicative target—that is, a nonbinding condition.
- ***Financial assistance from other development partners, intended to support higher social spending, is diverted to repay domestic debt or increase international reserves.*** IMF support plays an important role in mobilizing aid and seeks to ensure full and effective use of donor funding. When aid flows are volatile, governments may not spend all aid immediately. This is motivated not by a desire to increase reserves, but to ensure stable provision of services over time.

years. However, our analysis suggests that the additional boost to spending diminishes over time, after the strongest increases in the earlier years. The effects are also smaller for countries that do not have programs continuously over the period.

IMF program support can help increase social spending by facilitating reforms that boost the necessary government revenues for such spending and by helping countries mobilize donor financing. IMF-supported programs that lead to higher growth can help generate additional funds and make higher social spending more affordable. And the emphasis in low-income countries' programs on using additional resources—including those generated by debt relief—for poverty-reduction spending helps direct more resources to education and health.

The effect of IMF support on social spending for countries outside the low-income country sample is more limited probably because the channels that typically increase social spending—catalyzing foreign financing and grants, raising revenues, and changing the composition of spending—are less powerful than in low-income countries.

To reach the objective of adequate education and health spending, a top priority will be to further spur economic growth, raise revenues, and make public spending more efficient. This will allow governments to finance higher social spending in a way that is affordable over the longer term. And making sure this spending goes to those who really need it will strengthen social spending as a powerful instrument to better the lives of the poor. ■

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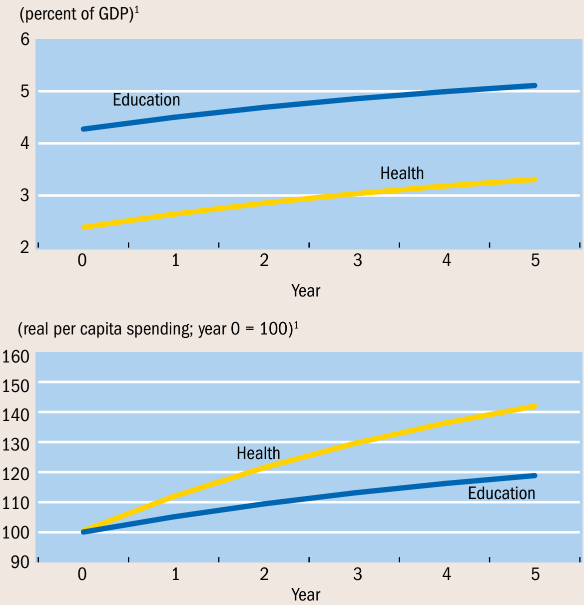
Chart 3

Positive effect

Social spending in low-income countries with IMF-supported programs rises both as a percent of GDP and in terms of real per capita spending.



Source: IMF staff calculations based on Clements, Gupta, and Nozaki (2011).
[1]Indicates an increase in social spending for a representative country (with spending equal to the average of low-income countries for 2001–09) with a consecutive five-year period of IMF-supported programs.

Box 2

Methodology at work

Our analysis (Clements, Gupta, and Nozaki, 2011) uses annual data for 1985–2009 for low-income countries (those eligible for concessional IMF lending) to estimate the effect of IMF-supported programs on social spending. We test quantitatively to identify the relationship between education and health spending and IMF-supported programs, as well as other factors that directly affect social spending, including the budget balance (to control for how much money governments have to spend); the age structure of the population (to control for demographic effects); and income levels (which generally correlate positively with social spending).

We also address the so-called selection bias problem. In the case of social spending, countries with IMF-supported programs are not directly comparable to countries that do not have them. The macroeconomic imbalances that countries with programs must address will influence fiscal policy and the government's ability to increase spending. To take this into account, we used what economists call the "instrumental variable" technique: we conduct the same test, but effectively replace the IMF-supported program variable with other variables that are typically well correlated with IMF-supported programs but do not usually affect social spending directly (for example, international reserves and the foreign exchange rate regime).

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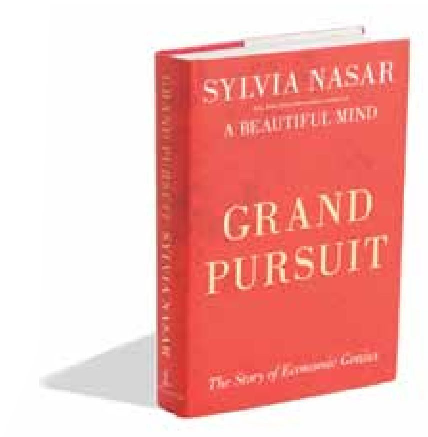
A Stroll in the Past



Sylvia Nasar

Grand Pursuit

The Story of Economic Genius

Simon & Schuster, New York, 2011, 558 pp., $35 (cloth).

In *A Beautiful Mind*, the biography of Nobel Prize–winning economist John Nash, Sylvia Nasar achieved a brilliant integration of life and thought, as well as offering an absorbing study of the fragile nature of genius. *Grand Pursuit*, in which intellectual history is told through group biography, is less successful. Nasar tells the story of a dozen or so economic "geniuses" ranging from Karl Marx to Paul Samuelson and Amartya Sen. She offers a "life and times" for each and an accessible and accurate account of their main ideas.

But the canvas is too large, and the pace too breathless, for proper integration of the main elements. The links between lives, times, and ideas sometimes seem artificial, and Nasar eschews the use of generalizing summaries, which might have made sense of them. Some connections are not made at all: for example, there is no mention of Knut Wicksell and the Swedish contribution to modern economics. The result has a flavor of intellectual and historical tourism. It is a most enjoyable read, but the formula, so successful in the earlier book, does not quite come off.

The grand pursuit of the title was, it turns out, inspired by the "idea that humanity could turn the tables on economic necessity, mastering rather than being enslaved by material circumstances." Economics, as Nasar tells it, was invented largely to free people from poverty. The do-gooder element was there from the start but, in a secular age, it required a scientific, rather than theological, basis. (Nasar might have drawn attention to the number of early economists profiled in this volume, including Irving Fisher, John Maynard Keynes, Alfred Marshall, and Joan Robinson, who came from clerical backgrounds.)

Nasar's implicit claim is that the advance of economics led to improvement in material conditions. The divisions in economics that most interest her are between those who believed in progress through laissez-faire and those who believed in progress through government action. Presumably, it was as a representative of the latter tendency that Beatrice Webb, who was not an economist even in the elastic 19th century sense of the term, merits inclusion in the book.

Nasar's optimism is apparently untroubled by the Great Recession and its aftermath.

A central feature of the epoch covered by Nasar is the business cycle, and the doctrines of her great economists can almost be read as their responses to these violent oscillations in economic activity. Joseph Schumpeter—in some ways the idiosyncratic hero of this book—believed that slumps were a necessary part of progress and should be endured. Friedrich Hayek believed they were unnecessary but should nevertheless be endured. Keynes believed they were both unnecessary and should not be endured.

In this classification, Keynes's views seem closest to those of Fisher and Milton Friedman, who believed appropriate monetary policy could both prevent and remedy slumps. But Keynes thought monetary policy was not enough: fiscal policy was necessary as well.

If Keynes, Fisher, and Friedman have one kind of family resemblance, so do Keynes and Hayek, in their resistance to the mathematization of economics. This stemmed from their rejection of the "perfect information" postulate. Schumpeter is an anomaly in this respect, as in most others: his idea of the "heroic entrepreneur" as the agent of progress comes close to Keynes's notion of "animal spirits" as the driving engine of capitalism. Yet he never gave up hope of making economics as hard a science as physics, and spent the last day of his life working on the math he had never mastered.

Nasar's optimism is apparently untroubled by the Great Recession and its aftermath. The financial crisis exposed our imagined mastery of risk as hubris—shared by politicians, bankers, and economists alike. But the mistaken thinking that led to the crisis has its roots in a development celebrated in *Grand Pursuit*. One of Nasar's chosen geniuses is Paul Samuelson, whose *Foundations of Economic Analysis* laid the basis for the model-building approach that has dominated economics for the past 50 years.

In a telling example of the privileging of biographical over theoretical details, Nasar dismisses the "fear that mathematics would cause other languages to wither" by pointing out Samuelson's "verbal virtuosity" and John von Neumann's ability to "quote verbatim from Dickens." But she must know that this is not the point.

Robert Skidelsky
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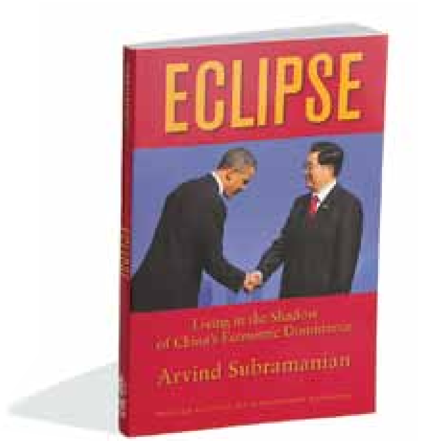
In the Heat of the Sun



Arvind Subramanian

Eclipse

Living in the Shadow of China's Economic Dominance

Peterson Institute for International Economics, Washington, 2011, 216 pp., $21.95 (paper).

The main message of this impressive little book is that "Chinese economic dominance is more imminent and more broad-based—encompassing output, trade and currency—than is currently recognized." The author asks whether China will abandon mercantilism, champion free trade, and turn the renminbi into a freely convertible reserve currency—all in its own self-interest—and touts multilateralism as the best way for the world, including the United States, to manage the inevitable tensions between an increasingly powerful China and the rest of us. He favors the World Trade Organization over the IMF when it comes to keeping China's economic power in check and channeling it constructively and believes it is time to drop the Doha Round and start a "China Round." Similar to the Tokyo Round of 1973–79, when Japan's economy was front and center, China Round negotiations would firmly anchor China in the multilateral system.

Written by an economist, but intended for a broader audience, the book is fact based and technical in nature, complete with quantitative sensitivity analysis. It is not an in-depth assessment of what China might look like as a dominant economic power or of the domestic impediments to such dominance. As China specialists know, those hurdles are numerous and significant. In a future edition of this book, the author might do well to explore how China's global economic power in 2030 is likely to differ from that of the United States in the 1970s and of the United Kingdom a century earlier. Unless China gets serious about democracy, however, it will never be an attractive model for the rest of the world and will have scant soft power. The book deals little with the challenges between China and the rest of the

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The Stormy Decade

James Boughton

Tearing Down Walls

The International Monetary Fund 1990–1999

International Monetary Fund, Washington, 2012, 992 pp., $90 (cloth).

In this volume, the fifth in a series, James Boughton presents a scholarly, comprehensive, and sometimes surprising history of the IMF in the 1990s. *Tearing Down Walls* is a worthy addition to the series in question, which also includes Boughton's *Silent Revolution* on the period 1979–89.

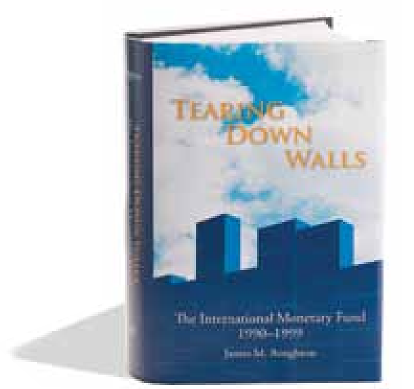
For specialist researchers, *Tearing Down Walls* will be an invaluable guide to IMF documents. For nonspecialists seeking a broad overview of the IMF, it will be a useful introduction. And for IMF staff seeking to understand the evolution of their own institution, it will be a key resource.

But multiple audiences make for tension between the need to be encyclopedic and the desire to highlight important themes. It may be intrinsic to this kind of project that the encyclopedic tendency frequently prevails. Boughton's approach to describing the IMF's activities in eastern Europe and the former Soviet Union, for example, is to provide capsule histories of each and every former Soviet bloc economy. The result does not always make for easy reading.

The author bases his account mainly on the IMF's archives, to which he had unfettered access, and on participant interviews. Still, one wonders how much the account is colored not just by how the events in question looked to Boughton's sources, but also by how those sources now wish those events to be seen.

Michel Camdessus, the IMF's managing director at the time, comes through in these pages as energetic, ambitious, and willing to put his reputation on the line when the stakes are high. Camdessus's indefatigable first deputy managing director, Stanley Fischer, emerges as the key player in crisis management.

Yet, aside from these figures, personalities play a surprisingly small role in the story. Boughton may be right to de-



emphasize them insofar as bureaucratic politics constrain individual room for maneuver in a large organization like the IMF. But if so the author might have said more about those bureaucratic machinations.

We hear relatively little about the struggles between "area" departments, which tend to be relatively sympathetic to the countries they oversee, and "functional" departments such as those responsible for monetary and fiscal policies, which tend to be more critical. Certain departments within the IMF are notorious for being more or less open to new ideas; one functional department during the period in question was informally referred to, less world, especially the United States as the current leading power. Nor does it address the dangers if China does not open up economically and politically or if the United States fails to make necessary domestic economic and fiscal adjustments in a timely manner, which seems increasingly likely.

I have questions about the book's methodology and assumptions, but agree with most of its conclusions and believe that its central message must be taken seriously. In some respects China is already a dominant economic power. The rapid growth rate of its economy means China influences global demand and commodity markets more than the United States, whose GDP at market exchange rates is still well over twice that of China. When it comes to measuring the international economic influence of large economies, such as the United States and China, GDP size (even adjusted for purchasing power parity) may matter less than the rate of growth. Another methodological question concerns the measurement of trade as a power-determining factor. China's trade is indeed enormous—and may well grow to 15 percent of the world's total by 2030 (compared with 9.8 percent in 2010), as the author projects. But the share of China's processing trade (which generates little domestic value added) in total trade is likely to remain far higher than the world average over the next 20 years. Should processing trade be given the same weight as standard trade in calculating global power? I think not.

An interesting and controversial assertion is the prediction that China will advance its self-interest by ending domestic financial repression (artificially low interest rates and an undervalued exchange rate) and championing global free trade. The author makes much of China's recent efforts to promote internationalization of its currency, which he believes portends removal of all capital controls and the debut of the renminbi as a reserve currency. The logic is clear, but is it realistic? I doubt it. The domestic political implications of the renminbi as a reserve currency are serious. The system of financial repression is an integral part of China's political system and of Chinese Communist Party control and is unlikely to be abandoned in the foreseeable future. Let's hope the author is right and I am wrong: ending financial repression and a freely convertible renminbi that could serve as a global reserve currency are in China's (and the world's) long-term interest.

Pieter Bottelier

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than fondly, as the thought police. Again, this is something about which one would wish to learn more.

The title *Tearing Down Walls* evokes the fall of the Berlin Wall and the transition from a planned to a market economy in the former Soviet bloc. It alludes to the IMF's efforts to become more transparent—to tear down the walls separating the institution from the outside world. And it refers to the process of globalization, in which the IMF's role remains controversial.

A first section covers the transition to the market in eastern Europe and the former Soviet Union. Boughton portrays the IMF as the appropriate institution to have spearheaded this effort. The Fund specializes in helping countries correct macroeconomic and structural imbalances, and the former Soviet bloc economies had macroeconomic and structural imbalances with a vengeance.

Yet the IMF was not exactly generously staffed with economists knowledgeable about the former Soviet Union—countries that were not members before the Wall fell. The fundamental problem for those countries was less restoring macroeconomic balance than it was building markets where none existed and the management of large-scale privatizations. The IMF had no comparative advantage when it came to these tasks. Boughton himself brings out, for example, how the Fund was frequently at sea over privatization.

The book turns next to the Mexican, Russian, and Asian crises. Although these episodes have been extensively analyzed, Boughton offers a few revelations. We are told, for example, how the IMF first learned of the peso's impending devaluation not from the Mexican government but through an offhand remark by a high-ranking U.S. official. We learn that the reason the IMF did not do more to discourage Russia from defaulting was because of a telephonic miscommunication between Camdessus, on summer vacation in Bayonne, France, and the Fund's man in Moscow, John Odling-Smee.

At points the drama is compelling. One cannot help but be impressed by the number of emergency phone calls at 2:00 a.m., and by how frantically IMF officials shuttled to Moscow and Jakarta to keep the world economy from falling off a cliff.

Boughton describes just how close the world came in 1995, in 1997, and again in 1998 to a "Lehman Brothers moment." In retrospect it is clear that, already in the 1990s, something was dreadfully wrong with a global financial system that was so vulnerable to collapse. One wonders why the IMF did not do more at the time to rectify the problem.

Finally, it is striking which topics make only a cameo appearance: China, India, global imbalances, the international role of the dollar, the advent of the euro. No doubt these will be central issues in the next volume in the series. But that they are not more prominent here is revealing. It is revealing of the fact that the IMF, while a learning institution, is also a reactive institution. Its tendency is to react to the last problem rather than to anticipate the next one.

Barry Eichengreen

George C. Pardee and Helen N. Pardee Professor of Economics and Political Science at the University of California, Berkeley, and former IMF Senior Policy Advisor (1997–98)

Trade in East Africa

The New AFRICA

Increased intraregional trade and lower tariffs are paving the way for faster growth

OVER the past decade, lower tariffs within the East African Community (EAC) have boosted regional trade, offering the five member countries a route to faster growth. According to the IMF's latest projections, growth in the EAC region is expected to reach 5.9 percent in 2011—a noticeably faster growth rate than in the rest of sub-Saharan Africa.

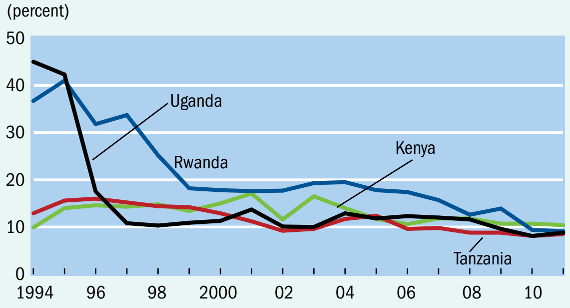
During 2000–10, intraregional exports between Burundi, Kenya, Rwanda, Tanzania, and Uganda tripled—from nearly $700 million to nearly $2 billion. Rwanda's exports have grown the most during this period, from about $1.6 million to $156 million, but are still a fraction of those of the region's largest economy, Kenya. Kenya's exports to the other EAC members were about $1.2 billion in 2010. In contrast, export growth in Burundi—the poorest member—has remained constant and imports have declined, mainly because of civil war and inferior infrastructure, such as airports, roads, and docks, which is needed for trade.

At the same time, EAC countries have been exploiting new markets, including those within the region. Exports to other EAC countries are now as high as exports to the euro area, followed by exports to the rest of Africa and developing Asia.

Moreover, tariffs for EAC members in general have fallen substantially. Over the past 15 years, tariffs in the EAC region have been cut from an average of 26.1 percent in 1994 to an estimated 9.2 percent in 2011. But some members are reluctant to completely scrap tariffs because of the loss of tax revenue.

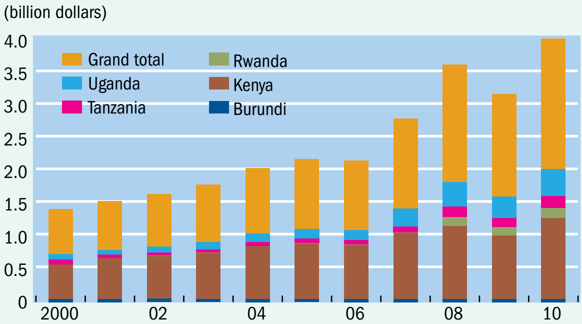
Given the substantial reduction in tariffs and the sizable increases in exports within the EAC, the region is set to achieve sustained higher growth. But to achieve middle-income status over the next 10 to 15 years—a goal of most countries in the region—the EAC must address a number of issues, such as strengthening of institutional reforms and reduction of nontariff barriers. Removing these remaining obstacles could facilitate faster growth and greater diversification of the region's exports.

EAC members have significantly reduced their tariffs in anticipation of EAC integration.

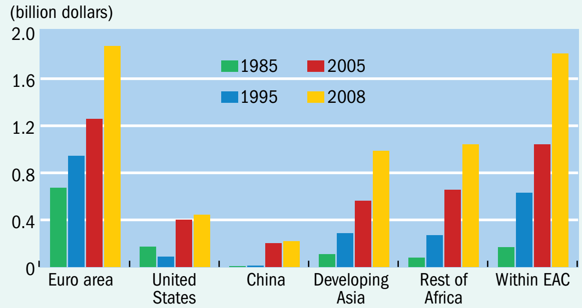


Note: Data not available for Burundi.

Growth in exports among EAC members increased considerably during the past decade.



Total exports within the EAC region are now running a close second to total EAC exports to the euro area.



About the database

The data for exports are from the IMF's Direction of Trade Statistics database, which contains data on the country and area distribution of partner countries' exports and imports for about 187 countries. The database is available at *www.imf.org/external/data.htm* Data on tariff rates come from the IMF's International Financial Statistics database and country authorities.

Members of the East African Community

The EAC was established in 2000 by Kenya, Tanzania, and Uganda, with Burundi and Rwanda joining in 2007. Its objectives are promotion of duty-free trade and free movement of capital and labor among its members. Despite a slow start, a common market for the region was established in July 2010.

Prepared by Shelley Winston and Carolina Castellanos of the IMF's Statistics Department.

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