Financing the Developing World

Glenn Yago and Franklin Allen

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The goal of ending global poverty has proven elusive for so long that it is painful to contemplate. Spurring on the kind of economic growth that can overcome the development gap is the central task of our generation. Traditional foreign aid—the disbursement of loans, grants, and other assistance by individual governments or multilateral agencies—has largely failed. A wave of financial innovation is urgently needed to supplement this model through investment that truly integrates developing nations into the global economy.

Growth cannot be sustained by low savings rates, undeveloped financial systems, and inadequate financial intermediation between savers and investors (both locally and internationally). Sound banking systems and transparent markets are the underpinnings of financially and environmentally sustainable development. Financial innovators will need to actively participate in the effort to build solid financial institutions and expand access to credit and financial services in order to responsibly fuel higher rates of growth.

In addition to financial infrastructure, the developing world has an overwhelming need for physical and social infrastructure—and vast flows of capital will need to be mobilized to support this effort. Nobel laureate Gary Becker and others have repeatedly shown the importance of human capital investments in overcoming income inequality,[1] so it is no surprise to see that the earnings of more educated individuals rise faster than earnings of the less educated. Dramatically expanding access to education is crucial to ensuring that gains are more widely and equitably shared across entire populations, thus reducing not only the gaps between nations but *internal* inequalities as well. Focusing on the factors that could increase human capital productivity (not only education, but inputs such as health, housing, communication, and transportation) will enable the developing world to take advantage of greater trade and inflows of technology and capital.

Paradigm shifts in development finance

Development finance has gained real momentum in the postwar years for a variety of reasons, including a wave of decolonization that led to the independence of countries once under the thumb of European imperialism. The Cold War simultaneously sparked a race between East and West to amass influence and resources in less developed countries.

By the early 1990s, private capital flows began to outstrip bilateral and multilateral flows of government development funding.[2] This signaled a profound shift in the world economy, opening new possibilities for broad-based job growth.

A crucial change in terminology played a supporting role in attracting this new surge of investment. For many years, the "underdeveloped" label had tainted the assets of developing nations, yielding undervalued assessments and arbitrary discounts. But terms like "less developed countries (LDCs)" and the "Third World" eventually gave way to "newly industrialized countries (NICs)." Then, in the early 1980s, Antoine van Agtmael, then serving as division chief for the World Bank's treasury operations and deputy director of the International Finance Corporation's Capital Markets Department, coined the term "emerging markets."[3] Just two and a half decades after this nomenclature change, *The Economist* would declare: "The world is experiencing one of the biggest revolutions in history, as economic power shifts from the developed world to China and other emerging giants. Thanks to market reforms, emerging economies are growing much faster than developed ones."[4] Today, emerging markets are poised to account for a majority of global GDP and lead growth out of the current financial crisis.[5] Frontier markets that face growth challenges could make similar transitions.

In the wake of the global financial crisis, few donor nations are in a position to increase foreign aid to the $40-$60 billion annually, as suggested by the World Bank. In 2009, a U.N. task force reported that donors are already falling short by $34 billion per year on pledges made at the 2005 G-8 meeting in Gleneagles.[6]

The traditional model of foreign aid doesn't work: the crushing debt burden of repayment, the frequency with which corrupt officials divert funding away from its intended purposes, the unpredictability of funding flows from donor nations, the stifling of innovation, and concerns over building a culture of dependency. There has been a growing realization that aid cannot be fully effective in the absence of strong institutions and a commitment to transparency in recipient nations.[7]

Looking beyond foreign aid, the usual economic development palliatives are not

Table 1 **Overview of pull and push mechanisms**

Tool	Description	Situations in which it works best	Examples
Pull mechanism	• Donors provide funding only when pre-defined outcomes are achieved • Pay for results • Ex-post payment	• When there are information asymmetries (e.g., between donors and researchers, or between researchers and consumers) • When it is difficult to identify the best path to achieve a desired outcome	• Output-based aid; results-based financing • Prize • Price guarantee • Purchase guarantee
Push mechanism	• Donors provide funding to increase the supply of a socially beneficial product or service • Pay before results • Ex-ante payment	• Basic research to inform specific applications • Milestones are clear and specific	• Grant

Sources: Kimberly Ann Elliott, "Pulling Agricultural Innovation and the Market Together," Center for Global Development (June 2010). Milken Institute.

up to the task. Foreign direct investment flows are not high enough to drive aggregate demand and growth, and portfolio capital flows for many developing and frontier markets are at a trickle due to insufficient banking institutions and capital market development. Sovereign debt reduction all too often benefits the entrenched elites and does not translate into real infrastructure improvements for the poor. Microcredit, which seeks to provide small-scale entrepreneurial financing to the poorest of the poor, has been widely heralded as a fresh approach. But it is not the panacea that was once envisioned: it still has limited penetration in many neglected regions and, while alleviating, it can never drive economic growth to the levels required to build a global middle class.[8]

This is the point at which financial innovation has to enter the game. A wave of innovation has swept through the world of philanthropy and the world of bilateral and multilateral development finance agencies in recent years; foundations, foreign government donor countries and NGOs alike have been implementing new models, approaches, and technologies. But pull mechanisms—financial incentives that trigger donor payments when specific outcomes are achieved—remain a surprisingly underutilized tool. Unlike grants, or push mechanisms, they are paid out after results are realized, and they allow donors to reward whichever entity (or entities) actually produces the desired outcome. Both grants and incentives can be effective, and tool selection should depend on the circumstances. But donors should consider expanding their use of pull mechanisms where possible and they can be coordinated and integrated into new financial facilities and financial products for development.

Pull mechanisms are an attractive option for several reasons. They do not require donors to pick winners in advance, decreasing the risk that subjectivity will influence award selection. Moreover, donors only pay when results are achieved; if no entry proves to be effective, donors keep their money. The greatest appeal of pull mechanisms is that donors are not just funding good intentions; they know they are eliciting the desired outcomes for which they are paying. Table 1 outlines the differences between pull and push mechanisms, situations where they are best utilized, and examples of specific tools. Foreign aid has traditionally relied almost exclusively upon push mechanisms, which have discouraged market development.

Pull mechanisms have been around for centuries as a means of financial incentive; a prize to discover a method of measuring longitude at sea was offered as early as the 1500s. But they have garnered more attention only recently with the pilot of a pull mechanism for health: the Advance Market Commitment (AMC) for pneumococcal vaccines. In 2009, the GAVI Alliance partners (the World Bank, the World Health Organization, and UNICEF), five national governments (Italy, the United Kingdom, Canada, Russia, and Norway), and the Bill & Melinda Gates Foundation launched the AMC. Their goal was to incentivize private-sector investment in late-stage R&D to adapt existing pneumococcal vaccines for use in developing countries and manufacturing the vaccines once they are available. The donors guaranteed the price of the vaccines, so that companies could invest in R&D and expand manufacturing capacity with greater certainty of recovering their investment. In return, the companies must commit to selling the vaccine at an agreed-upon affordable price after donors' funds are depleted. Pull mechanisms are tied to market development and become drivers for aggregate demand growth in the local economy.

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1.Building financial infrastructure, building a middle class

Empirical studies using cross-country analysis have shown the strong relationship between finance and growth.[9] In many emerging markets, systemic and institutional problems constrain growth and hinder broader participation in the economy. Financial power may be concentrated within a tiny elite circle, or a nation may lack property rights, a well-developed legal system for enforcing contracts, market transparency, and good corporate governance.[10]

In addition, development officials need to employ tools for screening out high-risk borrowers in advance (thus overcoming adverse selection) and protecting their repayment prospects once borrowers have the money from investment (preventing moral hazard).[11] Weak accounting standards, limited third-party credit information services, restrictions on the use of physical collateral, the high cost of managing smaller transactions and projects, and the difficulty of mobilizing a continuing supply of funds are among the issues facing the field of development finance.[12]

New advances in information technology are beginning to change this picture. Today it is easier than ever to enable the free flow of accurate operating and financial information to provide oversight by investors, owners, and regulators.

A recent study by Asli Demirguc-Kunt and Ross Levine shows how improvements in credit markets and the development of a solid financial infrastructure can translate into economic opportunity:

"…access to credit markets increases parental investment in the education of their children and reduces the substitution of children out of schooling and into labor markets when adverse shocks reduce family income. Moreover, a growing body of evidence suggests

that better functioning financial systems stimulate new firm formation and help small, promising firms expand as a wider array of firms gain access to the financial system. Besides the direct benefits of enhanced access to financial services, research also indicates that finance reduces inequality through indirect, labor market mechanisms. Specifically, cross-country studies, individual-level analyses, and firm-level investigations show that financial development accelerates economic growth, intensifies competition, and boosts the demand for labor, disproportionately benefiting those at the lower end of the income distribution."[13]

Reduced inequality, development, and the operation of the credit markets are clearly linked.[14]

2. The microfinance revolution

In 1976, an entirely new model of development finance emerged not from Washington's halls of power but from the forgotten back streets of Jobra, an impoverished village in Bangladesh. Abandoning his classroom, Muhammad Yunus, a professor of economics, ventured out to meet directly with the poor and learn exactly what factors kept them from earning their way out of poverty. By 1983, Yunus had founded Grameen Bank as a formal financial institution. It offered small loans to the poor with no collateral required. The bank successfully employed a group lending model, which holds borrowers accountable to their neighbors for repayment performance. Grameen proved that the poor were indeed creditworthy; in fact, the bank boasts that its loan recovery rate is 97.66 percent. It has enjoyed phenomenal growth: It works in almost 85,000 villages, has served almost 8 million borrowers, and has disbursed US$8.4 billion since its inception. Grameen is 95 percent owned by its borrowers, most of whom are poor women, and is now completely self-sustaining through the deposits of its customers.[15]

Grameen's success inspired a host of other organizations to try microlending—and soon the model expanded beyond the provision of small loans to become *microfinance*, which encompasses a whole range of financial services for the underprivileged. These include savings accounts, investment products, money transfers and remittances, bill payment services, home loans, education and consumer loans, agricultural and leasing loans, life insurance, property and crop insurance, health insurance and even pension products—services that were once completely out of reach for disadvantaged populations.[16] It is difficult to get an accurate read on the size of the industry worldwide, but it is estimated that anywhere from 1,000 to 2,500 microfinance institutions (MFIs) serve some 67.6 million clients in over 100 different countries.[17]

The industry has finally achieved a scale that is large enough to permit the pooling of loans—and the data capacity is now available to make structured transactions a reality. In 2002, Mexico's Compartamos became the first MFI to tap the bond market, with an offering that S&P rated the equivalent of AA. (Subsequent offerings have added credit enhancements for even higher ratings, and have been oversubscribed, with heavy interest from institutional investors.) As a result, Compartamos has enjoyed a lower cost of funds. Another seminal debt offering was put together by Blue Orchard Finance in 2004; this $40 million deal brought 90 investors into nine international MFIs.

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Two years later the field saw its first securitization, structured by RSA Capital, Citigroup, the Netherlands Financing Company, and Germany's KfW Bank for the Bangaladesh Rural Advancement Committee (BRAC). The $180 million deal, which was recognized by *International Financing Review Asia* as the best securitization of 2006 in the Asia Pacific region, securitized a pool of more than 3 million small loans, most for less than US$100.[18]

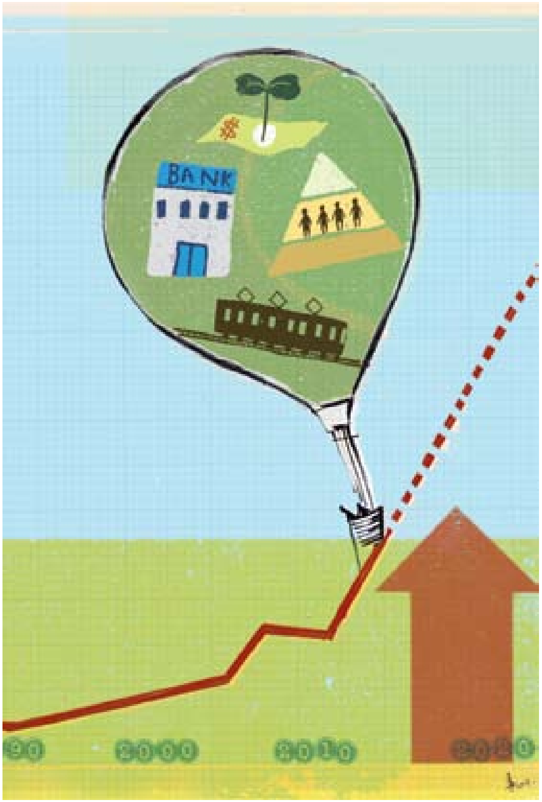
More recently, in November 2009, a microloan securitization completed by IFMR Capital and Equitas Micro Finance marked the first-ever mutual fund investment into the Indian microfinance sector. The $10.4 million transaction, backed by more than 55,000 micro-loans originated by Equitas Micro Finance, was structured by IFMR Capital into three separately rated tranches to match investor risk-return profiles, thus expanding the range of institutions that can invest in the asset class. ICICI Prudential Asset Management, India's third-largest mutual fund, subscribed to a majority of the securities.[19]

Despite the success of microfinance, it does not appear to be the magic bullet that will eradicate global poverty. Not only does it have limited penetration, but the typical microcredit loan creates an income-generating activity for just one individual—and not everyone is an entrepreneur by nature. It has a role to play, but microfinance alone cannot sufficiently impact job creation and capital formation.[20] To achieve broad-based and sustainable growth, financial innovation needs to turn its attention to the small- and medium-sized firms that have long been ignored by development finance.

3. Beyond microfinance: the missing middle of SME finance

The entrepreneurial sector contributes 57 percent of total employment and more than half of GDP in high-income countries. But the same growth dynamic has yet to be set in motion in low-income countries, where SMEs account for only 18 percent of employment and 16 percent of GDP.[21] Ironically, development finance is available for micro-enterprises and large businesses, but not for this "missing middle," which would actually have the potential to solve the development conundrum if the proper momentum were put behind it.

While microcredit is at an all-time high for individual entrepreneurs and artisans, the funding to expand and thrive is scarce for growth-oriented firms of 10 to 300 employees in emerging markets. SMEs typically require financing amounts between $10,000 and $1 million, with $3 million to $5 million being the upper threshold. They also need *patient* capital that gives them time to grow, but many investors are not willing to lock up their funds for extended periods. In recent World Bank Enterprise Surveys, more than 40 percent of entrepreneurial firms in low-income nations reported lack of



capital access as their key barrier to growth. Though they will provide retail services to these companies, commercial banks tend to avoid lending to this sector, preferring instead to allocate capital to more established companies. (Because banks in many emerging nations enjoy monopoly status, they can afford to ignore market segments such as this and still remain profitable.) Even if they will lend to SMEs, banks tend to impose such stiff requirement for posting collateral that loans are out of reach for fledgling businesses. While 30 percent of large firms use bank finance in developing countries, only 12 percent of small companies do. Less than 10 percent of SME demand for credit is being met by banks facing new Basel II regulations; these institutions often impose requirements of 100 percent collateral in liquid assets, real property, and cash deposits. In Cameroon, the minimum deposit for opening a checking account is more than $700, an amount higher than that country's per capita GDP.[22]

There are a range of financial innovations that could start to address these problems. Given the difficulty of exiting investments in developing countries, creating exit finance facilities would be one possibility. In this case, a revolving loan fund could facilitate exits by providing entrepreneurs and other buyers access to capital in the absence of bank funding. Another strategy would be the creation of permanent capital vehicles, comparable to a limited life fund, which would decrease fund costs and offer liquid shares to investors, making exits easier.

A royalty model could also insure returns. Investors would have a claim on a percentage of an SME's sales or revenues over the life of the investment, enabling them to pull in a regular source of capital; in the case of a management buyout, it would decrease the amount that the recipient has to pay at the end of the investment.

The use of structured finance vehicles could broaden the investment base in SME firms, enabling different investors to use investment products that suit their risk appetite and return expectations, thus allowing more investors to participate in funding this sector. Another innovation might be first-loss credit enhancement or guarantee funds from local banks that would incentivize them to provide capital to SMEs, thereby capping downside investor risk.

For-profit firms like the U.S.-based Microfinance International Corporation are mobilizing remittance flows (personal flows of money from migrants to family and friends still residing in their home country) for capital investments in small enterprises. (The importance of remittances as a source of development aid and investment has increased from $50 billion in 1995 to over $229 billion in 2007.[23])

4. Financing infrastructure development

No country has sustained rapid growth without also keeping up impressive rates of public investment in infrastructure, education, and health.[24] As well as transport and telecommunications networks, infrastructure spending also encompasses electricity, quality schools, sanitation, and clean drinking water—services that have a dramatic impact on the quality of life for residents of low-income nations.

The situation is also urgent in Africa—especially in sub-Saharan Africa, where road density, electricity, and sanitation lag far behind other countries. Only one in four Africans has access to electricity, and only one in three rural Africans has access to an all-season road. According to the World Bank's Africa Infrastructure Country Diagnostic (AICD), Africa's infrastructure deficit is lowering the continent's per capita economic growth by 2 percentage points each year and reducing the productivity of firms by as much as 40 percent. By 2007, external financing for infrastructure (from private capital flows, development assistance, and other sources) had reached $20 billion. But the AICD report estimates that some $80 billion a year is needed.[25]

A number of financial innovations could be applied to address this daunting capital gap. Credit enhancement funds could be created to accelerate interest in capital structures, reducing the risks for private-sector investors in these projects. Developing nations could direct more domestic funds to infrastructure projects by using derivatives to free up the allocation of funds from institutional investors, such as insurance companies and provident funds. Measures could be taken to enhance the role of banks as intermediaries for local infrastructure finance projects by creating instruments and markets to shape risk, maturity, and duration.[26]

One financial innovation has recently been deployed to spur sustainable infrastructure development that fights climate change: World Bank Green Bonds. In partnership with a consortium of investment banks, the World Bank raised $350 million via several key Scandinavian investors (first transaction) and $300 million via the State of California (second transaction) to support green development projects. These include solar and wind installations, deployment of clean technology, upgrades of existing power plants, funding for mass transit and residential energy efficiency, methane management, and forestry protection initiatives administered by the World Bank in developing countries.

The concept of "global development bonds" has been floated to overcome the historical inability to link institutional investors with developing countries. These fixed-income securities would cover a pool of diversified projects and would mobilize capital market funding, particularly from U.S. institutional investors. Institutional investors are currently unable to invest in such projects because rated securities do not exist, but this could be solved through public agency and philanthropic credit enhancement. It may be possible to utilize entities like the Overseas Private Investment Corporation (OPIC) to provide credit wraps or guaranteed credit enhancement funds to draw in institutional investors into these infrastructure projects.

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Conclusions

Though recent decades have seen dramatic advances in corporate, housing, and environmental finance, this wave of progress has left the field of development finance largely untouched. But finance and information technology can converge again to unleash the potential of entrepreneurial firms in emerging markets, fund the infrastructure improvements that are needed to power growth, and even speed the flow of emergency aid in cases where lives are at stake.

Development finance, a neglected stepchild of Wall Street, Washington, and other global capitals, increasingly finds its place at the table not only for altruistic reasons, but out of self-interest. First and foremost, in this increasingly interconnected global economy, the developing world represents a huge untapped source of future demand and growth. But it's equally important to realize that development enhances security, for at the heart of most geopolitical conflicts lie persistent problems of inadequate economic growth shared unequally.

Demographic shifts add new urgency to this imperative. While the developed world is graying, many emerging markets are characterized by very young populations. As more young people enter the labor market and seek productive opportunities, job creation, firm formation, and income and wealth generation become imperative. Fostering higher rates of economic growth may always have been the right way to approach development, but over the next half century, there is really no choice but to finally accomplish it to avoid geopolitical and economic instability.

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About the authors

Glenn Yago , Senior Director, Milken Institute Israel Center; Senior Research Fellow/Founder, Financial Innovation Labs at the Milken Institute in Santa Monica, California is an authority on financial innovation, capital markets, emerging markets and environmental finance. He is also a visiting professor at the Hebrew University of Jerusalem Graduate School of Business. He has contributed to the democratization of capital in underserved markets and on behalf of entrepreneurs in the U.S. and worldwide.

Franklin Allen, Nippon Life Professor of Finance and Professor of Economics at The Wharton School of the University of Pennsylvania, co-directs the Wharton Financial Innovations Center. He has led several key organizations, including the American Finance Association and the Society for Financial Studies.

Notes

1. Gary S. Becker, *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education, 3rd Edition* (University of Chicago Press, 1994).
2. OECD, quoted in "Foreign Aid in the National Interest: Promoting Freedom, Security, and Opportunity," USAID, 2002 (available for download at http://www.usaid.gov/fani/index.htm; accessed November 30, 2009), 133.
3. Antoine van Agtmael, *The Emerging Markets Century: How a New Breed of World-Class Companies Is Overtaking the World* (New York: Free Press, 2007).
4. "Dizzy in Boomtown," *The Economist*, November 15, 2007.
5. Victoria Papandrea, "Emerging Markets Set to Dominate Global GDP," *Investor Daily*, October 22, 2009.
6. United Nations, MDG Gap Task Force Report 2009, "Strengthening the Global Partnership for Development in a Time of Crisis," ix.
7. Dambisa Moyo, Dead Aid: *Why Aid Is Not Working and How There Is a Better Way for Africa* (New York: Farrar, Straus and Giroux, 2009). See also Chris Lane and Amanda Glassman, "Smooth and Predictable Aid for Health: A Role for Innovative Financing?" Brookings Global Health Financing Initiative working paper no. 1, 2008. For an overview of the debate surrounding the effectiveness of the traditional aid model, see Nicholas Kristof, "How Can We Help the World's Poor?" *New York Times*, November 22, 2009.
8. Steve Beck and Tim Ogden, "Beware of Bad Microcredit," Harvard Business Review online, September 2007 (http://hbr.harvardbusiness.org/2007/09/beware-of-bad-microcredit/ar/1; accessed November 17, 2009).
9. Robert G. King and Ross Levine, "Finance and Growth: Schumpeter Might be Right," *Quarterly Journal of Economics*, 108/3 (1993):717-37.
10. Hernando de Soto, *The Mystery of Capital: Why Capitalism Succeeds in the West and Fails Everywhere Else* (New York: Basic Books, 2000); and D.C. North, Institutions, Institutional Change, and Economic Performance (Cambridge: Cambridge University Press, 1990).
11. Torsten Wezel, "Does Co-Financing by Multilateral Development Banks Increase 'Risky' Direct Investment in Emerging Markets?" Discussion Paper Series I: Economic Studies, Deutsche Bundesbank Research Centre, 2004.
12. David de Ferranti and Anthony J. Ody, "Beyond Microfinance: Getting Capital to Small and Medium Enterprises to Fuel Faster Development," Policy Brief No. 159, Brookings Institution, 2007.
13. Asli Demirguc-Kunt and Ross Levine, "Finance and Inequality: Theory and Evidence," *Annual Review of Financial Economics*, 1, 2009:15.
14. Timothy Besley and Robin Burgess, "Halving Global Poverty," *Journal of Economic Perspectives,* American Economic Association, 17/3 (2003): 15.
15. Grameen Bank website, "At a Glance," http://www.grameen-info.org/index.php?option=com_content&task=view&id=26&Itemid=175 (accessed Nov 19, 2009).
16. Elisabeth Rhyne and Maria Otero, "Microfinance Through the Next Decade: Visioning the Who, What, Where, When and How," Global Microcredit Summit, 2006.
17. Estimates from Microfinance Information Exchange and the Microcredit Summit Campaign.
18. Rajdeep Sungupta and Craig P. Aubuchon, "The Microfinance Revolution: An Overview."
19. IFMR Capital, press release, November 20, 2009.
20. Abhijit Banerjee,Esher Duflo, Rachel Glennerster, and Cynthin Kinnan, "The Miracle of Microfinance? Evidence from a Randomized Evaluation," NBER Working Paper, May 30, 2009.
21. Meghana Ayyagari, Thrsten Beck, and Asli Demirguch-Kunt, "Small and Medium Enterprises Across the Globe: A New Database," Working Paper 3217 (World Bank, August 2003).
22. "Finance for All? Policies and Pitfalls in Expanding Access," World Bank Policy Research Report, 2008.
23. Krishnan Sharma and Manuel Montes, "Strengthening the Business Sector in Developing Countries: The Potential of Diasporas," United Nations Working Paper, 2008: Krishnan Sharma, "The Impact of Remittances on Economic Security, DESA Working Paper, No. 78 (July 2009).
24. Commission on Growth and Development, "The Growth Report," p. 5.
25. "Africa's Infrastructure: A Time for Transformation," AICD (Africa Infrastructure Country Diagnos¬tic). World Bank, 2009.
26. Nachiket Mor and Sanjeev Sehrawat, "Sources of Infrastructure Finance," Centre for Development Finance, Working Paper Series, Institute for Financial Management and Research, India, October 2006.