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## The Next 4 Billion

In an informal suburb of Guadalajara, Mexico, a growing family is struggling to expand its small house. Help arrives from a major industrial company in the form of construction designs, credit, and as-needed delivery of materials, enabling rapid completion of the project at less overall cost.

In rural Madhya Pradesh, an Indian farmer gains access to soil testing services, to market price trends that help him decide what to grow and when to sell, and to higher prices for his crop than he can obtain in the local auction market. The new system is an innovation of a large grain-buying corporation, which also benefits from cost saving and more direct market access.

A South African who lives in an impoverished, crime-ridden neighborhood of Johannesburg has no bank account, cannot order items from a distant store, and is sometimes robbed of her pay packet. She finds that a new financial service offered by a local start-up company allows her mobile phone to become a solution—her pay is deposited directly to her phone-based account, she can make purchases via an associated debit card, and she carries no cash to steal.

In a small community outside Tianjin, China, a small merchant whose children have been repeatedly sickened by drinking water from a heavily-polluted river is distraught. He finds help not from the overwhelmed municipal government but from a new, low-cost filtering system, developed by an entrepreneurial company, which enables his family to treat its water at the point of use.

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*The World Resources Institute is an environmental and international development think tank that goes beyond research to create practical ways to protect the Earth and improve people's lives. The authors are part of the Development Through Enterprise project at WRI, which catalyzes sustainable economic growth by identifying market opportunities and business models that meet the needs of underserved communities at the base of the pyramid. For more WRI and Development Through Enterprise, see <<http://www.NextBillion.net>>.*

## BOP market—\$5 trillion

TOTAL BY INCOME SEGMENT



Figure 1.

Four billion people such as these form the base of the economic pyramid (BOP)—those with incomes below \$3,000 (in local purchasing power). The BOP makes up 72% of the 5.75 billion people recorded by available national household surveys worldwide and an overwhelming majority of the population in the developing countries of Africa, Asia, Eastern Europe, and Latin America and the Caribbean—home to nearly all the BOP.

This large segment of humanity faces significant unmet needs and lives in relative poverty: in current U.S. dollars their incomes are less than \$3.35 a day in Brazil, \$2.11 in China, \$1.89 in Ghana, and \$1.56 in India. Yet together they have substantial purchasing power: the BOP constitutes a \$5 trillion global consumer market. (See figure 1.)

The wealthier mid-market population segment, the 1.4 billion people with per capita incomes between \$3,000 and \$20,000, represents a \$12.5 trillion market globally. This market is largely urban, already relatively well served, and extremely competitive.

BOP markets, in contrast, are often rural—especially in rapidly growing Asia—very poorly served, dominated by the informal economy, and as a result relatively inefficient and uncompetitive.

Discussion of global business opportunity in the 21st century tends most often to be framed in terms geographically defined “emerging markets.” In contrast, the BOP markets that we describe in this paper—what the editors of this journal term “ascending markets”—are defined in terms of income. In a world where high-margin profit opportunities in mature markets are increasingly costly to identify and to pursue, ascending BOP markets have particular characteristics that may make them for more attractive to business now than than ever before. Their size alone

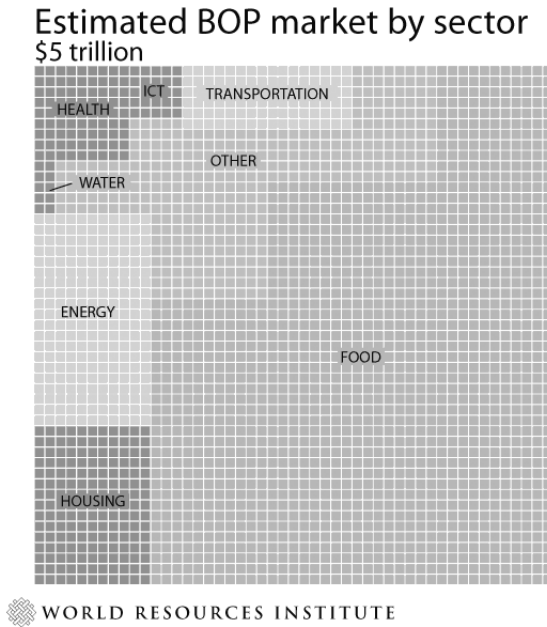


Figure 2.

provides significant incentive for attention. More significantly, they are rich in opportunity to arbitrage what we call the “BOP Penalty”—higher prices, lower quality, and poor access. These are the very signals of competitive opportunity businesses seek every day for the markets they already serve. Of course, risk—or the perception of risk—is a major inhibition to many companies. In this regard, the lack of accurate and current data is a further deterrent.

The published analysis suggests significant opportunities for more inclusive market-based approaches that can better meet the needs of those in the BOP, increase their productivity and incomes, and empower their entry into the formal economy.

## THE STUDY

“The Next 4 Billion: Market Size and Business Strategy at the Base of the Pyramid”<sup>1</sup> draws on data from national household surveys in 110 countries and an additional standardized set of surveys from 36 countries. Using these data—on incomes, expenditures, and access to services—it characterizes BOP markets regionally and nationally, in urban and rural areas, and by sector and income level. In this paper we briefly summarize the findings; the results are presented in full in a newly published book from the World Resources Institute and the International Finance Corporation.

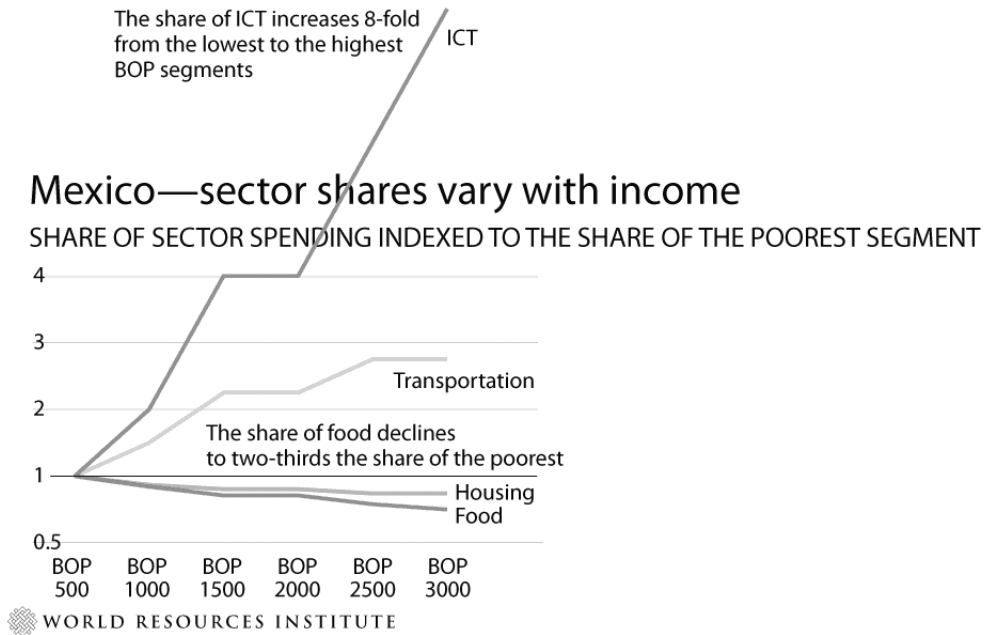


Figure 3.

Household surveys, while limited from a market research standpoint, provide direct information on the BOP as consumers that is not available from other sources of economic data. The result is the first systematic empirical characterization of BOP markets. *The Next 4 Billion* shows emphatically the rich differences among those in the BOP and that the entire market must be analyzed and addressed for private sector strategies to be effective. Of course, there are segments of the BOP for whom market-based solutions are not available or not sufficient.

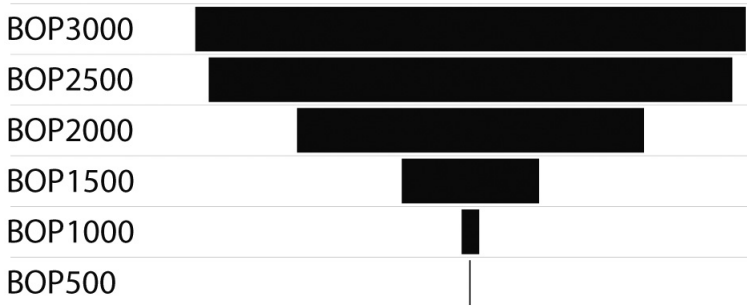
### SOME FINDINGS

Absent data, it is easy to think about the BOP as a single, undifferentiated mass—“them”—certainly not “us.” We know a good bit about us, the rich citizens of advanced industrial countries. But neither businesses nor governments have gone to much trouble to understand the BOP as consumers, as producers, or as rational economic actors. It is not surprising that the data reveal great differences among and within BOP populations—economic choices in expenditures, variations in expenditure patterns across income segments, across sectors, and between countries. The numbers reveal the choices, many of necessity, of the BOP. Logically, food dominates BOP household budgets. (See figure 2.)

Food and other sector expenditures are not static, however. As incomes rise, the share spent on food declines, while the share for housing remains relatively constant—and the share for transportation and telecommunications grows rapid-

## Ukraine

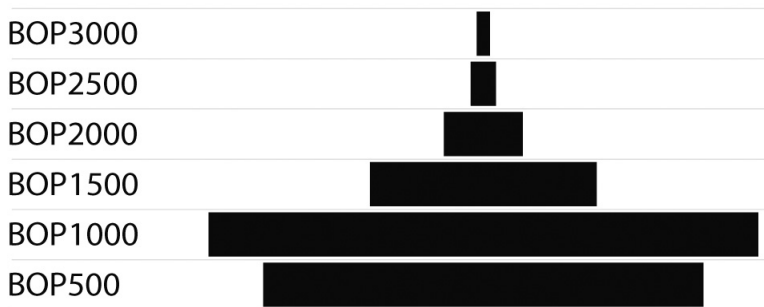
### TOTAL SPENDING BY INCOME SEGMENT



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## Nigeria

### TOTAL SPENDING BY INCOME SEGMENT



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Figure 4 (top) and 5 (bottom).

ly. (See figure 3.) These changes in spending preference have real implications for business, and for government policy to encourage competitive and equitable business engagement with low-income communities. The remarkable preference shown for information and communications (ICT) is discussed separately, below.

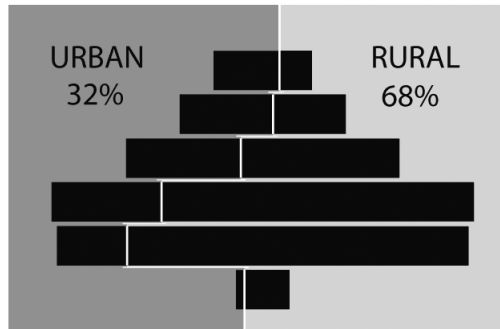
The composition of BOP markets differs markedly across countries. Some, like Ukraine's, are concentrated in the upper income segments of the BOP; others, like those in Nigeria, are concentrated in the lower income segments. (See figures 4 and 5.)

Regional differences are also apparent. Rural areas dominate most BOP markets in Africa and Asia; urban areas dominate most in Eastern Europe and Latin America and the Caribbean. (See figures 6 and 7.)

The research shows that, while the lowest BOP income segment is poor by any standard of measurement, there is a remarkable amount of spending by segments

## Asia

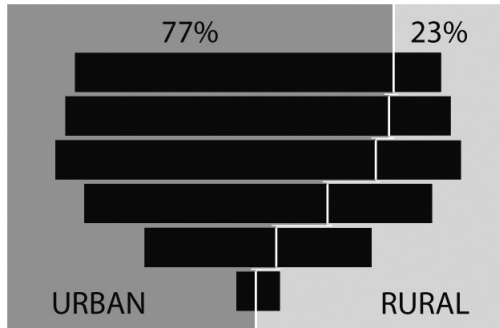
TOTAL BOP SPENDING BY BOP SEGMENT



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## Latin America

TOTAL BOP SPENDING BY BOP SEGMENT



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Figure 6 (top) and 7 (bottom).

of the BOP not very much wealthier. Low income is not “no income,” and given the large numbers of people in the lower BOP income segments, it adds up quickly to create meaningful markets. (See figures 8 and 9.)

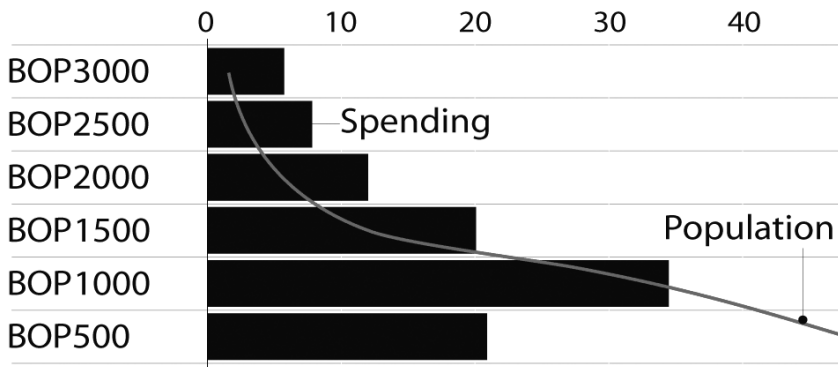
The available data also allow for a household level look at expenditures, by income segment, and by urban/rural location.

### INFORMATION AND COMMUNICATIONS TECHNOLOGIES (ICTs): POSTER CHILDREN FOR BOP SUCCESS

The strongest and most dramatic BOP business success story—whether measured by market penetration, by the documented benefits to low-income customers, or

## Africa

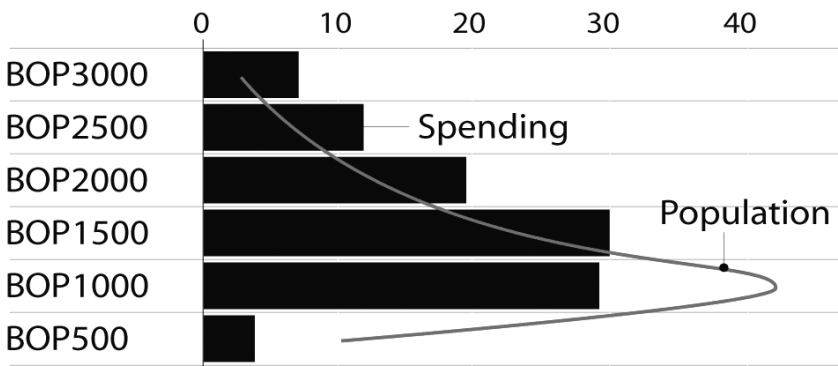
BOP SPENDING AND POPULATION (% OF BOP TOTAL)



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## Asia

BOP SPENDING AND POPULATION (% OF BOP TOTAL)



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Figure 8 (top) and 9 (bottom).

by the financial success of the companies—comes from mobile telephony.

A decade ago phone service in most developing countries was poor, and few BOP communities had access to phone service or could afford it on the terms offered. The entry of mobile phone companies transformed this picture. The number of mobile subscribers in developing countries grew more than fivefold between 2000 and 2005 to reach nearly 1.4 billion. Growth was rapid in all regions, but fastest in Sub-Saharan Africa: Nigeria's subscriber base grew from 370,000 to 16.8 million in just four years. Meanwhile, the Philippines' grew six-fold to 40 million.<sup>3</sup> Wireless subscribers in China, India, and Brazil together now outnumber those in either the United States or the European Union.<sup>4</sup>

Comparison of these numbers with the size of BOP populations suggests substantial and growing penetration of mobile phone use in the BOP, confirmed by the household surveys analyzed in this report. Industry analysts expect more than 1 billion additional mobile subscribers worldwide by 2010, with 80% of the growth in developing countries, almost entirely in BOP markets.<sup>5</sup>

Low-income populations have clearly benefited from access to mobile phones, which ease access to jobs, to medical care, to market prices, to family members working away from home and the remittances they can send, and, increasingly, to financial services.<sup>6</sup> All this depends on the affordability of mobile services, and a critical factor in this has been innovative business models such as prepaid voice and prepaid text-messaging services, available in ever-smaller units. For example, the Philippines' Smart Communications has a growing, profitable business with more than 20 million BOP customers, virtually all of whom use prepaid text-messaging services bought in units as small as US\$0.03.<sup>7</sup>

#### MARKET APPROACH VS. TRADITIONAL DEVELOPMENT

WRI research on the BOP is founded on a non-traditional understanding of how to do development. Traditional approaches are top-down, and often proceed from an assumption that low-income individuals are unable to help themselves and thus require charity or public assistance. In contrast, a market-based approach starts from the recognition that being poor does not eliminate commerce and market processes: virtually all poor households trade cash or labor to meet a significant part of their basic needs. A market-based approach therefore focuses on people as consumers and producers, and on solutions that can make BOP markets more efficient, competitive, and inclusive—so that the BOP can benefit from them.

Traditional approaches also tend to address unmet needs for health care, clean water, or other basic necessities by setting targets for meeting those needs through direct public investments, subsidies, or other handouts. The goals may be worthy, but the results have not been strikingly successful. A market-based approach recognizes that it is not just the very poor who have unmet needs and asks about the willingness to pay of different market segments. It looks for solutions in the form of new products and new business models that can provide goods and services at affordable prices.

Those solutions may involve market development efforts that include elements similar to traditional development tools—hybrid business strategies that incorporate consumer education or other forms of capacity building; micro-loans, consumer finance, or cross-subsidies among different income groups; franchise or retail agent strategies that create jobs and raise incomes; and partnerships with the public sector or with nongovernmental organizations (NGOs). Many successful companies are adopting such innovative strategies, as this report illustrates, sometimes even co-creating solutions with community groups and civil society.<sup>8</sup> But the solutions ultimately are market-oriented and demand-driven.



Perhaps most important, traditional approaches do not point toward sustainable solutions, while a market-oriented approach recognizes that only sustainable solutions can scale to meet the needs of 4 billion people.

An emphasis on market-based approaches does not mean that the public sector is now irrelevant. Far from it. First, it is clear that all markets require regulation and the rule of law for proper functioning, and to ensure equity; these are tasks of the public sector. Second, the research we have undertaken, we believe, helps instead better to define the fault lines between the “development” that the private sector can accomplish, and the economic development that must be empowered by significant intervention from the public sector. Profound market failures litter the landscape of the developing world. Government has a leading role to play in enabling the business environment.

### THE ENABLING ENVIRONMENT FOR BUSINESS

That the private sector can meet the needs of the BOP is not a given. The operating and regulatory environments in developing countries can be challenging, starting with basic security and stability. But beyond that, micro and small businesses especially face disadvantages. If they are informal (and most businesses are), they cannot get investment finance, participate in value chains of larger companies, or sometimes even legally receive services from utilities. Condemned to remain small, they cannot generate wealth or large numbers of jobs. Nor do they contribute to the broader economy by paying taxes.

Most face significant barriers to joining the formal economy in the form of antiquated regulations and prohibitive requirements—dozens of steps, delays of many months, capital requirements beyond attainment for most of the BOP. In El Salvador, for example, it used to take 115 days and many separate procedures to start a legitimate business—until recent reforms reduced the effort to 26 days and allowed registration with four separate agencies in a single visit.<sup>9</sup> Even for legitimate small businesses, investment capital is generally unavailable and supporting services scarce.

Fortunately, there is growing recognition of the importance of removing barriers to small and medium-size businesses and a growing toolbox for moving firms into the formal economy and creating more efficient markets. These tools, and country ratings of progress on reform, are available in the World Bank and International Finance Corporation’s (IFC) annual Doing Business report, along with growing evidence that the tools work. In El Salvador, five times as many businesses register annually since its reforms. Many countries, including China, have dropped minimum capital requirements. The pace of reform is accelerating, with more than 40 countries making changes in the most recent year surveyed.<sup>10</sup> Accelerated formation of legitimate small businesses creates benefits for individuals (owners, workers, customers), the enterprises, and the larger economy.

Coupled with reform is growing attention to enterprise development initiatives focused on BOP markets and investment capital for small and medium-size

enterprises. The Inter-American Development Bank, as part of its Opportunity for the Majority program, is committing US\$1 billion over five years to new investments to support private sector efforts for the BOP, including small and medium-size enterprises. The Asian Development Bank is launching several new investment funds for the same purpose. The Japan Bank for International Cooperation aims to increase its funds for African private sector development including small and medium enterprises. IFC is expanding its technical assistance and investment activities for small and medium-size enterprises.

These efforts, and the growing private sector interest in investing in small and medium-size enterprises in developing countries, explicitly recognize that an expanded private sector role and a bottom-up market approach are essential development strategies.

#### IMPLICATIONS OF THE RESEARCH FOR BUSINESS & THE PUBLIC SECTOR BUSINESS

The type of market analysis represented by *The Next 4 Billion* study may allow businesses and governments think more creatively about new products and services that meet BOP needs and about opportunities for market-based solutions to achieve them. For businesses, characterizing the market in empirical terms is an important first step toward identifying business opportunities, considering business models, developing products, and expanding investment in BOP markets. Put simply, while an analysis of the depth of poverty does not generate private sector enthusiasm for investment, an analysis of BOP market size and willingness-to-pay might—and is thus a critical step toward market-based solutions.

Any enterprise operating in the developing world that seeks to be “sustainable” must serve the BOP to earn that label. The BOP exists at the intersection of natural resources and enterprise, since most of the BOP, especially the rural BOP, depends on ecosystems for jobs and wealth. A “triple-bottom-line” approach, encompassing environmental, social, as well as financial returns, cannot be meaningful without understanding who the BOP are, and how those in the BOP behave as rational economic actors, not as helpless dependents.

Models that seem to be working well for enterprises in reaching and serving the BOP show evidence of four major characteristics, singly, and in combination:

- First, businesses learn to focus on the BOP, delivering unique products or services, or employing technologies in novel ways, but always understanding and respecting the BOP as its own market, with particular needs and interests.
- Second, enterprises learn to localize the value creation of their interventions; that is, they do not simply exploit the BOP, but they add value to BOP communities using franchises or local vendor ecosystems. This may involve reframing the very notion of who is the customer, and treating the entire community as the customer, not individuals or families. Finally, selling isn’t the whole story for the company; more often than not, the very act of business engagement creates opportunities for skills development within the BOP.

- Third, serving the BOP always demands that businesses enable access, whether through size/cost calculations (sachet products, for example), or financing schemes (through micro-loans, for example), or reduction of the time-cost of acquisition (by bringing the product to the customer, not the other way around).
- Fourth, success almost invariably demands that companies learn from, and engage with, the community, and that usually requires unconventional partners. Partnerships may be with public entities, non-profit organizations, community groups, or combinations thereof; successful partnerships seem to build around real business opportunities—to build and manage distribution networks, for example.

### THE DEVELOPMENT COMMUNITY

For governments, better understanding of the BOP can help focus attention on needed reforms in the operating and regulatory environment to allow a larger role for the private sector. It frames the conversation about poverty reduction more in terms of enabling opportunity and less in terms of aid. A successful market-based approach would bring significant new private sector resources into play, allowing development assistance to be sharply targeted to the segments and sectors for which no viable market solutions can presently be found. Market-based approaches and smart development policies are synergistic strategies.

While a significant part of this type of market research naturally falls to the private sector, it is clear that the public sector, and the multilateral development banks in particular, can play a critical role in the process. Household surveys, it was already noted, are not designed as market tools, but they can be made more useful in several ways. First, surveys should better define some sectors, for example, financial services. Household surveys today rarely tease out what an individual or household is paying for financial services, as the costs are hidden, even from the consumer. Second, surveys must ask more questions about unit costs. Third, surveys need to better calculate quality issues, for example, the quality of basic services such as water, sanitation, and electricity.

### CHANGING THE NATURE OF THE CONVERSATION

Four billion is a big number, and it will take the efforts of millions of entrepreneurs; hundreds of thousands of enterprises, large and small; and the collective efforts of bilateral and multilateral aid agencies, and non-governmental organizations to make headway in alleviating poverty. The tools employed in the initial effort described in this paper are not purpose-built, and much new market research can, and should, be done both by private sector companies and market research firms. National household surveys can, and should, be amended to improve data collection that will better inform our understanding of the “BOP penalty.” All this knowledge will, in turn, catalyze further private sector activity

that benefits the majority of the world's population that comprises the base of its economic pyramid.

1. In the report current U.S. dollars means 2005 dollars. Unless otherwise noted, however, market information is given in 2005 international dollars adjusted for purchasing power parity; for convenience, BOP and mid-market income cutoffs are given in international dollars for 2002 (the base year to which household surveys used in this analysis have been normalized).
2. The high-income population segment is approximately 0.3 billion worldwide. But neither its size nor its very large aggregate income can be reliably measured by household surveys, because the sample of such households in national surveys, especially in developing countries, is too small.
3. Allen L. Hammond, William J. Kramer, Robert S. Katz, Julia T. Tran, and Courtland Walker (2007). *The Next 4 Billion: Market Size and Business Strategy at the Base of the Pyramid*. (Washington: World Resources Institute/International Finance Corporation).  
See <[www.wri.org/thenext4billion](http://www.wri.org/thenext4billion)>.
4. While household surveys are regarded by economists as a source of reliable economic data, here they are applied as market research tools in ways for which they were not designed. As a result, some limitations apply: household surveys rarely capture unit prices for commodities purchased, for example, and are not standardized across countries or over time. For rapidly developing sectors, such as mobile communications, even relatively recent surveys can markedly understate use rates and expenditure.
5. Country data tables are available in printed form, in the book, as well as in "analysis-ready" spreadsheet format. Contact the authors for additional details.
6. World Bank (2006). *Information and Communications for Development 2006: Global Trends and Policies*. Washington, DC: World Bank.
7. ITU (International Telecommunication Union) (2006). "Cellular Subscribers."  
<[http://www.itu.int/ITU-D/ict/statistics/at\\_glance/cellular05.pdf](http://www.itu.int/ITU-D/ict/statistics/at_glance/cellular05.pdf)> (accessed January 12, 2007).
8. Wireless Intelligence (2005). "Worldwide Cellular Connections Exceeds 2 Billion." Press release, GSM World News, September 15.  
<[http://www.gsmworld.com/news/press\\_2005/press05\\_21.shtml](http://www.gsmworld.com/news/press_2005/press05_21.shtml)> (accessed January 12, 2007).
9. Vodafone. (2005). *Africa: The Impact of Mobile Phones*. London: Vodafone.  
<<http://www.vodafone.com/africa>>.
10. Smith, Sharon. (2004). *Smart Communications: Expanding Networks, Expanding Profits*. Washington, DC: World Resources Institute.
11. Bruggmann, Jeb and C. K. Prahalad. (2007), "Cocreating Business's New Social Compact." *Harvard Business Review* (February): 80-90.
12. World Bank and IFC (International Finance Corporation). (2006). *Doing Business 2007: How to Reform*. Washington, DC: World Bank and IFC.
13. Ibid.