

THE NEXT 4 BILLION

MARKET SIZE AND BUSINESS STRATEGY
AT THE BASE OF THE PYRAMID



THE NEXT 4 BILLION

MARKET SIZE AND BUSINESS STRATEGY
AT THE BASE OF THE PYRAMID

THE NEXT 4 BILLION

MARKET SIZE AND BUSINESS STRATEGY
AT THE BASE OF THE PYRAMID

Four billion low-income consumers, a majority of the world's population, constitute the base of the economic pyramid. New empirical measures of their aggregate purchasing power and their behavior as consumers suggest significant opportunities for market-based approaches to better meet their needs, increase their productivity and incomes, and empower their entry into the formal economy.

Allen L. Hammond, William J. Kramer,
Robert S. Katz, Julia T. Tran, Courtland Walker

World Resources Institute
International Finance Corporation

Copyright ©2007 World Resources Institute. All rights reserved.
Data copyright © International Bank for Reconstruction and Development/World Bank Group

A co-publication of World Resources Institute and International Finance Corporation

World Resources Institute
10 G Street NE, Suite 800
Washington DC 20002

International Finance Corporation
2121 Pennsylvania Avenue NW
Washington DC 20433

This report is published by World Resources Institute and International Finance Corporation. The report's principal author is World Resources Institute. The findings, interpretations, and conclusions expressed herein are those of the authors and do not necessarily reflect the views of the International Finance Corporation, the Executive Directors of the International Bank for Reconstruction and Development/World Bank Group, or the governments they represent, or World Resources Institute. Neither does citing of trade names or commercial processes constitute endorsement.

Rights and Permissions

The material in this publication is copyrighted. Copying and/or transmitting portions or all of this work without permission may be a violation of applicable law. International Finance Corporation and World Resources Institute encourage dissemination of their work and will normally grant permission to reproduce portions of the work promptly. No use of this publication may be made for resale or for any other commercial purpose whatsoever without prior permission in writing from World Resources Institute. Portions of this work are available at: www.wri.org/thenext4billion and rru.worldbank.org.

For permission to photocopy or reprint any part of this work, please send a request with complete information to: Rights & Permissions, World Resources Institute, 10 G Street NE, Suite 800, Washington DC 20002

ISBN 1-56973-625-1 (soft cover)
Library of Congress Control Number 2007923530

Order Information:

Western Hemisphere and Japan
Hopkins Fulfillment Service
P.O. Box 50370
Baltimore, MD 21211-4370
Phone: (410) 516-6956 or (1-800) 537-5487
Fax: (410) 516-6998
Email: hfcustserv@press.jhu.edu

U.K, Europe, Middle East, Africa, Asia
Eurospan Group, c/o Turpin Distribution
Phone: +44 (0) 1767 604972
Fax: +44 (0)1767 601640
Email: eurospan@turpin-distribution.com

Visit Eurospan's online bookstore: www.eurospangroup.com/bookstore

Sponsors and underwriters

Principal underwriting for *The Next 4 Billion* has been provided by the International Finance Corporation and the Inter-American Development Bank.



Additional financial support has been provided by Intel, Microsoft, the Shell Foundation, and Visa International.



Acknowledgments

This report owes its existence to many people and institutions, but the underlying research project would not have happened without the early, enthusiastic, and sustained support of Donald F. Terry, manager of the Multilateral Investment Fund of the Inter-American Development Bank (IDB). Don understood early on how important the markets formed by low-income communities are to the fund's investment strategy, and he has been an unflagging source of advice and assistance throughout the research. Through Don and other IDB colleagues, the IDB made a substantive contribution to the development of this report.

Luis Alberto Moreno, president of the IDB, provided important leadership. Under his guidance the IDB, through its Opportunity for the Majority initiative, became the first major international financial institution to incorporate a focus on the base of the economic pyramid (BOP) into new program strategies. We gratefully acknowledge the IDB for making this research a cornerstone of its "Building Opportunity for the Majority" conference in June 2006, where preliminary research results for Latin America and the Caribbean were first publicly presented.

The International Finance Corporation (IFC) stepped in to provide the major funding and to collaborate in the research. Michael Klein, vice president for financial and private sector development jointly for the World Bank and IFC as well as chief economist, IFC, immediately recognized its potential, agreed to a partnership, and became the project's chief advocate. We are grateful to IFC not only for its financial support but also for its substantive engagement with the project, including access to data, help with developing the methodology, and thoughtful advice in shaping the editorial content. Penelope Brook and Facundo Martin have been our caring and efficient task managers at IFC, making the partnership a uniquely effective one.

The research data structures are derived from the work of Branko Milanovic, lead economist with the World Bank's Research Department, and Olivier Dupriez, senior statistician and economist with the World Bank's Development Data Group. We are indebted to both for their gracious permission to use their research, much of which has not been previously published. They provided keen insights into the data and guidance on how best to understand and present them.

Research

We would also like to thank the following people for their research assistance:

IFC: Tefera Bekele and Gouthami Padam

IDB: Julio Guzman, Pavel Luengas-Sierra, Jose Antonia Mejia, Karen Mokate, and Jorge Ugaz

Content advice and review

We appreciate and acknowledge the advice of the following reviewers:

WRI: Alex Acs, Jennie Hommel, David Jhirad, Christian Layke, Smita Nakhoda, Daniel Prager, Clayton Rigdon, and Fred Wellington
IFC/World Bank: Alex Preker, Christine Zhen-Wei Quiang, Dilip Ratha, and Mark Williams

Content advice and review

External: Robert Annibale (Citigroup)
Louis Boorstin (Bill and Melinda Gates Foundation)
Christine Eibs Singer (E+Co)
Jeffery Galinovsky (Intel)
Kurt Hoffman (Shell Foundation)
Beth Jenkins (John F. Kennedy School of Government)
Christopher Jennings (IDB)
Alain Mathys (Suez)
Dominic Montagu (University of California, Berkeley)
Jane Nelson (John F. Kennedy School of Government),
C. K. Prahalad (University of Michigan)
James Wells (Wellspring Consulting)
Christopher West (Shell Foundation)
David Wheeler (York University)

General advice

For general advice we would like to thank:

IDB: Ana-Mita Betancourt, Suzanne Duryea,
Nohra Rey de Marulanda, and Daniel Shepherd

IFC/World Bank: Doug Barnes, Kathleen Beegle, Paolo Belli, Robert Buckley, Marinela Dado, Vivien Foster, Jed Friedman, Elena Gagieva-Petrova, Matthew Gamser, Nadine Shamounki Ghannam, Iva Ilieva Hamel, April Harding, Martin Holtmann, Ada Karina Izaguirre, R. Mukami Kariuki, Elizabeth Littlefield, Alain Locussol, Emmett Moriarty, Vincent Palmade, Andrea Ryan-Rizvi, Prem Sangraula, Katherine Scott, Suzanne Smith, Kees van der Meer, and Patricia Veevers-Carter.

External: Brian Richardson (Wizzit)

WRI project manager

Allen L. Hammond

Book design

Design: Lloyd Greenberg Design, LLC

Information Graphics: Gerald Quinn / G.Quinn Information Design

Copyediting

Alison Strong

Photo credits

Cover photo: ©Julie Houck/Corbis

Health ©Karen Kasmauski/Corbis

ITC ©Anatoliy Rakhimbayev/World Bank

Water ©Benjamin Lowy/Corbis

Transportation courtesy of EMBARQ World Resources Institute

Housing ©Gideon Mendell/Corbis

Energy ©Rupak De Chowdhuri/Reuters/Corbis

Food ©Jehad Nga/ActionAid/Corbis

Finance ©Gideon Mendell/Corbis

CONTENTS

	1
	DATA GUIDE
	2
	EXECUTIVE SUMMARY
CHAPTER 1	12
INTRODUCTION AND MARKET OVERVIEW	
	34
CHAPTER 2	THE HEALTH MARKET
	42
CHAPTER 3	THE INFORMATION AND COMMUNICATIONS MARKET
	52
CHAPTER 4	THE WATER MARKET
	60
CHAPTER 5	THE TRANSPORTATION MARKET
	68
CHAPTER 6	THE HOUSING MARKET
	76
CHAPTER 7	THE ENERGY MARKET
	88
CHAPTER 8	THE FOOD MARKET
	96
CHAPTER 9	THE FINANCIAL SERVICES MARKET
	104
	REFERENCES
	106
APPENDIX A	INCOME DATA
	112
APPENDIX B	EXPENDITURE DATA
	114
	COUNTRY DATA TABLES

Data Guide

International dollars (purchasing power parity exchange rates) are used throughout this report unless otherwise specified. Market figures and household income and expenditure measured by household surveys are given in 2005 international dollars.

Current US dollars means 2005 dollars.

For convenience, however, BOP income figures used to describe BOP income segments or the BOP and mid-market income cut-offs are measured in 2002 international dollars (purchasing power parity dollars or PPP), since 2002 is the reference year to which the surveys used in this analysis were normalized. The BOP population segment is defined as those with annual incomes up to and including \$3000 per capita per year (2002 PPP). The mid-market population segment is defined as those with annual incomes above \$3,000 and up to and including \$20,000 PPP. The high income segment includes annual incomes above \$20,000 PPP. The report and accompanying country tables use annual income increments of \$500 PPP within the BOP to distinguish six BOP income segments, denoted as BOP500, BOP1000, BOP1500, etc.

In 2005 international dollars, the cutoff for the BOP and the mid-market population segments are \$3,260 and \$21,731.

Regional aggregates

Aggregate data are presented for four developing regions—Africa, Asia (including the Middle East), Eastern Europe, and Latin America and the Caribbean as well as for the world as a whole. The report refers to surveyed countries, which includes 110 countries for which household survey data were available. (See Appendix A for a list of countries by developing region and for additional countries.) The report also refers to measured countries as those for which standardized survey data on household expenditures were available. (See Appendix B for a list of countries by region.)

Market Composition

The report analyzes market composition in terms of total annual income or expenditures by BOP income segments. The graphics representing the data, in 2005 PPP dollars, are scaled to produce figures of workable size, but show accurately the relative total household spending by income segment.

Household Expenditures

The report also analyzes household spending in terms of average annual per household expenditures. Again, the graphics representing the data are scaled, but show accurately the relative household spending for each BOP income segment.

Urban/Rural Analysis

The report illustrates the market composition by urban and rural locations, both for the total BOP market and by BOP income segment. The graphics representing the data are scaled, but show accurately the relative urban and rural spending.

EXECUTIVE SUMMARY





Four billion low-income people, a majority of the world's population, constitute the base of the economic pyramid. New empirical measures of their behavior as consumers and their aggregate purchasing power suggest significant opportunities for market-based approaches to better meet their needs, increase their productivity and incomes, and empower their entry into the formal economy.

The 4 billion people at the base of the economic pyramid (BOP)—all those with incomes below \$3,000 in local purchasing power—live in relative poverty. Their incomes in current U.S. dollars are less than \$3.35 a day in Brazil, \$2.11 in China, \$1.89 in Ghana, and \$1.56 in India.¹ Yet together they have substantial purchasing power: the BOP constitutes a \$5 trillion global consumer market.

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.

In contrast, BOP markets are often rural—especially in rapidly growing Asia—very poorly served, dominated by the informal economy, and, as a result, relatively inefficient and uncompetitive. Yet these markets represent a substantial share of the world's population. Data from national household surveys in 110 countries show that the BOP makes up 72% of the 5,575 million people recorded by the surveys and an overwhelming majority of the population in Africa, Asia, Eastern Europe, and Latin America and the Caribbean—home to nearly all the BOP.

Analysis of the survey data—the latest available on incomes, expenditures, and access to services—shows marked differences across countries in the composition of these BOP markets. Some, like Nigeria's, are concentrated in the lowest income segments of the BOP; others, like those in Ukraine, are concentrated in the upper income segments. 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.

Striking patterns also emerge in spending. Not surprisingly, food dominates BOP household budgets. As incomes rise, however, the share spent on food declines, while the share for housing remains relatively constant—and the shares for transportation and telecommunications grow rapidly. In all regions half of BOP household spending on health goes to pharmaceuticals. And in all except Eastern Europe the lower income segments of the BOP depend mainly on firewood as a cooking fuel, the higher segments on propane or other modern fuels.

That these substantial markets remain underserved is to the detriment of BOP households. Business is also missing out. But there is now enough information about these markets, and enough experience with viable business strategies, to justify far closer business attention to the opportunities they represent. Market-based approaches also warrant far more attention in the development community, for the potential benefits they offer in bringing more of the BOP into the formal economy and in improving the delivery of essential services to this large population segment.

A BOP Portrait

The development community has tended to focus on meeting the needs of the poorest of the poor—the 1 billion people with incomes below \$1 a day in local purchasing power. But a much larger segment of the low-income population—the 4 billion people of the BOP, all with incomes well below any Western poverty line—both deserves attention and is the appropriate focus of a market-oriented approach.

The starting point for this argument is not the BOP's poverty. Instead, it is the fact that BOP population segments for the most part are not integrated into the global market economy and do not benefit from it. They also share other characteristics:

- **Significant unmet needs.** Most people in the BOP have no bank account and no access to modern financial services. Most do not own a phone. Many live in informal settlements, with no formal title to their dwelling. And many lack access to water and sanitation services, electricity, and basic health care.
- **Dependence on informal or subsistence livelihoods.** Most in the BOP lack good access to markets to sell their labor, handi-





crafts, or crops and have no choice but to sell to local employers or to middlemen who exploit them. As subsistence and small-scale farmers and fishermen, they are uniquely vulnerable to destruction of the natural resources they depend on but are powerless to protect (World Resources Institute and others 2005). In effect, informality and subsistence are poverty traps.

- **Impacted by a BOP penalty.** Many in the BOP, and perhaps most, pay higher prices for basic goods and services than do wealthier consumers—either in cash or in the effort they must expend to obtain them—and they often receive lower quality as well. This high cost of being poor is widely shared: it is not just the very poor who often pay more for the transportation to reach a distant hospital or clinic than for the treatment, or who face exorbitant fees for loans or for transfers of remittances from relatives abroad.

Addressing the unmet needs of the BOP is essential to raising welfare, productivity, and income—to enabling BOP households to find their own route out of poverty. Engaging the BOP in the formal economy must be a critical part of any wealth-generating and inclusive growth strategy. And eliminating BOP penalties will increase effective income for the BOP. Moreover, to the extent that unmet needs, informality traps, and BOP penalties arise from inefficient or monopolistic markets or lack of attention and investment, addressing these barriers may also create significant market opportunities for businesses.

Perhaps most important, it is the entire BOP and not just the very poor who constitute the low-income market—and it is the entire market that must be analyzed and addressed for private sector strategies to be effective, even if there are segments of that market for which market-based solutions are not available or not sufficient.

Taking a market-based approach to poverty reduction

Analysis of BOP markets can help 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, it is an important first step toward identifying business opportunities, considering business models, developing products, and expanding investment in BOP markets. For governments, it can help





focus attention on reforms needed in the business environment to allow a larger role for the private sector.

BOP market analysis, and the market-based approach to poverty reduction on which it is based, are equally important for the development community. This approach can help frame the debate on 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 more targeted to the segments and sectors for which no viable market solutions can presently be found.

There are distinct differences between a market-based approach to poverty reduction and more traditional approaches. Traditional approaches often focus on the very poor, proceeding from the assumption that they are unable to help themselves and thus need charity or public assistance. 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 much of their basic needs. A market-based approach thus focuses on people as consumers and producers and on solutions that can make markets more efficient, competitive, and inclusive—so that the BOP can benefit from them.

Traditional approaches 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 willingness to pay across 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 with elements similar to traditional development tools—hybrid business strategies that incorporate consumer education; microloans, consumer finance, or cross-subsidies among different income groups; franchise or retail agent strategies that create jobs and raise incomes; partnerships with the public sector or with nongovernmental organizations (NGOs). Yet the solutions are ultimately market oriented and demand driven—and many successful companies are adopting such strategies.





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.

Growing interest, growing success in BOP markets

Business interest in BOP markets is rising. Multinational companies have been pioneers, especially in food and consumer products. Large national companies have proved to be among the most innovative in meeting the needs of BOP consumers and producers, especially in such sectors as housing, agriculture, consumer goods, and financial services. And small start-ups and social entrepreneurs focusing on BOP markets are rapidly growing in number. But perhaps the strongest and most dramatic BOP success story is mobile telephony.

Between 2000 and 2005 the number of mobile subscribers in developing countries grew more than fivefold—to 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 (World Bank 2006b). Household surveys confirm substantial and growing mobile phone use in the BOP population, which has clearly benefited from the access mobile phones provide 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 (Vodafone 2005).

A strong value proposition for low-income consumers has translated into financial success for mobile companies. Celtel, an entrepreneurial company operating in some of the poorest and least stable countries in Africa, went from start-up to telecom giant in just seven years. Acquired for US\$3.4 billion in 2005, the company now has operations in 15 African countries and licenses covering more than 30% of the continent.

Not all sectors have found their footing in BOP markets yet. Privatized urban water systems, for example, have encountered financial and political difficulties in developing countries, and the result has been neither better service for low-income communities nor success for the companies. The energy sector has similarly had only limited success in providing affordable off-grid electricity or clean cooking fuels to rural BOP communities. But even these sectors have seen encouraging new ventures, and further development of technology and business models may expand BOP markets.



Moving toward a more hospitable environment for business

The operating and regulatory environments in developing countries can be challenging. Micro and small businesses especially face disadvantages. If they are informal, 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 many jobs. Nor do they contribute to the broader economy by paying taxes.

Most face 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, starting a legitimate business used to take 115 days and many separate procedures—until recent reforms reduced the effort to 26 days and allowed registration with four separate agencies in a single visit. But 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. And as the World Bank and International Finance Corporation (IFC) show, in their annual Doing Business reports, there is also mounting 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.²

Coupled with reform is growing attention to enterprise development initiatives focusing on BOP markets and investment capital for small and medium-size businesses. Several international and bilateral development agencies are launching investment funds to support the growth of small and medium-size enterprises across the developing world. These efforts, and the growing private sector interest in investing in such enterprises in developing countries, explicitly recognize that an expanded private sector role and a bottom-up market approach are essential development strategies.



What BOP markets look like

Total household income of \$5 trillion a year establishes the BOP as a potentially important global market. Within that market are large variations across regions, countries, and sectors in size and other characteristics.

Asia (including the Middle East) has by far the largest BOP market: 2.86 billion people with income of \$3.47 trillion. This BOP market represents 83% of the region's population and 42% of the purchasing power—a significant share of Asia's rapidly growing consumer market.

Eastern Europe's \$458 billion BOP market includes 254 million people, 64% of the region's population, with 36% of the income.

In Latin America the BOP market of \$509 billion includes 360 million people, representing 70% of the region's population but only 28% of total household income, a smaller share than in other developing regions.

Africa has a slightly smaller BOP market, at \$429 billion. But the BOP is by far the region's dominant consumer market, with 71% of purchasing power. It includes 486 million people—95% of the surveyed population.

Sector markets for the 4 billion BOP consumers range widely in size. Some are relatively small, such as water (\$20 billion) and information and communication technology, or ICT (\$51 billion as measured, but probably twice that now as a result of rapid growth). Some are medium scale, such as health (\$158 billion), transportation (\$179 billion), housing (\$332 billion), and energy (\$433 billion). And some are truly large, such as food (\$2,895 billion).³

Evidence of BOP penalties emerges in several sectors. Wealthier mid-market households are seven times as likely as BOP households to have access to piped water. Some 24% of BOP households lack access to electricity, while only 1% of mid-market households do. Rural BOP households have significantly lower ICT spending and are significantly less likely to own a phone than rural mid-market households or even urban BOP households—consistent with the broad lack of access to ICT services in rural areas.

BOP business strategies that work

Why are some enterprises succeeding in meeting BOP needs, and others are not? Successful enterprises operating in these markets use four broad strategies that appear to be critical:

- **Focusing on the BOP** with unique products, unique services, or unique technologies that are appropriate to BOP needs and that require completely reimagining the business, often through significant investment of money and management talent. Examples are found in such sectors as water (point-of-use systems), food (healthier products), finance (microfinance and low-cost remittance systems), housing, and energy.
- **Localizing value creation** through franchising, through agent strategies that involve building local ecosystems of vendors or suppliers, or by treating the community as the customer, all of which usually involve substantial investment in capacity building and training. Examples can be seen in health care (franchise and agent-based direct marketing), ICT (local phone entrepreneurs and resellers), food (agent-based distribution systems), water (community-based treatment systems), and energy (mini-hydro-power systems).
- **Enabling access** to goods or services—financially (through single-use or other packaging strategies that lower purchase barriers, prepaid or other innovative business models that achieve the same result, or financing approaches) or physically (through novel distribution strategies or deployment of low-cost technologies). Examples occur in food, ICT, and consumer products (in packaging goods and services in small unit sizes, or “sachets”) and in health care (such as cross-subsidies and community-based health insurance). And cutting across many sectors are financing strategies that range from microloans to mortgages.
- **Unconventional partnering** with governments, NGOs, or groups of multiple stakeholders to bring the necessary capabilities to the table. Examples are found in energy, transportation, health care, financial services, and food and consumer goods.

Enterprises may—and often do—use more than one of these strategies serially or in combination.

**Endnotes**

1. In this 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 the analysis for the report have been normalized). U.S. dollars are generally denoted by US\$, international dollars by \$.
2. The tools are available in the World Bank and IFC's annual Doing Business reports, along with country ratings of progress on reform. For the most recent results, see World Bank and IFC (2006).
3. The analysis of market size starts with household expenditure data from 36 countries for which recorded expenditures have been mapped into standard spending categories. (The underlying surveys may vary from country to country and across time, however, so that information collected may not be directly comparable.) The analysis estimates the size of sector markets in each region by extrapolating from these measured countries to a broader set of surveyed countries for which BOP income data exist. This approach assumes that the ratio of sector expenditure to total household expenditure will be similar in the two sets of countries within a region. It also assumes that total household income equals total household expenditure.