

Impact Investments

An emerging asset class



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Introduction

Throughout, we use the term “social” to include social and environmental.

Impact investments: An emerging asset class

In a world where government resources and charitable donations are insufficient to address the world’s social problems, impact investing offers a new alternative for channeling large-scale private capital for social benefit. With increasing numbers of investors rejecting the notion that they face a binary choice between investing for maximum risk-adjusted returns or donating for social purpose, the impact investment market is now at a significant turning point as it enters the mainstream. In this work, we argue that impact investments are emerging as an alternative asset class. As such, we analyze the questions one would ask when adding impact investments to an investment portfolio. Specifically, we consider the following:

- **What defines and differentiates impact investments?**
Impact investments are investments intended to create positive impact beyond financial return. As such, they require the management of social and environmental performance (for which early industry standards are gaining traction among pioneering impact investors) in addition to financial risk and return. We distinguish impact investments from the more mature field of socially-responsible investments (“SRI”), which generally seek to minimize negative impact rather than proactively create positive social or environmental benefit.
- **Who is involved in the market and how do they allocate capital?**
Charting the landscape of the impact investment market, investors range from philanthropic foundations to commercial financial institutions to high net worth individuals, investing across the capital structure, across regions and business sectors, and with a range of impact objectives.
- **What makes impact investments an emerging asset class?**
While certain types of impact investments can be categorized within traditional investment classes (such as debt, equity, venture capital), some features dramatically differentiate impact investments. We argue that an asset class is no longer defined simply by the nature of its underlying assets, but rather by how investment institutions organize themselves around it. Specifically we propose that an emerging asset class has the following characteristics:
 - Requires a unique set of investment/risk management skills
 - Demands organizational structures to accommodate this skillset
 - Serviced by industry organizations, associations and education
 - Encourages the development and adoption of standardized metrics, benchmarks, and/or ratings

These characteristics are present for such asset classes as hedge funds or emerging markets, which channel significant capital flows as a result. With each of these indicators having materialized, we argue that impact investments should be defined as a separate asset class.

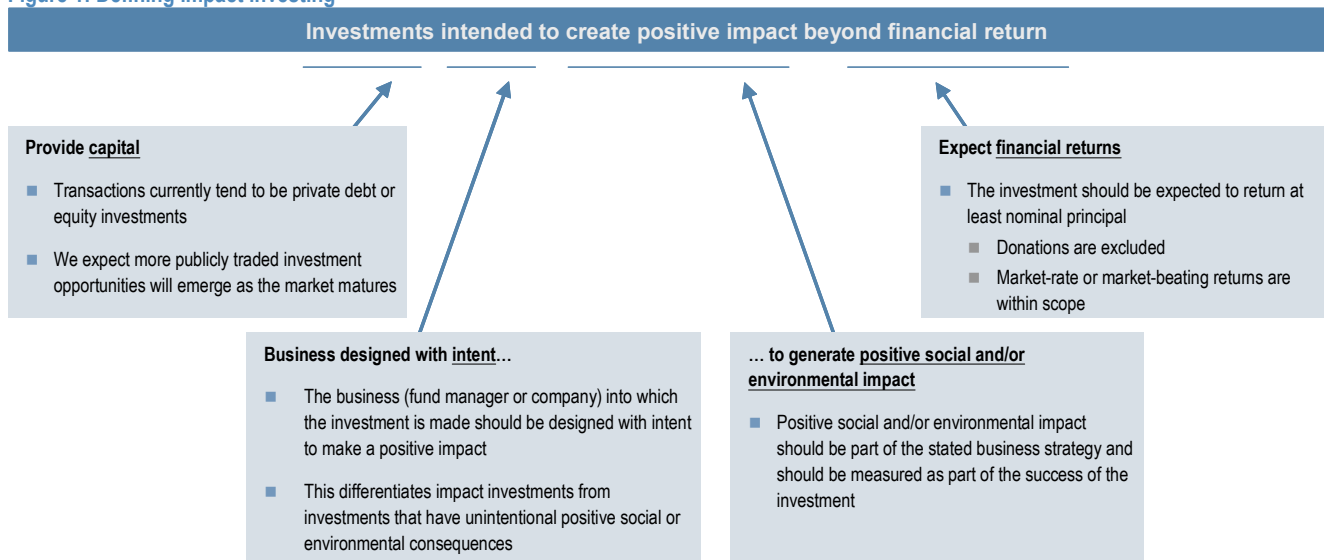
- **How much financial return are investors expecting and realizing?**
We conducted a survey of leading impact investors, which resulted in 24 respondents providing data on expected returns for over 1,100 individual investments. Reported return expectations vary dramatically: while some impact investors expect to outperform traditional investments, others expect to trade-off financial returns for social impact. Increasingly, entrants to the impact investment market believe they need not sacrifice financial return in exchange for social impact. Indeed, many have a regulated, fiduciary duty to generate risk-adjusted returns that compete with traditional investments.
- **How large is the potential opportunity for investment in this market?**
While we have not endeavored to measure the entire impact investment market, we present a new framework for measuring the potential scale of invested capital and profit. Applying our methodology to selected businesses within five sectors — housing, rural water delivery, maternal health, primary education and financial services — for the portion of the global population earning less than \$3,000 a year, we find that even this -segment of the market offers the potential over the next 10 years for invested capital of \$400bn–\$1 trillion and profit of \$183–\$667bn.
- **What does risk management and social performance monitoring involve?**
Our analysis of impact investment risk management includes components similar to those for venture capital or high yield debt investments (with country and currency risk components for emerging market transactions), with a unique set of complexities arising from social performance measurement and reputational exposure. Measuring and monitoring social performance are essential to track progress toward the intended impact and to manage the reputational exposure, but are challenging and potentially expensive in practice. Market initiatives are in place to build third party systems to facilitate these efforts.

Executive Summary

Investments intended to create positive impact beyond financial return

Impact investments are investments intended to create positive impact beyond financial return. This definition captures the key themes characterizing impact investments as illustrated in Figure 1: impact investments provide capital, expecting financial returns, to businesses (fund managers or companies) designed with the intent to generate positive social and/or environmental impact.

Figure 1: Defining impact investing

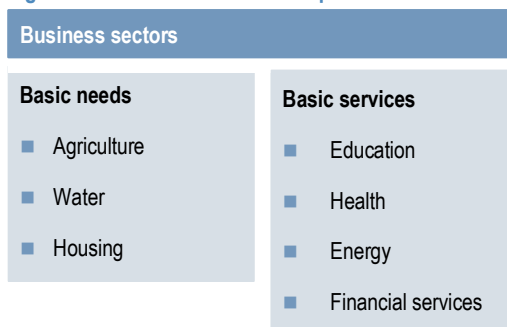


Source: The Rockefeller Foundation, J.P. Morgan.

Investors and investments range broadly, across sectors and objectives

A variety of investor types participate, including development finance institutions, foundations, private wealth managers, commercial banks, pension fund managers, boutique investment funds, companies and community development finance institutions. These investors operate across multiple business sectors, including agriculture, water, housing, education, health, energy and financial services (Figure 2). Their impact objectives can range from mitigating climate change to increasing incomes and assets for poor and vulnerable people. Investments take the form of traditional financial structures, such as debt or equity, or more innovative structures, such as the Social Impact Bond issued in the UK, where returns are linked to metrics of social performance such as reduction in prisoner reoffending rates.

Figure 2: Business sectors for impact investments



Source: IRIS, J.P. Morgan.

First coined by US President Franklin Roosevelt, the phrase “**bottom of the pyramid**” gained its modern usage in a 2004 book by business professor C.K. Prahalad, who described the “*Fortune at the Bottom of the Pyramid*” available to companies that created efficient models to engage poor people as customers and suppliers. Since then, the World Resources Institute has defined the BoP as people earning less than \$3000 per annum per capita (in 2002 PPP).

Impact investments generally target the (broad) base of the economic pyramid

Impact investments generally aim to improve the lives of poor and vulnerable people or to provide environmental benefits at large. In this report, we focus primarily on investments that target the ‘base of the pyramid’ defined by the World Resources Institute as people earning less than \$3000 a year¹. In addition to this established definition of BoP, which applies to emerging markets, there are also people living at the base of economic pyramids in developed countries who may enjoy a higher income but can still benefit from impact investments that expand their access to services and opportunities. We refer to this broader population as the “BoP+”. While many impact investments target BoP+ populations, this report focuses on impact investments benefiting the BoP sub-segment in emerging countries.

Investments generate impact in a variety of ways

Impact investments can deliver positive social outcomes by expanding access to basic services for people in need or through production processes that benefit society. Figure 3 summarizes some of the ways in which business can deliver positive outcomes for BoP+ populations through their method(s) of production such as by providing quality jobs, enhancing energy efficiency, facilitating local asset accumulation and/or purchasing inputs from local or smallholder providers. Other businesses deliver positive social outcomes by providing customers with access to needed and cost effective products or services, including agriculture, water, housing, education, health, energy or financial services.

Figure 3: Ways in which businesses can deliver impact

These means of impact might be part of the impact investment thesis motivating an investor

Means of impact	
<p>Process</p> <ul style="list-style-type: none"> ■ Job creation ■ Energy efficiency ■ Facilitating asset accumulation ■ Utilizing BoP+ suppliers 	<p>Products for BoP+</p> <ul style="list-style-type: none"> ■ Agriculture ■ Water ■ Housing ■ Education ■ Health ■ Energy ■ Financial Services

Source: The Rockefeller Foundation, J.P. Morgan.

Defining an emerging asset class

Over the last two decades, the definition of an asset class has shifted from one based solely on the financial characteristics of a given set of assets to one based on how mainstream institutional investors organize themselves around those assets. The identifying characteristics of an asset class in today's markets include: the demand for professionals with a unique set of investment/risk management skills; structures on the buy side that organize around and allocate capital to these skilled professionals; industry organizations and networks dedicated to the investment class; and the adoption by the investment community of metrics, benchmarks and ratings that standardize performance and risk measurement.

Hedge funds and emerging markets are both relatively recent examples of alternative assets where underlying investments cut across traditional debt and equity products. However, the unique characteristics of the people, processes structures and risks

¹ *The Next 4 Billion*, World Resources Institute and International Finance Corporation, 2007.

involved have resulted in mainstream institutions defining both as separate asset classes within the category of alternative investments. We note that this definition was a key catalyst in driving the institutional growth of these assets over the last 20 years.

We recognize an alternative view that impact investors should seek to assign their investments to traditional asset classes such as equity, debt and cash. We believe, however, that this would lead to a fragmentation of impact investing skills and constrain the industry's potential growth. We argue, therefore, that defining impact investing as an asset class in its own right is consistent with recent history and current practice in the investment industry and is more likely to lead to a rapid growth of assets.

Financial return expectations for a sample of impact investments exhibit high variance

Before identifying the potential market opportunity for investments in businesses serving BoP customers, we analyze a sample of current impact investments across business sectors and impact objectives (i.e. no longer limited to BoP-serving businesses). As the market is primarily private, we obtained the data by surveying a market leading group of impact investors, from which 24 respondents provided data on over 1,100 investments.

Return expectations vary from competitive to concessionary

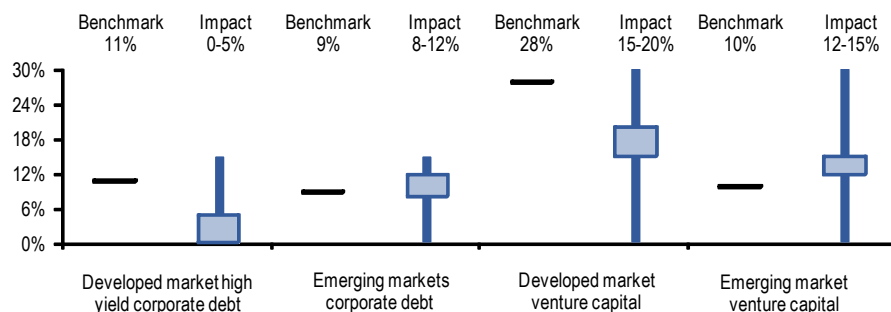
Reported return expectations for impact investments vary dramatically. Figure 4 illustrates the range of expectations with a vertical line, and we see that some investors expect financial returns from their impact investments that would outperform traditional investments in the same category, while others expect to trade-off financial return for social impact. Increasingly, newer entrants to the impact investment market, in particular those focused on BoP consumers in emerging markets, believe that impact investments need not sacrifice competitive financial returns in exchange for social impact. The International Finance Corporation, which makes many impact investments, recently revealed that their emerging market equity portfolio has outperformed traditional emerging market venture capital and private equity benchmarks for investment vintages from 1989 to 2006².

Whether or not there is a return trade-off in impact investing depends on instrument type, investor perceptions, and of course, chosen benchmarks. Developed markets (DM) debt investors appear to expect some return sacrifice. This could be explained in part by regulatory features and, in some developed markets, tax incentives that encourage investment in lower-return social ventures. Emerging markets (EM) debt on the other hand appears to target returns that are competitive with long-term realized index returns. For equity, the results are mixed. If we benchmark against the realized DM and EM index returns, impact investors' targets appear competitive for EM but concessionary for DM. If, on the other hand, we benchmark against the 20-25% gross or 15-20% net returns that our interviews tell us managers raising money in the current environment would target, then there does appear to be a trade-off for EM.

² See Appendix V.

Figure 4: Average return expectations by instrument and region

Horizontal bars: Average realized returns for benchmark and average expected returns for impact investments, gross annual IRR or yield, in USD. Vertical lines: Range of expected returns reported, gross annual IRR or yield, in USD.



Source: GIIN, J.P. Morgan. Survey participants were given a predetermined choice set of return ranges (0–4.9%; 5–7.9%; 8–11.9%; 12–14.9%; 15–19.9%; 20–24.9%; 25%+) which is why the averages are presented in the form of ranges rather than single data points. Benchmark returns are average annual returns for: J.P. Morgan's Developed Markets High Yield index and Corporate Emerging Market Bond ("CEMBI") Index, over the period 2002 – 2010 (our full data history); and Cambridge Associates US Venture Capital Index and Emerging Markets Venture Capital and Private Equity Index, for vintage years over the period 1989 – 2006. Impact investment return expectations are calculated by taking an average of survey responses (each of which represents a range of expected returns for a given investment instrument in a specified region) across the population of reported investments. The number of investors who responded for each instrument, and the number of investments in the sample (respectively) are: Dev mkt HY debt = 9, 219; EM HY debt = 10, 411; Dev mkt venture capital = 6, 91; EM venture capital = 15, 119. Readers should note the low number of Dev mkt venture capital investors represented. Note that the range of expected returns for developed market debt excludes a single investment reported by one respondent with an expected range of returns of 20-24.9%; all other data points fall within the range shown. Both the developed market and emerging market venture capital ranges include investments with expectations of 25%+ return (the range was not specified above that level).

Choice of benchmarks

Benchmarking performance is challenging, and in this case even more so since we are benchmarking return expectations against realized returns. Figure 4 shows the return expectations (average and dispersion) reported for various investment types in our impact investor survey against benchmarks that we believe are appropriate given the risk of the asset class. For debt we believe the indices that best replicate the credit quality of an impact investing portfolio are our US High Yield and Corporate Emerging Market indices. For equity we recognise the early stage nature and relatively small investment sizes of impact investments and have chosen Cambridge Associates US Venture Capital Index and Emerging Markets Venture Capital and Private Equity Index³ for vintage years 1989 through 2006. Vintage years post 2006 have been excluded as there are too small a number of harvested investments to make the data meaningful.

In order to make a meaningful comparison of backward looking (realized) and forward looking (expected) returns, we use a through-the-cycle approach in choosing our time period of benchmarks, which results in the data shown above. The choice of time frame results in moderate variations for the debt returns (if we focus on the past five, rather than eight-plus years, both benchmarks would drop by 200 basis points), but has a significant impact on the resultant venture capital or equity returns. Narrowing our time frame to the years post the dot-com bubble (1999 – 2006 vintages) for example results in a return of only 0.2% in US venture capital against a

³ Cambridge Associates US Venture Capital Index and Benchmark Statistics, and Cambridge Associates Global (Ex. U.S.) Venture Capital & Private Equity Index and Benchmark Statistics, as of June 30, 2010. Reports were provided directly to J.P. Morgan by Cambridge Associates free of charge.

return of over 14% in emerging markets. Additional five- and 10-year VC returns data are shown in Table 28 in *Appendix V*.

We also note that the average realized returns of the investment management community almost always lag the expected, forecast or projected returns when the investment is being made. We have no reason to suppose that the impact investing community will be any different. Our own anecdotal experience and interviews with fund of fund and alternative investment managers suggest that mainstream PE/VC managers in both the developed and emerging markets target net returns in the range of 15–20%, and gross returns of 20–25%.

Selected data show realized returns on debt broadly reflect the range of expectations
Most of the realized data we received pertain to debt investments. We caution that all of this data was provided by two respondents. The data show that EM debt provides higher yields than DM debt, as one would expect. The realized returns for EM debt are in line with expected returns while the DM debt realizations appear to outperform average expectations.

In our definition of what constitutes an impact investment, we include investments that serve or employ the **BoP+**. In order to make this particular research work tractable, however, we have limited our scope to the impact investment opportunities within five sectors serving the WRI-defined **BoP**.

The market opportunity for investment is vast

As noted in the introduction, our estimate of market size is only partial, yet still produces compelling results. While the market of impact investments will serve the BoP+, we have attempted only to size the BoP sub-segment in emerging markets and only for selected sub-sectors where data and case studies were readily available. We further narrow our focus to companies that provide products or services to BoP customers (the right hand side of Figure 3), excluding, for example, impact investments that might finance BoP suppliers or small enterprises. In each sector, we determine the amount of invested capital that would be required to fund such businesses, and the profit that could be made, over the next ten years, summarized in Table 1. In aggregate, across five sub-sectors, we estimate a potential over the next ten years of profit ranging from \$183bn to \$667bn and invested capital ranging from \$400bn to nearly \$1 trillion.

Our methodology begins by looking at case studies in each of our covered sectors that illustrate the use of innovative business models to address the BoP consumer base. Each case study provides an estimate of the price of providing the goods or services and we use data from the World Resources Institute to estimate the number of BoP consumers to whom that price is affordable. From this we calculate the potential revenues, and with an assumption on average operating margins in that sector we can arrive at potential profits. We then make assumptions about the required capital necessary to support a business of that size.

We recognize that in sizing each sector we make several assumptions, each of which can and will be challenged. We hope, however, that the basic framework which estimates the size of the impact investing market by looking at the potential for affordable goods and services provided through innovative business models to BoP customers can serve as a useful methodology for further research and more refined estimates of the market size. We describe our market sizing framework and outcomes further in *Section 4. The potential BoP market opportunity*.

Sizing methodology, in summary

The methodology we employ to produce the headline numbers in Table 1 combines the analysis of a successful impact investment business model in each sector with an analysis of the potential customer base for such a business were it to be scaled up and transferred across regions. We use the economics of our case study in each sector to ensure that the products sold are affordable to our target population (the BoP) and to ensure that the business is operationally profitable.

Table 1: Potential invested capital to fund selected BoP businesses over the next 10 years

\$ bn		
Sector	Potential invested capital required, USD bn	Potential profit opportunity, USD bn
Housing: Affordable urban housing	\$214–\$786	\$177–\$648
Water: Clean water for rural communities	\$5.4–\$13	\$2.9–\$7
Health: Maternal health	\$0.4–\$2	\$0.1–\$1
Education: Primary education	\$4.8–\$10	\$2.6–\$11
Financial Services: Microfinance	\$176	Not measured

Source: J.P. Morgan.

Why the BoP opportunity exists

Markets at the base of the economic pyramid are typically under-served by traditional business, which may exclude this population from being considered part of its potential customer base. BoP populations are also often unable to access services provided by the government. Academic research has shown that the BoP population will often manage its finances to buy affordable products or services improving their productivity and reliability of income⁴. It is a market introducing operational challenges to otherwise proven business models requiring innovative approaches to accommodate what can be unreliable income streams or to deliver services to remote rural areas. While government or philanthropic solutions will sometimes provide these products or services (such as healthcare or education), impact investment can complement government and philanthropic capital to reach more people.

Managing impact investments

The risks for impact investments are similar to those for venture capital or high yield debt investments, with heightened reputational and legal risks, particularly in emerging markets where regulatory infrastructure can be onerous and the rule of law is less well defined. Further, critics may argue that impact investments exploit poor people for the sake of profits. Indeed, exploitation and mission drift are risks that are amplified when poor populations are concerned, but we believe the potential of impact investing to create a pathway out of poverty, combined with the emergence of systems to track and manage social performance, outweigh these risks. Investors need to be vigilant to ensure that the social impact and outcomes are delivered by monitoring social performance.

In practice, measuring social performance is complicated, expensive and can be subjective, so impact investors have supported the development of standard reporting and social measurement frameworks. The Impact Reporting and Investment Standards (“IRIS”) provides a taxonomy to standardize social impact reporting and facilitate the creation of industry benchmarks. The Global Impact Investing Rating System (“GIIRS”) will utilize IRIS definitions and additional data to assign relative value to investments’ social performance, helping to inform investment decisions and potentially lower diligence costs by collating standardized information on investments.

⁴ *Portfolios of the Poor*, D Collins et al, Princeton University Press, 2009.

1. The current market landscape

For several years, momentum has been building among select private investors to focus on a new type of asset: impact investments – investments intended to create positive impact beyond financial return. These “impact investors” have been motivated by the view that their invested capital can be utilized to generate positive social and/or environmental change, and until recently have mostly been operating independently from mainstream financial markets in doing so. In recent years, participants in the impact investing market have recognized the common threads across their respective activities and a larger movement has begun to emerge. As this movement gathers steam, we recognize the potential for impact investments to attract a larger portion of mainstream private capital and anticipate that more investors will seek to generate positive social and/or environmental impact when making investment decisions. In fact, we believe that impact investing will reveal itself to be one of the most powerful changes within the asset management industry in the years to come.

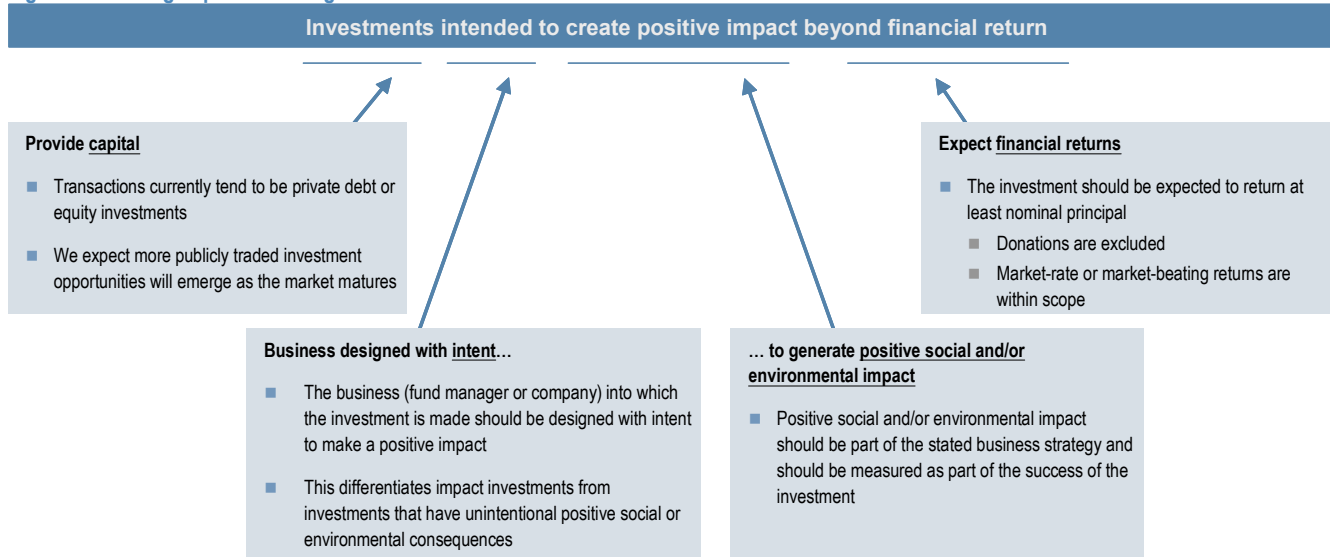
Part of the reason that impact investing is such an innovative concept is that it defies the traditionally binary nature of capital allocation. By convention, capital has traditionally been allocated either to investments designed to optimize risk-adjusted financial return (with no deliberate consideration of social outcomes), or to donations designed to optimize social impact (with no expectation of financial return). Recognizing that charitable donations will never reach the scale needed to address the world's problems, and that business principles and practices can unleash creativity and scale in delivering basic services and addressing environmental challenges, impact investment introduces a new type of capital merging the motivations of traditional investments and donations.

In this section, we provide a definition of impact investments and characterize the market participants, industry associations, and the nature of the investments themselves, including the sectors and geographies in which they are made.

Identifying impact investments

Impact investments are investments intended to create positive impact beyond financial return. Figure 5 illustrates the components of this definition in summary, and we describe each aspect in more detail below.

Figure 5: Defining impact investing



Source: The Rockefeller Foundation, J.P. Morgan.

Impact investments provide capital to...

In the current market, many impact investments will take the form of private equity or debt investments, while other instruments can include guarantees or deposits. Publicly listed impact investments also exist, though they are a much smaller proportion of the transactions being made today. Most of the activity in public equities that includes a social or environmental motivation takes the form of socially responsible investment, in which investors seek to minimize negative impact rather than proactively create positive impact. Indeed, only one out of 1,105 investments reported in our survey was listed as a public transaction (see *Section 3. Financial return expectations* for more details). We do expect greater numbers of publicly listed impact investments to emerge as the market matures.

...a business designed with intent to generate positive social and/or environmental impact...

The model of the business (which could be a fund management firm or a company) into which the investment is made should be designed with the intent to make a positive social or environmental impact, and this should be explicitly specified in company documents. For many impact investments, the intended impact is likely to be focused on underserved populations, though environmental initiatives may be intended to impact a broader population. The impact is likely to be delivered through the business operations and processes employed, the products or services produced and/or the target population served. The business should also have a system in place to measure its impact.

...and expect financial returns

Key to the success of impact investments is the fact that they are investments expected to generate a financial return. This aim should co-exist with the intent toward positive impact, though one or the other may be the primary focus for a given investor. In fact, the pairing of these two motivations by investors will hopefully encourage businesses to develop in financially sustainable ways, thus facilitating the growth of the impact delivered by those businesses.

Investors: Market participants and infrastructure

Impact investing may be new terminology, but it is not a new concept

The term “impact investing” may be new, but the practice of investing in businesses that provide solutions to social challenges has been around for quite some time. The Commonwealth Development Corporation in the UK, established in 1948⁵, invests in a commercially sustainable manner in the poorer countries of the developing world and to attract other investors by demonstrating success. Similarly, the International Finance Corporation was created in 1956 to foster private sector investment in emerging nations.

Private capital has also been deployed, with a focus on generating non-financial impact, for decades. The parent organization of Sarona Asset Management, for example, has been making socially- and environmentally-driven investments since 1953. Prudential⁶ also has a long tradition of making investments that support and improve communities, having established a formal Social Investments program in 1976 and invested more than \$1bn since then. While they may not have been identified historically as “impact investors”, their intent was consistent with the definition.

A variety of investor types participate

Impact investors vary widely in character – from individuals to institutions across sectors. Some of the investors currently making impact investments include:

- **Development finance institutions (“DFIs”)** were initially capitalized by governments to complement donor aid, and many now sustain their operations from earned income. These include the multi-lateral International Finance Corporation (“IFC”), regional banks such as the European Bank for Reconstruction and Development (“EBRD”) and investment organizations such as the US Overseas Private Investment Corporation (“OPIC”) and the Commonwealth Development Corporation (“CDC”) in the UK.
- **Private foundations** such as Omidyar Network in the US and the Esmée Fairbairn Foundation in the UK consider impact investing as a means to deploy their endowment assets toward their social mission. A larger number of foundations makes program-related investments (PRIs) from the grantmaking (rather than endowment) side of operations.
- **Large-scale financial institutions** such as J.P. Morgan, Citigroup, Prudential and Africa’s Standard Bank are positioning themselves to grow impact investing businesses beyond their minimal regulatory obligations.

⁵ Established as the Colonial Development Corporation

⁶ We reference The Prudential Insurance Company of America, not Prudential PLC.

- **Private wealth managers** such as Capricorn Investment Group and New Island Capital in the US are integrating impact investments into their traditional asset management portfolios.
- **Commercial banks** such as Triodos Bank in Europe and Charity Bank in the UK tap into retail customer interest in impact investment and lend to charities.
- **Retirement fund managers** such as PGGM in Holland and TIAA-CREF in the US are responding to demand for impact investments rather than simply socially-responsible investments that “do no harm.”
- **Boutique investment funds** such as responsAbility in Switzerland and Root Capital in the US are raising capital from a growing class of high-net worth individuals, family offices and private foundations seeking fund managers who can offer high-impact, low-risk investment options.
- **Companies** such as General Mills and the Starbucks are diversifying their supply chains and expanding their fair trade operations through impact investment. French food company Danone is teaming with Grameen to address malnutrition. Others are using impact investments to identify the potential for serving new markets.
- **Community development finance institutions (“CDFIs”)** in the U.S. such as the rural-focused Southern Bancorp and New York-based Carver Federal Savings Bank. In *Appendix III: CDFIs*, we present a short history of this segment of the investor base.

While some of these investors are more recent entrants to the market, others have been making impact investments for some time, including DFIs, which have been operating for over sixty years. Historically, many of these investors operated independently or partnered within one geographical region. More recently, disparate sectoral or regional initiatives are coming together to build a cross-sector, global impact investing marketplace.

Recognizing the need for a global, cross-sector impact investment infrastructure

As different investors develop their impact investment portfolios, similarities emerge between their investment activities. Ten years ago the Social Investment Task Force was set up in the UK to define “how entrepreneurial practices could be applied to obtain higher social and financial returns from social investment”⁷. In October 2007, The Rockefeller Foundation hosted an international meeting of approximately 15 impact investors to discuss the similar investment approaches and challenges shared by the group. A broader meeting in June 2008 brought 40 impact investors together to discuss how they could work together to accelerate the development of the impact investment industry. The investors at this meeting found that their common challenges included: deal sourcing, impact measurement, and the lack of a common language to describe their investment activities and performance targets. They also highlighted the need for an organized network to advance their shared interest in using for-profit investments to fund social solutions.

In essence, these investors envisioned a well-developed impact investing marketplace that functioned like the traditional capital markets. They sought a marketplace in which investment opportunities are transparent; performance data is accessible,

In January 2009, the Monitor Institute published **Investing for Social and Environmental Impact: A Design for Catalyzing an Emerging Industry**, a report that documented the activities and challenges faced by these early impact investors. This report made recommendations for the development of critical industry infrastructure, without which impact investing would at best remain a small niche subset of private investing with disparate participants, and at worst taper out entirely in the face of the global economic downturn.

⁷ “Social Investment Ten Years On - Final Report of the Social Investment Task Force,” April 2010.

credible, and comparable; investors can access ratings agencies, syndicators, clearinghouses, auditors and other necessary market intermediaries; and co-investors are easily identified. Having acknowledged these needs, the group set out to seed the organizations that would accelerate the development of this newly-dubbed impact investing industry. In addition to serving their own needs, these investors also hoped that helping to build an effective impact investment infrastructure would attract new investors by reducing deal sourcing and transaction costs and providing examples of efficient impact investments.

The Global Impact Investing Network is established to build market infrastructure
In September 2009, J.P. Morgan, Rockefeller Foundation, and the United States Agency for International Development (“USAID”) launched the Global Impact Investing Network (“the GIIN”) to accelerate the development of an effective impact investing industry. The GIIN was tasked to develop the critical infrastructure, activities, education, and research that would increase the scale and effectiveness of impact investing. The GIIN’s work is rooted in the needs identified by early impact investors and currently consists of four main efforts that mobilize hundreds of investors and other industry participants.

- **Investors’ Council:** The GIIN Investors’ Council is a membership group comprised of leading impact investors representing a diverse range of institutions from around the world. The Investors’ Council provides leadership in the industry, facilitates shared learning and collaboration, serves as a platform for disseminating the latest research and best practice, and supports the creation and adoption of industry infrastructure, including impact metrics.
- **IRIS:** Impact Reporting and Investment Standards (“IRIS”)⁸ is a language and framework for measuring the social performance of impact investments. IRIS addresses a major barrier to the growth of the impact investing industry—the lack of comparability and credibility regarding how funds define, track, and report on the social performance of their investments. IRIS provides a standardized approach with the aim to lower transaction costs and improve investors’ ability to understand the impact of the investments they make.
- **Outreach:** The GIIN Outreach initiative elevates the profile of impact investing by highlighting exemplary impact investments, industry progress, and best practices. Working with partners, the GIIN also supports and disseminates research, informs conference and event programming, and promotes mainstream media coverage of impact investing.
- **ImpactBase:** ImpactBase⁹ is a global database of impact investment funds, searchable via an online platform. ImpactBase is an online search tool, created to bring order to a fragmented and inefficient marketplace of impact investing funds. On ImpactBase, fund managers can create profiles for their funds visible to a global set of mission-aligned investors. Investors and advisors can search these fund profiles to find investments that may fit with their impact investment objectives. ImpactBase is currently in beta and should be fully functional by December 2010.

⁸ <http://iris.thegiin.org>

⁹ www.impactbase.org

Ratings system, social stock exchanges, trading platforms and advisory firms

Around the same time that the GIIIN was launched, the development of a rating system for impact investments called the Global Impact Investing Rating System (“GIIRS”) was initiated. Related industry services such as impact investment stock exchanges, online trading platforms, and advisory firms are also in early development stages. Most of this growth is possible because increased interest in the market and the developments in the broader economy have led more professionals to pursue careers in impact investing, including experienced investors and entrepreneurs starting businesses that play an important role in the impact investment ecosystem.

Investment opportunities are growing

One of the challenges in making impact investments is sourcing transactions. Many impact investment recipients are small companies and the majority of deal sizes we analyzed from our investor survey are less than \$1m¹⁰. Particularly for investors based in different regions, the costs of due diligence on these investments can often challenge the economics of making such small investments. While demand has been growing from investors, there has been growth in the supply of social businesses able to receive the capital currently waiting to be allocated into impact investments.

Investments: Business sectors, impact objectives, investment structures and geography

An investor who begins to analyze impact investments will immediately notice that the opportunities for investment span a wide range of sectors, impact objectives and geographical regions. In order to manage the investment portfolio, some investors will limit their scope to certain sectors, objectives, structures or regions. In this section, we lay out a framework that describes how some impact investors think about constructing a portfolio of impact investments.

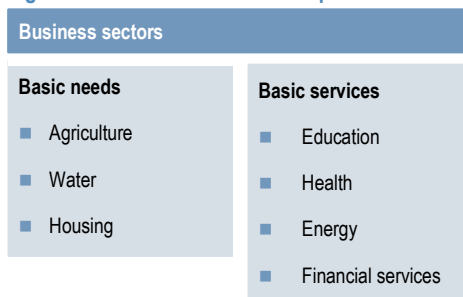
A two-dimensional sector framework

The set of impact investments is unique in that there are two dimensions that can characterize each underlying investment: each investment will operate in a certain business sector (e.g. healthcare, education, housing – see Figure 6), and it will be designed with the intent to address one or more impact objectives (e.g. mitigate climate change, improve basic welfare for people in need). In some cases, an investor’s impact objective (i.e. improving health outcomes) may be tightly correlated with the business sector (i.e. health services) where it operates. In other cases, the relationship between sector and impact objective might be more complicated. For example, an investor whose impact objective is to help BoP populations build income and assets may invest in a financial services company that allows entrepreneurs to start a business, or in a health services company that generates jobs and income in the community where it operates.

This two-dimensional characterization is meant to describe the landscape of business sectors and potential impact objectives, but it is neither exhaustive nor exclusive. Nor will an investment necessarily fall into only one category within the business sectors or impact objectives. The impact objectives of an investment in Selco Solar in India, which sells solar home systems to provide energy access for people without access to electrical grids, would incorporate climate change mitigation with improving basic welfare for people in need, for example.

¹⁰ See Section 3. *Financial return expectations* for more details.

Figure 6: Business sectors for impact investments



Source: IRIS, J.P. Morgan.

Investors often choose a business sector or an impact objective as primary focus

An impact investor might approach investment decisions by first choosing a business sector or by first identifying an impact objective. Yara, a global fertilizer company based in Norway, invests along the agricultural value chain to leverage its existing core competency, generating impact through agricultural productivity, food security and reduced emissions from the production of fertilizers. A foundation dedicated to mitigating climate change might use this impact objective as its primary investment criterion, making cross-business sector investments in renewable energy, green real estate or sustainable agriculture. We list the full categorization of social and environmental impact objectives in Table 2, as outlined by the IRIS¹¹.

Table 2: Breaking out impact objectives in more detail

Increase incomes and assets for the poor (from IRIS's social impact objectives)	Improve basic welfare for people in need (from IRIS's social impact objectives)	Mitigate climate change (from IRIS's environmental impact objectives)
Employment generation	Conflict resolution	Biodiversity conservation
Access to energy	Disease-specific prevention and mitigation	Energy and fuel efficiency
Access to financial services	Access to clean water	Natural resources conservation
Access to education	Affordable housing	Pollution prevention and waste management
Income/productivity growth	Food security	Sustainable energy
Agricultural productivity	Generate funds for charitable giving	Sustainable land use
Capacity-building	Health improvement	Water resources management
Community development	Equality and empowerment	

Source: IRIS. As defined at iris.thegiin.org.

Impact can be delivered through processes or products

Businesses can pursue the objectives above by many means, and investors can reference these means of impact in designing an investment thesis. In Figure 7, we outline some examples of ways in which companies deliver social impact, which we categorize into processes or products. Within processes, for example, a company might make part of its mission hiring employees from a traditionally underrepresented group, or employing people that had previously been unemployed. Alternatively, a coffee processor might source its cocoa beans specifically from BoP suppliers, with the intent that engaging them in a production supply chain will improve their incomes (or stability of income). Within products, a company producing solar lamps, for example, might deliver its social impact by providing affordable access to light for people who currently lack access to electricity grids. Targeting BoP consumers can be considered an implicit part of the products method of impact.

¹¹ These impact objectives reference over 400 indicators of impact.

Figure 7: Ways in which businesses can deliver impact

These means of impact might be part of the impact investment thesis motivating an investor

Means of impact	
Process <ul style="list-style-type: none"> ■ Job creation ■ Energy efficiency ■ Facilitating asset accumulation ■ Utilizing BoP+ suppliers 	Products for BoP+ <ul style="list-style-type: none"> ■ Agriculture ■ Water ■ Housing ■ Education ■ Health ■ Energy ■ Financial Services

Source: The Rockefeller Foundation, J.P. Morgan.

As with the impact objectives above, the means by which a company delivers social impact can often fall into more than one category (and the categories listed are not necessarily exhaustive). There may also be categories that emerge as the industry develops. We present this framework as a classification to help investors structure their investment theses, rather than as a rigid framework that exhausts all possibilities¹².

Some sectors are more developed than others

The financial services and the clean tech and energy sectors are two of the more developed impact investing sectors, with businesses across regions focusing on microfinance and renewable energy delivery. The housing sector has seen significant investment in developed markets, and the fair trade categorization has led to increased investment in agricultural BoP supply chains. Education and water are two sectors where government provision can be more extensive, leaving less of a need for impact investments. We provide a full discussion of sectors on page 18.

More recent entrants often start investing in the more developed sectors

While there are investors that have been making impact investments for some time, a new set of market participants has recently entered the sector, spurring growth momentum for the sector as a whole. For those investors that are just beginning to make impact investments, certain sectors of impact investing – such as microfinance – have provided a launching pad to then explore other impact investment sectors. For example, after successfully closing two microfinance funds totaling more than \$300m, SNS Asset Management, a Dutch asset manager, is now raising funds to invest in agriculture in Africa. Similarly, Gray Ghost Ventures, an investment firm, began by investing in microfinance in 2003. The firm now has funds dedicated to education and technology that serve people with limited access to both.

Investment structures

Impact investments take many forms, including structures that are common in traditional financial markets. Equity and debt, guarantees and deposits are all examples of commonly used investment structures. Some more innovative investment structures have also been devised, including bonds that employ equity-like features that allow the investor to benefit from financial profits or even, in the case of the UK’s Social Impact Bonds¹³, from successful social impact. The Social Impact Bonds, structured by the UK-based investment organization Social Finance, employ government commitments to use a portion of the savings that result from improved social outcomes to reward non-government investors that fund the intervention activities. The existence of such innovative structures allows investors with different (social and/or financial) return and risk appetites to invest via the vehicles that best align with their goals.

¹² For further reading on designing a social investment thesis, see *Solutions for Impact Investors: From Strategy to Implementation*, Rockefeller Philanthropy Advisors, February 2010.

¹³ See Social Finance website for more details: www.socialfinance.org.uk

Geographical distribution of impact investments

Many impact investors choose to focus on either the emerging markets or the developed markets. Part of the reason for this specialization is that there are significant regional differences that require local expertise. Another driver of investors' geographical specialization is their value set: some prefer to help the world's poorest in emerging market economies; others prioritize their local neighbours in need. Below, we give some examples of the variety of geographies in which market participants operate.

Developing world: Asia, Africa, and Latin America

Within the developing world, impact investors will often focus particular efforts on particular regions and sectors. Gatsby Charitable Trust and the Bill & Melinda Gates Foundation use some of their investment capital to positively impact the lives of smallholder farmers in sub-Saharan Africa. Gray Ghost Ventures, Acumen Fund, and Omidyar Network all have programs that actively invest in alleviating poverty by financing innovations directed at India's low-income populations.

Developed markets: North America and Europe

Within the developed markets, we see similar regional specialization. For example, W.K. Kellogg and Annie E. Casey Foundations support community development finance institutions in specific regions of the US that are important to them: W.K. Kellogg focuses on areas including Detroit, MI and Oakland, CA while the Annie E. Casey Foundation invests in Baltimore, MD and San Antonio, TX, among other communities. Among the European investors, Social Finance and Bridges Ventures target UK markets, while Triodos Bank makes investments in mission-driven businesses in several European countries.

Approaches to impact investing: Financial vs. social investment thesis

Impact investors enter the market with a variety of priorities

Because impact investing is still a relatively nascent industry and most impact investments are made in private markets, there is yet to be significant comprehensive data analysis on investment performance. As a result, investors enter this market with a wide variety of expectations. In this section, we highlight the range of expectations with which investors approach impact investments, for financial returns, social impact and risk.

Financial expectations

For some investors, financial returns should compete with traditional investment

Some impact investors, such as pension fund managers, are constrained by a fiduciary duty to the clients whose money they manage. These investors will have to prioritize the pursuit of a competitive financial return. TIAA-CREF, a retirement fund manager, must seek to attain competitive returns and therefore make investments – such as sustainable real estate and cash deposits in CDFIs – in which they can both achieve social goals and earn risk-adjusted returns competitive with traditional investments. Foundations making impact investments from their endowments, such as the Kellogg Foundation and the Annie E. Casey Foundation, also seek competitive risk-adjusted rates of returns.

Foundations' social duty demands high social impact

By contrast, many foundations, including the Esmée Fairbairn Foundation, the Rockefeller Foundation and the Bill & Melinda Gates Foundation, making program-related investments (PRIs) primarily to advance a social goal. As a result of prioritizing the social impact over the financial return, these investments can acceptably deliver less competitive rates of financial return. Many private foundations in the US qualify their impact investments under the Program Related Investments section of the US tax code, which requires an investment to prioritize social impact rather than financial return.

Social impact expectations

Investors' expectations are largely anecdotal

By definition, impact investors finance businesses that generate positive social impact alongside financial returns; therefore, investments that simply avoid negative social consequences will not deliver sufficient impact to meet investors' expectations. Generally speaking, however, expectations of social impact are largely anecdotal. Without standards and benchmarks for non-financial performance, investors must rely on their own judgement and proprietary systems to assess whether an impact investment is making progress toward social goals. Indeed, only 2% of surveyed impact investors reported using a third party impact measurement system – the rest use either their own proprietary system or the one used by the company in which they invest¹⁴. Similarly, without average performance benchmarks, investors are limited in their ability to understand how the social performance of their investments compares to those made by other investors.

Comparable data will be available only once standard impact metrics are employed

Because most impact investors use proprietary impact measurement systems, there is little consistent quantitative data about the social impact actually achieved by impact investments made to date. Many investors have recognized the limitations of so many bespoke approaches and are actively working to build and contribute data to standardized frameworks. Rigorously assessing progress toward social impact expectations will only be possible once standard social metrics are adopted.

Risk appetite

Given the variety of financial return and social impact expectations, it is unsurprising that risk appetite can also vary. Most impact investing is done in private markets, typically through private equity or debt instruments, and guarantees. The businesses themselves are often small-scale and may operate in emerging countries where political and country risks add to the risks of the company's standalone success. While investors must approach these investments with a commensurate risk appetite, there are opportunities to make impact investments with lower risk profiles as well. Since its inception in 2002, the UK's Charity Bank has earned steady returns of about 6% from lending to charities and social enterprises with realized losses of only 0.3% of their loan portfolio¹⁵. Notwithstanding recent turmoil in India's microfinance market, empirical evidence suggests that microfinance institutions in some regions have been more resilient than other financial institutions in recessionary environments¹⁶. Clearly, the risk of an impact investment will be particular to the

¹⁴ See Section 3. *Financial return expectations* for more details.

¹⁵ Charity Bank 2009 Annual Report and interviews.

¹⁶ *Microfinance: Shedding Light on Microfinance Equity Valuation Past and Present*, J.P. Morgan and CGAP, February 3, 2009.

investment, including its stage, sector and geography, and any investor will need to assess these risks accordingly. We discuss the risk management of impact investments in more detail in *Appendix I: Managing impact investments*.

Across investors and instruments, a vast range of opportunity

Having characterized the current landscape of impact investments, we see that the set of impact investments spans a broad range of sectors and regions. In a later section, we focus on those investments that deliver products or services to BoP consumers to estimate the size of specific segments of the market.

2. Impact investments: An emerging asset class

Impact investments have begun to carve out a niche within the investment portfolios of a wide range of investor types, but does that make them an asset class? We believe it does based on an understanding of how the term “asset class” has come to be used. We also argue that defining impact investments as an asset class within the alternative investments space is most likely to lead to the growth of assets, as observed in the cases of hedge funds, private equity and commodities. Recognizing impact investment as an asset class will enable asset managers and investors to develop unique skills to make and manage impact investments, organize around the opportunity and develop standards and benchmarks to improve performance.

What makes an asset class?

CFA definition of an asset class and its limitations

Before we can address whether impact investments comprise an asset class, we must define an asset class in general. The CFA Institute uses a definition that references financial characteristics for a given set of assets¹⁷. An asset class will typically:

- Include a relatively homogeneous set of assets
- Be mutually exclusive
- Be diversifying
- As a group, make up a preponderance of worldwide investable wealth
- Have the capacity to absorb a significant fraction of an investor’s portfolio without seriously affecting the portfolio’s liquidity

The CFA definition provides a good starting point for identifying why stocks and bonds can be considered separate asset classes. However, there are several groups of assets that are commonly referred to as asset classes that fail to meet the basic criteria of this definition. Hedge funds, for example, are commonly referenced as an asset class, but they constitute a group of investments that can range in character, from fixed-income arbitrage to event-driven (single-stock) strategies. As such, hedge funds are not homogeneous, nor would they be likely to exhibit low correlations to the other asset classes (given they invest in them). Even though one would hesitate to call hedge funds an asset class by the CFA definition, hedge funds are widely *considered to be* an asset class. The same could be said for emerging markets or commodities, both groups of assets for which the CFA definition would be difficult to apply, particularly the homogeneity criterion. In fact, in our view, the perception of being an asset class is as powerful as complying with the definition above, since this perception is sufficient to drive capital flows into the sector.

Our indicators of an asset class

The indicators of an asset class become particularly useful for investments that have yet to establish a significant history of financial data, such as impact investments. In our view, an asset class requires the following:

¹⁷ Capital Market Expectations, Market Valuation, and Asset Allocation. CFA Program Curriculum Volume 3, Level III. W Sharpe et al., 2011.

- **Unique set of investment/risk management skills**
 - A growing number of professionals will define themselves by their expertise in the sector
- **Organizational structures to accommodate this skillset**
 - Sell-side experts in the sector will build space for themselves within organizational structures of their businesses
 - Buy-side organizations will begin to allocate capital and hire investment specialists in the sector
- **Industry organizations, associations and education**
 - Networks, conferences, education and resources will be built to address the new group of experts in the field
- **Development of standardized metrics, benchmarks, and/or ratings**
 - Risk and return reporting will begin to standardize
 - Indices will be created to monitor and benchmark the performance of the sector
 - Ratings may be developed to help investors find relative value between investment prospects

These indicators emerged for hedge funds, emerging markets, commodities and even structured credit, all of which are groups of alternative assets that channel significant amounts of capital. Impact investments are also showing each of these signs of being a burgeoning asset class, as we evidence below.

What makes impact investments an asset class

Impact investments have begun to carve out a niche within the investment portfolios of a wide range of investor types, but does that make them an asset class? We believe it does, based on our definition above. We also argue that defining impact investing as an asset class within the alternative investments space is most likely to lead to the growth of assets, as observed in the cases of hedge funds, private equity and commodities. Below, we illustrate how each of the indicators of an asset class is visible in today's impact investment market.

Indicator #1: Require a different set of investment/risk management skills

Just as impact investments combine financial and social aims, the impact investor must be skilled in both investment management and the management of socially/environmentally-driven endeavors. Initial participants in the market often came from either a financial background or a non-profit/grant-making background, and would often possess only one of the two requisite skillsets as a result. Today, however, impact investing is emerging as a unique discipline as market participants build the complementary skillsets to their existing experience. Impact investors are beginning to self-identify (including through the Global Impact Investing Network's Investors' Council), and a clear understanding is emerging about the unique expertise and professional practice that impact investment involves.

Beyond the financial, social and environmental skills, further skills required for making impact investments will include:

Structuring complexity

Impact investments access a diverse range of capital sources, each of which will be accompanied by relatively complex (and often obscure) portfolio targets balancing

return expectations, risk appetite and impact goals. These sources can include local, regional and multilateral government-sponsored development finance institutions, institutional-scale private foundation investment programs, angel investment capital¹⁸ and impact investment funds. Successful impact investors will know how to navigate these capital sources, partnering with investors whose different risk/return appetites allow structured transactions that can incorporate mezzanine finance, concessionary capital¹⁹ or subordination for their own investments.

Political insight

The best impact investors will have a deep understanding of the social and political dynamics that will influence investment outcomes, especially for investments into companies that provide basic goods and services to underserved market segments. They must manage the emotionally and politically charged dynamics of applying for-profit business models to communities in need, as some opponents will brand it: “profiting from the poor”. Mishandling these dynamics can have dire consequences, such as inhibiting exit from investments, eroding the social impact if consumers boycott the products/services sold, inducing restrictive government action, or tarnishing the reputation of the investor in the region.

Collaboration

Impact investors draw on strong personal relationships and institutional affinity with each other in the full range of investment activity (from deal sourcing, due diligence, investment structuring, syndication and post-investment management), for several reasons that are both structural and transitional:

- Impact investing is new and poised to grow substantially. For many investors, this growth is expected to more than offset any loss of market share and therefore facilitates collaboration.
- Transaction costs will be high until the infrastructure that supports investors – e.g., deal clearing mechanisms, benchmarking data, and investment banking services – is built. Until then, impact investors mitigate these operating costs through formal or informal collaboration.

Indicator #2: Demand organizational structures to accommodate this skillset

Impact investing emerged from the entrepreneurial initiatives of professionals integrating the investment discipline traditionally housed in financial services firms with the social-welfare focus traditionally housed in foundations and development agencies. While these individuals began impact investing part-time within a broader and more traditional professional practice, they are increasingly organizing into distinct structures that enable the dedicated attention to and cultivation of impact investing.

New business units: Initiatives within organizations

Some impact investors have created organizational structures within established institutions. Some examples of such commercial business units include J.P. Morgan Social Finance (2007)²⁰, TIAA-CREF Social and Community Investing (2006)²¹, and

¹⁸ Angel capital refers to financing from individuals in exchange for equity or convertible debt. Angel investors operate like a venture capital partner in the company, but typically service financing requests of a smaller size than venture capital firms tend to consider.

¹⁹ Below market-rate financing.

²⁰ <http://www.jpmorgan.com/pages/jpmorgan/investbk/solutions/ssf>

Citi Microfinance (2005), which initially focused on microfinance before expanding their coverage to the broader impact investing universe. Prudential Social Investments began its formal program of community investing as far back as 1976²².

Among private foundations, especially in the US, distinct units have been created to manage impact investments, typically with investment professionals reporting to a unique governance structure that combines program-focused and investment-focused management and trustees. Examples include the Annie E. Casey Foundation's \$125m allocation to impact investing out of its endowment (begun at smaller scale in 2004)²³, the Kellogg Foundation's \$100m Mission Driven Investment program (2007)²⁴, and the Bill & Melinda Gates Foundation's commitment of \$400m to program-related investments and loan guarantees (2009)²⁵. The Esmée Fairburn Foundation has been a pioneer in the UK by dedicating a portion of its investment program to impact investments.

New businesses: Stand-alone impact investing initiatives

New enterprises focusing entirely on impact investments are increasingly common. This is noteworthy, as these organizations will be protected from the constraints that can come with operating within an organization that primarily focuses on either financial or social value creation, but not both. Early leaders have scaled their impact investing operations from a base of microfinance services, including BlueOrchard²⁶, ResponsAbility Social Investments²⁷, Calvert Foundation²⁸ and Developing World Markets²⁹. Some such as Bridges Ventures in the UK have always focused on a broader range of investments. Additionally, new impact investment advisory boutiques are bringing dedicated expertise together, including Lion's Head Global Partners and Social Finance in the UK, Intellectap and Yes Bank in India, Bamboo Finance in Switzerland³⁰ and Imprint Capital in the US.

Indicator #3: Be serviced by industry organizations, associations and education

In response to the increasing organization of the professional discipline of impact investing, networks and conferences are emerging that support impact investors. We detail some of the leading initiatives below.

Networks: GIIN, IAMFI

The Global Impact Investing Network was launched in 2009 as a non-profit organization to support the building of infrastructure that would facilitate the growth of the asset class. Its Investors' Council provides a forum in which leading asset owners and fund managers can share learning and collaborate with 32 members, including boutique impact investors, foundations with impact investment units, family offices with substantial allocations to impact investment, impact investing units of financial services companies, and targeted impact investments funds.

²¹ http://www.tiaa-cref.org/public/about/press/about_us/releases/pressrelease177.html

²² <http://www.prudential.com/view/page/public/12848>

²³ <http://www.thegiin.org/cgi-bin/iowa/investing/spotlight/87.html>

²⁴ <http://www.thegiin.org/cgi-bin/iowa/investing/spotlight/112.html>

²⁵ See the glossary for definitions of mission-driven and program-related investment.

²⁶ www.blueorchard.com

²⁷ www.responsability.com

²⁸ www.calvertfoundation.org

²⁹ www.dwmarkets.com

³⁰ www.bamboofinance.com

The theme of impact investing is also gaining increasing prominence in other networks established either in narrower sub-sectors or in peripheral areas. The International Association of Microfinance Investors (“IAMFI”) is beginning to situate its members’ interests in a broader discussion of impact investing, as is the PRI Makers Network, originally organized around the narrower interest of private foundations making tax-privileged impact investments in the US. As the asset class of impact investments gains prominence and coherence, we anticipate consolidation among these networks that are currently broadening from a distinct niche into increasingly duplicative activity.

Conferences: The Clinton Global Initiative, Skoll World Forum, Social Capital Markets

Impact investing is becoming increasingly prominent at conferences that focus on development, sustainability, and social enterprise, amongst other topics. The Clinton Global Initiative has responded to increasing interest amongst its membership by creating an Action Network focused on impact investing. Other conferences that have featured impact investing include the Skoll World Forum in the UK, the Social Capital Markets Conference in the US, the Sankalp Social Enterprise and Awards Forum in India, the Take Action Conference in the US, and the European Venture Philanthropy Association conference, which is hosted in rotating European countries.

Education: Impact investing now on business school syllabi

The themes of impact investing initially appeared in business school curricula through a growing set of courses focused on green/sustainable investing and microfinance. In 2002, Duke University initiated a Social Entrepreneurship course with 421 students. The following year, Oxford University founded the Skoll Centre for Social Entrepreneurship. While these courses initially focused on the business management and entrepreneurial side rather than the buy-side considerations of impact investors, in 2010, dedicated impact investing courses were taught at the Northwestern University Kellogg School of Management, University of Michigan Ross School of Business, and Stern School of Business at New York University. A working group of professors teaching impact investing courses at business schools formed in late 2010. Students in these programs, and consequently the new hires in top firms, are beginning their careers with knowledge about both the attraction and feasibility of integrating social and financial value in their professional lives. This has impacted how many approach their career, driving them to seek ways to make money and have social impact from the start rather than working to earn money first before later “giving back”. The momentum for these types of courses at business school and discussions of impact investing themes in on-the-job training will grow, and we expect impact investing training will become increasingly important in recruiting and retaining top talent to the sector.

Indicator #4: Encourage the development of standardized metrics, benchmarks, and even ratings

Impact investment pioneers recognize the challenges of high transaction costs and inefficiency inherent in operating in an emerging asset class. As they collaborate to mitigate these costs, they are also working to build the basic infrastructure that will facilitate the flow of capital into the sector.

Measuring social performance: IRIS

Impact investments are not well served by portfolio management tools that lack social performance metrics. Some investment pioneers, such as Investing for Good³¹, have developed bespoke systems for measuring the social impact of the investments in their portfolios, but there often remains a lack of comparability across these systems. In response, investors in 2008 sponsored the development of the Impact Reporting and Investment Standards (“IRIS”). IRIS seeks to create a single, consistent reporting standard for measuring and reporting the social and environmental impact of investments. Just as the standardized terms within the GAAP standards (e.g., net income, gross margin) provide investors with comparable metrics to assess the financial prospects of a business, IRIS metrics aim to allow investors to compare social and environmental activities, outputs and outcomes across investments (e.g., student to classroom ratio, number of full-time female employees).

Benchmarking and indices: IRIS data repository

Working in partnership with Hitachi, the IRIS team has built a data repository that will facilitate benchmarking and provide impact investors with data on the relative performance of impact investments in delivering positive social and environmental objectives. Researchers, both academic and applied, are working to build the data-based analysis that will underpin the asset class.

Ratings: GIIRS

Beyond benchmarking data, efforts are also under way to launch third-party rating agencies that can vet and monitor impact investments for their social and environmental outputs, not just financial risk. Built off the definitions and data of IRIS, the Global Impact Investing Reporting Standards (GIIRS) is field-testing its ratings methodology with 25 “pioneer funds” in anticipation of a full launch in 2011. By providing simple and comparable ratings of the social impact of an investment, GIIRS – and the competitors that will likely arise in the future – has the potential to unlock substantial new sources of capital from investors who are interested in impact investments but lack the appetite and expertise to develop their own social impact assessment methodology.

A new alternative

Based on the above criteria, we conclude that impact investments are an emerging asset class. We anticipate that the organizational structures will most readily form within the alternative investments bucket that commonly houses such asset classes as hedge funds and commodities, as alternative investment professionals tend to include in their offerings a new asset class gaining prominence. Further, within buy-side organizations, the unique risk/return/social value characteristics of these investments will require an alternative investment strategy. While we recognize an alternative view that impact investments should be assigned to traditional asset classes, such as equity and debt, we believe this would lead to a fragmentation of impact investing skills and that positioning impact investments as an asset class within alternative investments is most likely to catalyze a significant inflow of capital.

³¹ <http://www.investingforgood.co.uk/rating-impact>

3. Financial return expectations

Caveat

We do not present the analysis in this chapter as representative of the entire marketplace. The data set is weighted toward North American investors and reflects the population of investors that participated in the survey. While the total number of transactions in the database is significant (and indeed much higher than we anticipated given the private nature of the market), the total number of participants remains limited. All conclusions presented below are made simply based on this data set, and any extrapolation to the broader market should be made with caution.

Impact investments span instrument types, sectors, and regions: from equity to debt, microfinance to healthcare, Developed markets to Emerging markets. Given this diversity, it is natural that there should be a wide range of expectations for the financial performance of these assets. In some investors' eyes, the coupling of the intent to create positive social impact with the pursuit of financial return is reason to expect lower returns from impact investments than from traditional investments. Others believe that financial return need not be sacrificed when social impact is being delivered and, due to the large underpenetrated market at the BoP, many impact investments should outperform traditional investments. In this section, we present some evidence on what impact investors expect of the financial performance of their assets, what has actually been realized, and how these results compare to traditional benchmarks.

Analyzing a sample of impact investments

As impact investments are predominantly debt or equity investments into private companies, we collected the data presented below through a survey. The survey was executed by The Global Impact Investing Network ("GIIN"), which collected and ensured that all data was presented to J.P. Morgan with the names of respondents and investments removed. Separately, the Calvert Foundation provided a history of its mostly US-based debt investments, and the International Finance Corporation ("IFC") revealed some performance history for its EM private equity investments which we analyze in *Appendix V: Additional returns data*³². Below we analyze the broad range of investments covered by the GIIN Survey.

Characterizing the investments reported in the GIIN Survey: 24 respondents

The Survey was sent primarily to the GIIN Investors' Council, a group of principal investors and capitalized investment funds that manage impact investments and participate in industry-building activities. A few additional participants brought the total number of survey respondents to 24³³. In Table 3 we show the distribution of reported deals across investment instrument type. Table 4 shows the sector distribution, and Table 5 shows the regional focus³⁴.

In each table, we show both the number of deals and the notional amount represented by each category. We find that most of the investments reported were made via private equity or debt instruments. Among the sectors, microfinance is the most frequently referenced, which is unsurprising as it is one of the most mature of the impact investment sectors and presents lower barriers to entry³⁵ to new investors. In terms of geographic distribution of investments, the US dominated our data set.

³² Since that data set is from a single source and potentially skewed as a result, we do not mix the results of that analysis with the results of the GIIN Survey.

³³ For a full list of survey respondents, see page 82 in the appendix.

³⁴ While we received 984 individual data points, 7 of those data points represented regional aggregates. In our work, we have accounted for the total number of investments those aggregates represent as well.

³⁵ Over 90 dedicated microfinance investment vehicles exist and are catalogued on the MIX Market website (www.mixmarket.org).

Table 3: Instrument distribution

	# of deals	Notional (\$ mm)
Private debt	629	921
Private equity	301	836
Deposits	91	73
Bilateral loan agreement	32	102
Real Assets	29	489
Equity-like debt	15	8
Guarantee	7	50
Public debt	1	2
Public equity	0	0
Total	1,105	2,481

Source: GIIN, J.P. Morgan.

Table 4: Sector distribution

	# of deals	Notional (\$ mm)
Microfinance	307	661
Agriculture	208	132
Cross-sector	189	412
Other*	136	246
Housing	130	790
Energy	53	94
Healthcare	42	57
Education	30	82
Water	10	7
Total	1,105	2,481

Source: GIIN, J.P. Morgan. **Other* includes community development finance.

Table 5: Geographic distribution

	# of deals	Notional (\$ mm)
US and Canada	411	1,381
Latin America	268	223
South and Southeast Asia	107	130
Sub-Saharan Africa	99	154
E. Europe, Russia & Central Asia	92	184
Global	63	239
Western Europe	52	129
Emerging markets	7	35
Middle East and North Africa	6	5
Australia & New Zealand	0	0
South Pacific	0	0
Total	1,105	2,481

Source: GIIN, J.P. Morgan.

Return expectations vary substantially, from competitive to concessionary

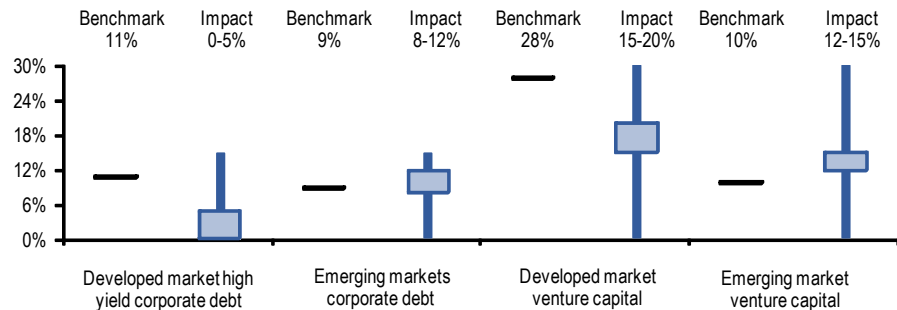
The most informative (and statistically significant) data are the return expectations reported across investment types and regions. In Figure 8 we show the distribution of respondents' return expectations by investment type and region alongside actual historical average returns for traditional investments in each instrument type and region. (Further information on our choice of benchmarks follows). Survey participants were given a predetermined choice of return ranges (0–4.9%; 5–7.9%; 8–11.9%; 12–14.9%; 15–19.9%; 20–24.9%; 25%+) which is why the averages are presented in the form of ranges rather than single data points.

The data reveal that expectations for financial return vary dramatically. Some investors expect returns that compete with, and even outperform, traditional investment benchmarks, while others concede that their impact investments may deliver a lower return than that of a comparable investment that does not target social impact. Impact investors in EM venture capital expect average returns of 12–14.9%, which compares to an average realized return of 10% for traditional EM venture capital investments. For EM debt, impact investment return expectations are 8–11.9%, versus an average realized return of 9% for the chosen benchmark. In the case of developed markets (DM), impact investors expect average returns of 0–4.9% for debt and 15–19.9% for venture capital, compared to the 11% and 28% average actuals for chosen benchmarks.

Analysis of whether or not there exists a return trade-off in impact investing depends on instrument type, investor perceptions, and of course, chosen benchmarks. DM debt investors on average appear to expect some return sacrifice. This could be explained in part by regulatory features and, in some developed markets, tax incentives that encourage investment in lower-return social ventures. EM debt on the other hand appears to target returns that are competitive with long-term realized index returns. For equity, the results are mixed. If we benchmark against the realized DM and EM index returns, impact investors' targets appear competitive for EM but concessionary for DM. If, on the other hand, we benchmark against the 20–25% gross returns that we believe new managers would target, then there does appear to be a trade-off for EM.

Figure 8: Average return expectations by instrument and region

Horizontal bars: Average realized returns for benchmark and average expected returns for impact investments, gross annual IRR or yield, in USD. Vertical lines: Range of expected returns reported, gross annual IRR or yield, in USD.



Source: GIIN, J.P. Morgan. Survey participants were given a predetermined choice set of return ranges (0–4.9%; 5–7.9%; 8–11.9%; 12–14.9%; 15–19.9%; 20–24.9%; 25%+) which is why the averages are presented in the form of ranges rather than single data points. Benchmark returns are average annual returns for: J.P. Morgan's Developed Markets High Yield index and Corporate Emerging Market Bond ("CEMBI") Index, over the period 2002 – 2010 (our full data history); and Cambridge Associates US Venture Capital Index and Emerging Markets Venture Capital and Private Equity Index, for vintage years over the period 1989 – 2006. Impact investment return expectations are calculated by taking an average of survey responses (each of which represents a range of expected returns for a given investment instrument in a specified region) across the population of reported investments. The number of investors who responded for each instrument, and the number of investments in the sample (respectively) are: Dev mkt HY debt = 9, 219; EM HY debt = 10, 411; Dev mkt venture capital = 6, 91; EM venture capital = 15, 119. Readers should note the low number of Dev mkt venture capital investors represented. Note that the range of expected returns for developed market debt excludes a single investment reported by one respondent with an expected range of returns of 20-24.9%; all other data points fall within the range shown. Both the developed market and emerging market venture capital ranges include investments with expectations of 25%+ return (the range was not specified above that level).

Choice of benchmarks

Benchmarking performance is challenging, and in this case even more so since we are benchmarking return *expectations* rather than realized returns. Figure 8 shows the return expectations (average and dispersion) reported for various investment types in our impact investor survey against benchmarks that we believe are appropriate given the risk of the asset class. For debt we believe the indices that best replicate the credit quality of an impact investing portfolio are our US High Yield and Corporate Emerging Market indices. For equity we recognize the early stage and relatively small investment sizes and have chosen Cambridge Associates US Venture Capital Index and Emerging Markets Venture Capital and Private Equity Index³⁶ for vintage years over the period 1989 – 2006. Vintage years post 2006 have been excluded as there are too few harvested investments for meaningful analysis.

In order to make a meaningful comparison of backward looking (realized) and forward looking (expected) returns, we use a through-the-cycle approach in choosing our time period of benchmarks, which results in the data shown above. The choice of time frame results in moderate variations for the debt returns (if we focus on the past five, rather than eight-plus years, both benchmarks would drop by 200 basis points), but has a significant impact on the resultant venture capital returns. Narrowing our time frame to the years after the dot-com bubble (1999 – 2006 vintages) for example results in a return of only 0.2% in US VC/PE against a return of over 14% in

³⁶ Cambridge Associates LLC US Venture Capital Index and Benchmark Statistics, and Cambridge Associates LLC Emerging Markets Venture Capital & Private Equity Index and Benchmark Statistics, as of June 30, 2010. Reports were provided directly to J.P. Morgan by Cambridge Associates free of charge.

emerging markets. Additional five- and ten-year VC returns data are shown in Table 28 in *Appendix V*.

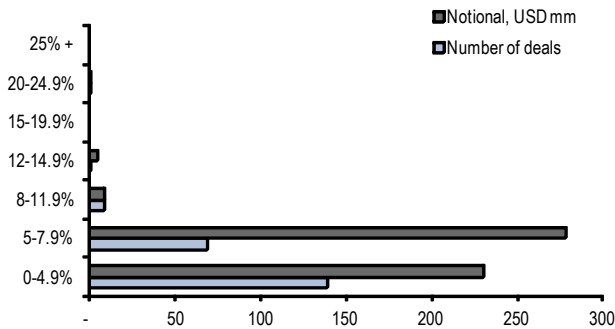
We also note that the average realized returns of the investment management community almost always lag the expected, forecast or projected returns when the investment is being made. We have no reason to suppose that the impact investing community will be any different. Our own anecdotal experience and interviews with fund of fund and alternative investment managers suggest that VC managers in both the Developed and Emerging Markets target net returns in the range of 15–20% and gross returns of 20–25%.

Impact investors' return expectations show high variance

Figure 9 shows the distribution of return expectations for developed market debt investments, while Figure 10 shows the same for emerging market debt investments. Figure 11 and Figure 12 illustrate the expectations for developed market and emerging market equity investments. We see a much broader distribution of expectations in equity investments than in debt investments, with some investors expecting returns of 25% or more.

Figure 9: Expected returns – Developed markets debt investments

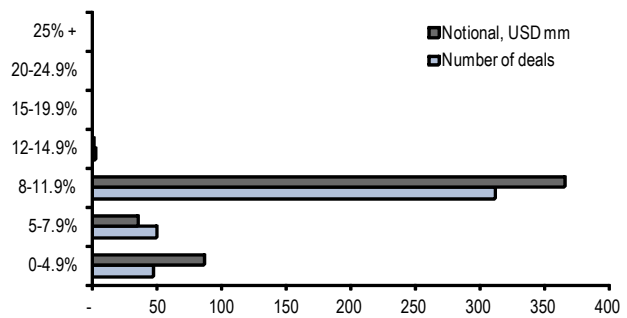
Total # of investments = 219; Total size of investments = \$524m



Source: GIIN, J.P. Morgan. Investments for which no expectation was reported are not included.

Figure 10: Expected returns – Emerging markets debt investments

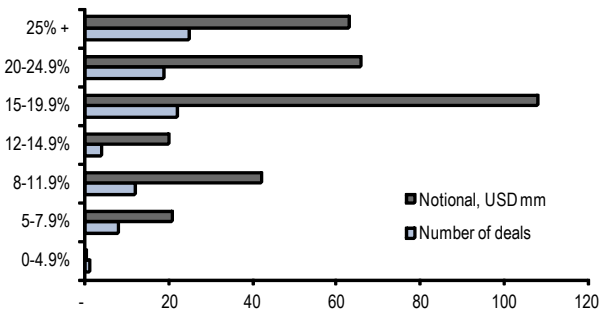
Total # of investments = 411; Total size of investments = \$488m



Source: GIIN, J.P. Morgan. Investments for which no expectation was reported are not included.

Figure 11: Expected returns – Developed markets equity investments

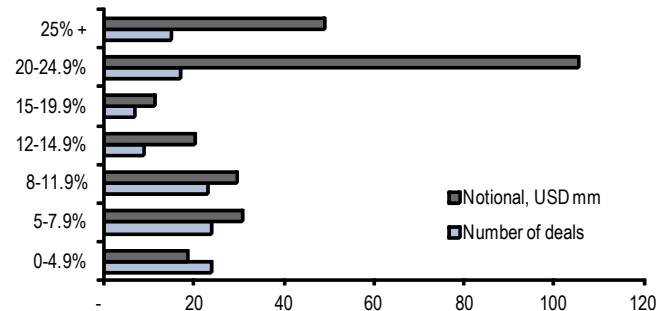
Total # of investments = 91; Total size of investments = \$320m



Source: GIIN, J.P. Morgan. Investments for which no expectation was reported are not included.

Figure 12: Expected returns – Emerging markets equity investments

Total # of investments = 119; Total size of investments = \$265m



Source: GIIN, J.P. Morgan. Investments for which no expectation was reported are not included.

This dispersion partly reflects the rapidly evolving motivations of investors engaged in impact investing. Impact investing historically was largely capitalized by private

foundations and mission driven investors willing to trade off financial return for social impact. Many newer entrants have a greater motivation, and in some cases, a fiduciary duty to balance strong financial returns with social impact.

Deposits, guarantees and other investment instruments

As shown in Table 3, beyond equity and debt, there are also deposits, guarantees, equity-like debt and real asset investments reported within our data sample. The \$73m of reported deposits were all US-based, with return expectations (some of which were realized) in the 0–4.9% range. The \$50m of guarantees were made with similar return expectations, though some were made outside the US and Canada. The survey also captured \$489m of real asset investments, all of which were made in the housing sector in the US or Canada. No return expectations were reported for those investments. The equity-like debt investments totaling just \$8m³⁷ are more globally-based and focused mostly in the microfinance sector. Return expectations for these investments range broadly, from less than 0% to as high as 15–20%.

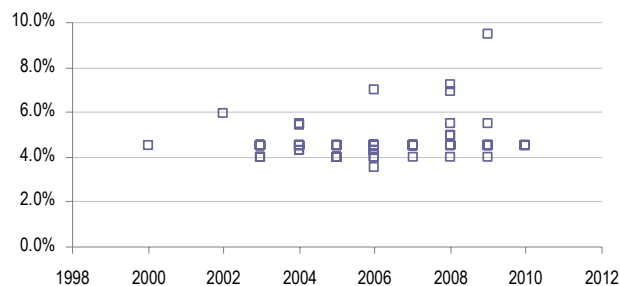
For more on developed market debt investments, see *Appendix V: Additional returns data*

Realized debt returns broadly reflect the range of expectations: EM provides higher yields

Zooming into the realized return data, we now show only the debt investments separated into the developed (Figure 13) and emerging markets (Figure 14). All of this data was provided by the same two respondents, so we caution against extrapolation, but present this data as one piece of evidence that the expectation of higher yields from emerging market debt investments is potentially justifiable. Interestingly, DM debt realizations outperform the average expectations. The amount of private equity realized return data is so small – only 20 deals amounting to \$8m of notional – that it does not provide much insight. We have omitted that data for this reason.

Figure 13: Realized returns – Developed market debt investments

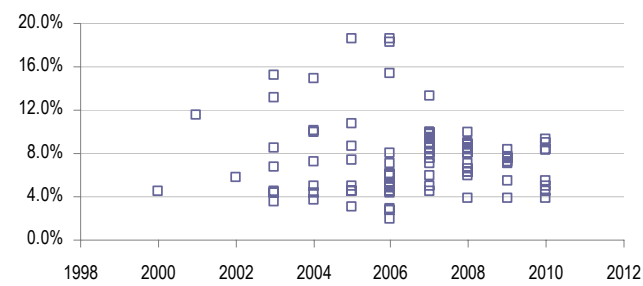
Total # of investments = 114; Total size of investments = \$94m
x-axis: Year of investment; y-axis: Return (gross annual yield, in USD)



Source: GIIN, J.P. Morgan. Investments for which no return was reported are not included.

Figure 14: Realized returns – Emerging market debt investments

Total # of investments = 97; Total size of investments = \$61m
x-axis: Year of investment; y-axis: Return (gross annual yield, in USD)



Source: GIIN, J.P. Morgan. Investments for which no return was reported are not included. Excludes five investments (\$2mm notional value) with negative returns.

Beyond returns: Characteristics of surveyed investments

Investment sizes remain small, while costs are high...

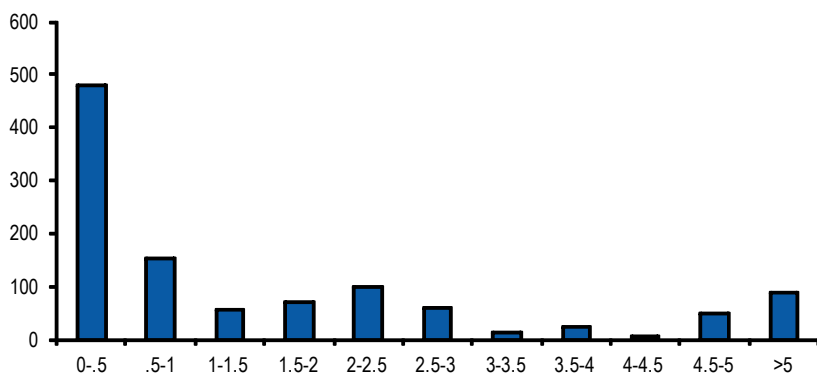
One of the characteristics of impact investments that many investors will struggle with is the small average deal size. Figure 15 illustrates the range of investment sizes

³⁷ Equity-like debt investments are defined for the purposes of our survey as: An instrument between debt and equity, typically a debt instrument with potential profit participation. E.g. Convertible debt, warrant, debt with equity kicker.

in the data set we collected through our survey. Figure 16 further shows the breakout of the last bucket shown in Figure 15 — deals that are larger than \$5m. We can see from these charts that the dominant portion of investments is \$1m or less in notional value. Only 35 of the 1,105 deals reported were larger than \$10m in notional value.

Figure 15: Distribution of investment sizes across reported investments

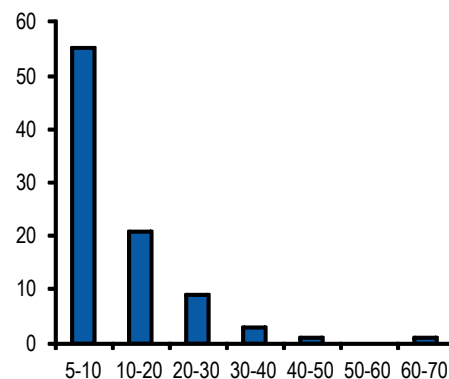
Number of deals per bucket; bucket sizes shown in USD mm.
The last bucket of deals greater than \$5m is broken out into more detail in Figure 16.



Source: GIIN, J.P. Morgan. Investment sizes reported in USD as at time of investment.

Figure 16: Just the larger investments

Number of deals per bucket; bucket sizes shown in USD mm, for deals of \$5m +



Source: GIIN, J.P. Morgan. Investment sizes reported in USD as at time of investment.

The small average deal size for impact investment presents a challenge to investors whose due diligence costs remain more or less fixed relative to traditional investments. For investors capable of making larger investments, the cost of spending time and resources on a small impact investment deal is higher than for traditional investments. Small deal sizes are especially challenging for investors when fixed due diligence costs are high; it is particularly true for investments in remote areas of emerging countries.

The relatively small average deal size could result from the over-sampling of early-stage impact investors, who have tended to target more socially-focused businesses and have been willing and able to absorb the relatively high transaction costs associated with small-scale investments. As impact investing matures and more institutional-scale investors with higher returns requirements enter the marketplace, we anticipate a proliferation of new investment funds being created, aggregating capital and increasing the size of investments that can be made. Average deal size will grow as the industry matures and fund vehicles facilitate larger deals.

... but funds' fees do not appear significantly higher than for traditional funds

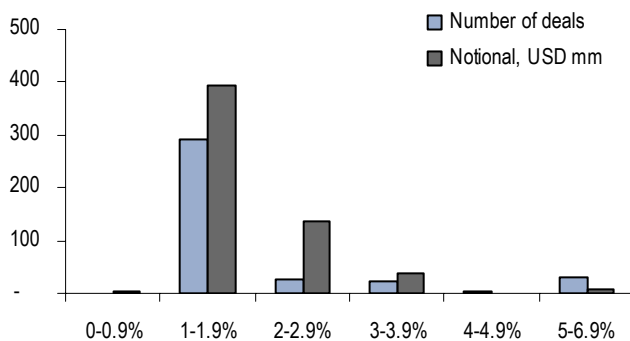
Similarly, impact investment fund managers will also endure the high fixed cost of investment relative to their deal sizes, and as such we anticipate that impact investment fund management fees may be slightly higher than those charged by traditional investment fund managers. Figure 17 shows the management fees reported by our survey respondents, and Figure 18 shows the carry fees charged. While the majority of management fees remain within 1–2%, we notice that there are some investments with management fees as high as 5–7%. Similarly, carry fees for most investments fall within the benchmark 20% range. This disparity may be a result of the fact that many impact investment funds include a grant-sponsored

technical assistance facility, which may subsidize fund costs and allow fund managers to charge market-rate fees to investors. Maintaining fee levels in line with traditional investments will help remove one potential barrier to attracting impact investment capital in the short term. However, in the long term, some impact investment fund managers may be able to justify higher fees by providing value-added services (such as rigorous impact investment measurement) for which investors could be willing to pay.

Figure 17: Management fees

Histogram of survey answers.

Total # of investments = 374; Total size of investments = \$582m

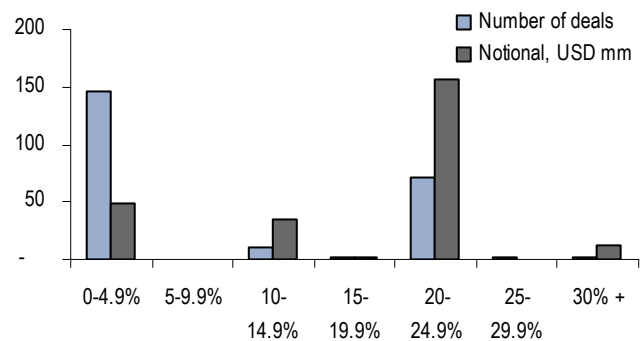


Source: GIIN, J.P. Morgan.

Figure 18: Carry fees

Histogram of survey answers.

Total # of investments = 233; Total size of investments = \$254m



Source: GIIN, J.P. Morgan. Carry defined as % of fund's return retained by general partners.

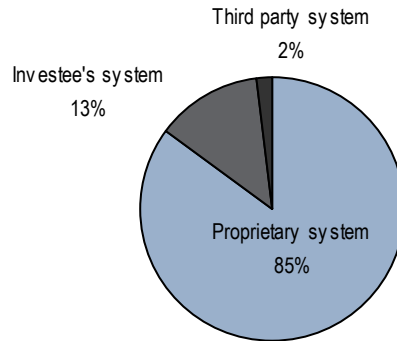
Impact measurement systems are currently overwhelmingly proprietary

Our survey also asked respondents to reveal what type of social impact measurement system they were using (if any). The choices were: a proprietary system, the system employed by the investee company or fund (the recipient of the investment funds), or a third party system. As Figure 19 illustrates, an overwhelming 85% of respondents are currently using a proprietary impact measurement system, and 13% use the investee's system. Only 2% of impact investors currently employ a third-party system and very few reported using an investee's system. We anticipate this profile to change as systems for measuring impact, such as IRIS, achieve broad adoption across impact investors³⁸.

³⁸ For more on the IRIS metrics, see appendix.

Figure 19: Respondents' impact measurement system

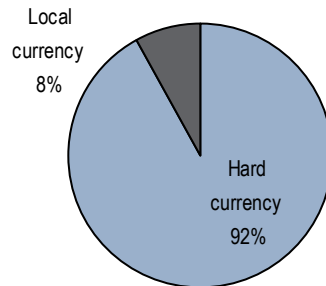
Total # of investments = 889;
Total size of investments = \$1,144m



Source: GIIN, J.P. Morgan. Investments for which no system was reported are not included.

Figure 20: Local currency exposure

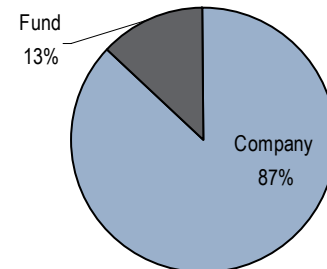
Total # of investments = 642;
Total size of investments = \$971m



Source: GIIN, J.P. Morgan. Hard currency denotes investments specified as having been made in USD, EUR, GBP or hard currency. Investments for which no currency was reported are not included. Represents investments in emerging markets only.

Figure 21: Company vs. fund investments

Total # of investments = 642;
Total size of investments = \$971m



Source: GIIN, J.P. Morgan. Represents investments in emerging markets only.

Even direct company investments are made predominantly in hard currency

One of the biggest challenges arising in making debt impact investments in emerging markets is currency risk. Particularly when a country's currency is not liquidly traded, hedging instruments may be expensive or outright unavailable³⁹.

Interestingly, we find that 92% of the investments made into EM were made in hard currency (USD, EUR and GBP – Figure 20), leaving the remaining 8% of investments to have been made in a local currency. We examine the nature of the recipients as well thinking that perhaps the hard currency results from investments made into funds (that are more likely to raise funds in hard currency). However, we find that only 13% of the investments were made into funds and the dominant portion were direct investments into companies (Figure 21). While this means that many investors are not taking exposure to the currency risk of their emerging market

³⁹ See page 71 for more detail on currency risk.

investments, it also means that the currency risk is more likely being borne by the recipients of these investments.

Microfinance trends indicate that currency risk is increasingly borne by investors
While currency risk remains a concern – we address this in more detail in *Appendix I: Managing impact investments*– the trend toward investments in local currency that has appeared in microfinance highlights that investors are increasingly taking over the currency risk from the microfinance institutions. According to CGAP, the amount of investment into local currency debt by microfinance investment vehicles increased by 54% in 2009, and now accounts for 31% of all outstanding direct debt investments⁴⁰. We anticipate that as the other impact investment sectors mature, a similar trend will emerge.

⁴⁰ *Microfinance Investors Adjust Strategy in Tougher Market Conditions*, Xavier Reille, CGAP 2010.

4. The potential BoP market opportunity

Impact investments can benefit different populations: the BoP in emerging countries, as defined by the World Resources Institute; the broader BoP+, including the low-income populations in developed markets; or the broadest group, which can include those impacted by income-independent factors such as climate change.

In this section, we present a new framework for measuring the potential scale of impact investments, in terms of both invested capital required and profitability. Our measures are by no means comprehensive. An attempt to size the entire impact investments market would have made the scope of this research note unmanageable. We have chosen instead to focus only on the BoP segment of the customer base for impact investments and further to analyze only selected businesses within five sub-sectors: urban housing, water for rural communities, maternal healthcare, primary education, and microfinance. While our measures may be incomplete, they yield impressive results: in housing alone, a total invested capital requirement ranging from \$214–\$786bn and a potential profit opportunity of \$177–\$648bn (see Table 6).

Table 6: Potential invested capital to fund selected BoP businesses over the next 10 years

Sector	Potential invested capital required, USD bn	Potential profit opportunity, USD bn
Housing: Affordable urban housing	\$214–\$786	\$177–\$648
Water: Clean water for rural communities	\$5.4–\$13	\$2.9–\$7
Health: Maternal health	\$0.4–\$2	\$0.1–\$1
Education: Primary education	\$4.8–\$10	\$2.6–\$11
Financial Services: Microfinance	\$176	Not measured

Source: J.P. Morgan.

Our methodology uses a sector-specific case study approach. We start by analyzing a successful business model that we assume can be extended to satisfy the demand of a larger target customer base, determined based on pricing and affordability of the product and an assumed penetration rate that we deem realistic. To arrive at conclusions on potential profitability and invested capital requires us to make a host of other assumptions, including: the timeframe by which a target market can be reached (we assume 10 years), the operating margin for the business and the relationship between invested capital and revenues. A change in any of these assumptions could significantly affect the model outputs. We believe the publication of our prototype framework itself, more than the resulting measures, contributes to a better understanding of the opportunity this emerging asset class presents.

Before delving into the details of our methodology and measurements, we discuss below the challenges and opportunities in providing business solutions to the BoP population.

Why the opportunity exists in BoP markets

The BoP population is concentrated in emerging (and often informal) markets. Serving BoP consumers in these markets requires innovative business models that deal with challenges unique to this population. For example, cash flow constraints among the BoP customer base can demand that soap be sold in single-serve packets rather than in bottles that cost a week's wages. The lack of skilled workers to execute vision testing in remote areas demands a business model where the diagnostic procedure can be executed through simple steps that do not require medical training, thereby enabling local diagnostics and the consequent sale of eyeglasses⁴¹. These unique solutions are designed to address some of the business constraints particular to the BoP markets in emerging countries, so we refrain from extrapolating these business models into the developed world.

BoP as consumers: "Underaccessed" market that can use real solutions

If the BoP market opportunity exists, why does it remain outstanding? We believe there are several reasons why the BoP impact investment marketplace remains underdeveloped, which we present below before turning to the potential market size.

BoP markets introduce operational challenges to otherwise proven business models

The typical growth trajectory for a business begins with a small endeavor, which operates locally with local funding. As it grows, it will begin to extend its reach to regional markets, eventually stretching across its original nation and finally internationally. In the early stages, business success will depend on the support mechanisms in place for entrepreneurs, such as access to finance, which historically have been stronger in developed markets. In the later stages of growth, the business will rely on the transferability of its products and/or operational processes into new markets. This can depend on cultural components, but mostly will depend on whether the cost/revenue model can be successfully applied in the new region. BoP markets often are more expensive operationally, as external requirements to run the business can be more difficult to secure, including such things as refrigerated distribution to transport milk or a consistent stream of electricity to supply hospital refrigerators. Since these challenges can significantly increase the costs of the business, it becomes difficult to easily transfer a business model from developed into BoP markets without making significant changes to the operational design. Exogenous factors, such as regulatory constraints, import duties and the provision of government services in the relevant sector can challenge the successful transferability of a business model from one region to the next. As a result of these barriers to entry, businesses have yet to build out the geographical scale to address the opportunity that remains in BoP markets.

Traditional businesses do not target BoP populations as potential customers

One of the reasons that traditional business may not have explored the BoP marketplace is a perception that poor people are not potential customers. Research reveals, however, that especially given the low incomes that define BoP populations, budgeting and money management decisions are critical as households work toward building better lives. This money management will allocate significant funds toward the basic needs of households, such as food. However, the research also shows that BoP households successfully save money or utilize financing to buy products or services that will facilitate the growth of future household income. In *Portfolios of*

⁴¹ See *Emerging Markets, Emerging Models*, Monitor Group, March 2009, for more examples.

the Poor, Collins et al show that poor households successfully build lump sums and spend them on life events (weddings/funerals), emergencies and opportunities (including investments in land and buildings)⁴².

Mobile phone technology is one example of this type of purchase. Originally discounted by skeptics as unnecessary for a population struggling to meet its basic needs, it has proven one of the fastest growing businesses in BoP markets, as farmers access pricing information to make the most out of their crops or parents access mobile banking services to save money for education. With the significant success of Celtel in Africa, many in the business world were forced to acknowledge BoP clients as consumers with choice managing their money to purchase products or services and consequently improving their lives.

Government or philanthropic solutions can do only so much

In areas where on-grid electricity and clean water are available from government-run utilities and quality education is available in a government-run public school, the demand for impact investment in these sectors may be limited. But many BoP communities lack access to government services and often pay a “BoP penalty”⁴³ to procure basic services from subscale and inefficient private sector providers. Impact investors can reduce this penalty by harnessing more efficient, competitive business models to deliver better, cheaper and more widely-available services to poor communities.

Beyond the opportunity to intervene where government has been unable to deliver products or services, even well-functioning governments and well-resourced philanthropies will always be limited by resources and scope. Impact investment can complement government and philanthropy by providing services to poor communities, thereby allowing government and philanthropy to concentrate their limited resources on reaching the poorest of the poor who cannot participate in market-based solutions.

Simple solutions can have large-scale and profitable impact

While there are obstacles to scale traditional business models into the BoP sector, there are many examples of simple solutions that address the BoP-specific consumer behavior and infrastructure challenges. For one, Aravind Eye Care, which delivers free eye care (including surgery) to poor people by cross-subsidizing from paid services, has treated over 2.5 million patients and performed over 300,000 surgeries between April 2009 and March 2010. Through its fee income and despite the fact that a majority of patients does not pay for services, Aravind is financially self-supporting⁴⁴ while successfully providing access to high quality services that would otherwise be unaffordable for many of those patients. While Aravind is structured as a non-profit, impact investors could support its growth, as well as similar models, through debt investments.

Reduce BoP penalties while delivering profits to investors

With the right solution, businesses can deliver affordable solutions to BoP clients while delivering profits to investors. Not only is this the case where products or services are absent, but this can also occur where competing services are being

⁴² *Portfolios of the Poor*, Chapter 4, D Collins et al, Princeton University Press, 2009.

⁴³ See glossary for more detail.

⁴⁴ *The Fortune at the Bottom of the Pyramid*, C.K. Prahalad, 2010.

offered. Many BoP consumers suffer from a BoP penalty - paying a higher price for lower quality goods and services than consumers in wealthier markets – to procure basic services from subscale and inefficient private sector suppliers. The BoP penalty exists because of the cost of delivering services into regions where infrastructure is poor and access is expensive⁴⁵, and sometimes because of the lack of competition to make service delivery more efficient and drive down prices. C.K. Prahalad evidences the BoP penalty by comparing prices paid in a shanty town outside Mumbai with prices paid for the same products or services in a higher income area of Mumbai. For credit, municipal grade water, diarrhea medication, rice or a phone call, the poverty premium ranges from 1.2x to as high as 53x for the residents of the shanty town⁴⁶. Efficient business models can provide such products or services at a lower cost to the consumer while maintaining a profitable operation.

A framework for sizing the market opportunity

Below we present a more detailed explanation of our methodology for measuring the invested capital requirement and potential profit opportunity in selected businesses and sub-sectors within housing, water, health, education and financial services targeting BoP populations.

In Table 6, we have summarized the results of our analysis. The remainder of this section is devoted to walking through the resources and assumptions used in each sector to determine the potential impact investment capital required. Our approach for the non-financial sectors varies from the approach taken for financial services, so we have divided the section accordingly. Within the non-financial sectors, we have applied a consistent methodology to each sector to determine potential invested capital required and potential profit opportunity. This methodology will be explained at length using housing as the example and then presented in summary form for the other sectors.

One of the greatest challenges in characterizing the impact investments market is determining its potential size. The market spans many sectors, where business models and local management capacity may differ dramatically, but also several geographies where cost of supply (particularly distribution, infrastructure and logistics), governmental constraints, competitive landscape and hence the feasibility of a given business model, vary significantly. To overcome these difficulties, we make a number of general assumptions.

General assumption #1: Business models transfer across regions

In trying to estimate potential market size, we approach each sector independently, pairing an estimate of the potential size of the target customer base with the cost/revenue structure of a successful impact investment business model. One of the significant assumptions we make in this methodology is the transferability of business models across regions. Clearly, there are many reasons why a successful business in one region may fail to generate profit in another. As discussed above, many impact investments operate within constraints that vary across regions and countries such as poor infrastructure, inefficient distribution channels and supply chains, unstable access to energy sources, differences in consumer preferences, and external factors such as governmental interventions or tax regimes. The most

⁴⁵ *The Next 4 Billion*, World Resources Institute and International Finance Corporation, 2007.

⁴⁶ *The Fortune at the Bottom of the Pyramid*, C.K. Prahalad, 2010.

appropriate approach to addressing certain sub-sectors, such as healthcare, education and water, in particular, is an intensely political discussion in many countries. These variations and constraints impede the transferability of business models and/or the degree to which the private sector may be able to participate in these markets. Nonetheless, we recognize that in order to arrive at a global measure, we are forced to sacrifice some of these region-specific considerations. We have made conservative assumptions where possible to compensate for the crudeness of extrapolating from a business model that has been proven in only one country or region. In extrapolating from the case studies identified, we are also forced to assume that the necessary business management capacity can be identified or developed to meet the demand of the BoP consumer base identified.

General assumption #2: All potential business can be impact investments

In working through each sector, we extrapolate from the economics of case studies of impact investments that conform to our definition: a business that operates with the intent to create positive impact beyond financial return. In estimating the potential market opportunity, we assume that all of the potential businesses that would address that opportunity would be impact investments as well. In reality, not every business that attempts to address these needs will be designed with intent, but we assume, for simplicity's sake that they are and include them all within our potential market size.

Additionally, we undertake our sizing methodology with significant concerns around the management capacity of companies and funds to invest prudently in these potential transactions. This current constraint is a real barrier to mobilizing capital for impact investing. We believe this constraint is surmountable over time as investors gain expertise. We instead focus on the aggregate demand over a finite period, consistent with the methodology outlined in this chapter.

General assumption #3: Investment for the next ten years

We incorporate a finite time frame over which these investments are meant to support these businesses, arbitrarily considering the next 10 years. In calculating revenues we modeled 10 years of revenues and profits for each business. We assumed 10% of our target market would be captured in year one and this would grow at defined rate until the entire target market was satisfied in year 10.

General assumption #4: Operating margins indicate profitability

When considering profitability in our case studies, we choose to use the operating margin as a measure of profitability that takes into account the cost of providing the service or product and the administrative, sales and marketing costs that might be affiliated with distribution. We are, however, excluding finance costs as interest payments are not included in this measure of profit. Part of the reason for excluding these costs is that finance costs can change dramatically from region to region (particularly in local currency, sector by sector and over time). This measure also excludes taxes, which again vary widely among different jurisdictions.

General assumption #5: The relationship between invested capital and annual revenues is a constant

Our methodology estimates potential revenues based on the number of BoP consumers to whom these goods and services are affordable. Determining invested capital, defined as shareholders equity plus net debt, requires us to make some assumptions on the relationship between a company's capital base and its size as measured by revenues. We have assumed that there is a constant relationship

between the level of invested capital and the revenues generated by that capital. In order to confirm that hypothesis and quantify the relationship we studied 6,000 publicly listed non financial companies with market caps between \$100m and \$1bn (excluding companies with sales less than \$10m). The results are presented in Appendix V and they suggest that there is on average a one to one relationship between invested capital and the most recent full year sales number. We have therefore applied this ratio to Year 10 sales in our model to estimate invested capital. We note also that this invested capital will include retained earnings over the life of the company. The amount of retained earnings in each case study can be estimated by subtracting finance costs and taxes from the accumulated profits, less an assumed payout ratio.

Sector by sector analysis: Non-financial services

Case study

Indian affordable housing projects analyzed by Monitor Inclusive Markets, a consultancy working to develop market-based solutions for social challenges

Starting with an example: Sizing affordable urban housing demand

Using the housing sector as an example, we now present our market sizing methodology in some detail, walking step by step through the calculations in Table 7 below. The consequent sectors will follow the same methodology and will be presented in summary form as a result. Further specific notes on the methodology can be found in Appendix VI on page 86.

Potential size of investment: \$214–\$786bn; estimated profit opportunity: \$177–\$648bn

In the following pages, we will elaborate on the resources used and assumptions made to estimate the potential size of the impact investment market in housing. First, however, we will note the results of the analysis, which are summarized in Table 7 below. Based on the information available, we concluded the potential impact investment capital required for the housing sector to be \$214–\$786bn, which will result in a potential profit of \$177–\$648bn.

Table 7: Sizing template, using housing as an example

Data point	Source	Housing example
Annual household income of target market	Case study	Brackets A–E, Urban
Target market (# of households, mm)	N4B	393
Anticipated penetration rate	Case study	50.0%
Anticipated customer base (# of households, mm)		196
Average price of unit	Case study	\$6,000–\$22,000
Aggregate revenues over 10 years, bn		\$1,179–\$4,323
Estimated operating margin	Case study	15.0%
Estimated profit opportunity, bn		\$177–\$648
Total invested capital, bn		\$214–\$786

Source: J.P. Morgan. Case study indicates the particular case study used for each sector. "N4B" indicates *The Next 4 Billion*, 2007, WRI.

Customer base:

Focus on BoP, specifically targeting a population that can afford the price of the product/service delivered.

Sizing the potential customer base: Not all the BoP will be served

In each sector sizing exercise, we begin by determining the potential size of the customer base. In the case of housing we ask: how many people in the BoP population can afford to buy a house from our case-study business model? The World Resources Institute provides data on the BoP population size by income brackets of \$500 (2002 and 2005 PPP international dollars)⁴⁷. The bracketing is

⁴⁷ International dollars calculated by World Resources Institute using 2002 purchasing power parity (PPP) exchange rates. See glossary for more on international dollars.

shown in Table 8.

Table 8: BoP per capita income brackets and population

	Income brackets 2002 PPP	Income brackets 2005 PPP (upper bound)	Africa mm	Asia mm	Eastern Europe mm	Latin America mm	Total Population mm
A	2,500–3,000	3,260	7	80	41	39	167
B	2,000–2,500	2,717	12	167	51	50	279
C	1,500–2,000	2,173	23	358	52	68	501
D	1,000–1,500	1,630	55	781	48	81	964
E	500–1,000	1,087	162	1,220	45	87	1,513
F	0–500	543	228	293	18	37	575
		Total	486	2,900	254	360	4,000

Source: World Resources Institute.

Focusing on the BoP population restricts us to the population earning an annual income of \$3,000 per capita or less. For each sector we then identify the income brackets that can afford the product or service in question, following the steps below to identify the size of our target market.

1. *Remove the lowest income segment: Those earning less than \$1 a day will be unlikely customers*

We must acknowledge that there is a portion of the population at the lowest income level that remain reliant largely on aid⁴⁸. According to Monitor Inclusive Markets, it would be reasonable to exclude the population earning less than \$1 a day from the potential customer base for an impact investment business model. Constraints such as severely irregular cash-flows and the cost of distribution to these typically more remote populations will limit the ability of a profit-making business to deliver solutions to this sub-population. Therefore, we exclude from all sectors the bottom segment of the population as bracketed by WRI – those earning less than \$500 per annum per capita (2002 PPP), in income bracket F of Table 8.

⁴⁸ C.K. Prahalad, author of *The Fortune at the Bottom of the Pyramid*, advocates that “our goal should be to build capacity for people to escape poverty and deprivation through self-sustaining market-based systems” even at the very base of the economic pyramid. While we would like to cover businesses that can serve the very lowest-income households, we focus for now on the business models that have been proven and hope to include the lowest income bracket in future work as this sector develops solutions for the lowest part of the pyramid.

Table 9: Household income brackets – India

Average number of people per household = 5.3
India Economic Activity Rate = 69%
Average number of earners per household = 3.7

2005 PPP (upper bound)	
A	11,923
B	9,936
C	7,949
D	5,962
E	3,974
F	1,987

Source: World Resources Institute, UN Statistics Division.

2. *Select a case study and determine the income bracket of the target customer base*
In choosing a case study, we focus on finding a business model that makes products or services affordable to some segment of the BoP market. For the housing sector, we identified a feasibility-tested business model for affordable housing in India analyzed by Monitor Inclusive Markets. One of the projects they analyzed builds buildings with, for example, 5% commercial space and 95% residential space split into 1,883 flats in urban India. Including commercial space increases rental income, partially subsidizing the residential space. Since homes are purchased by households rather than individuals, in Table 9 we translate the WRI per capita income brackets into per household income brackets⁴⁹, using the Economic Activity Rate⁵⁰ and the average number of people per household. Then in Table 10 we consider the affordability of the residential flats to the households in those income segments. Flats in this type of project have been priced as low as INR 280,000⁵¹ (\$6,000), which translates into a required annual household income of \$3,211⁵² (2005 PPP). As such, the flats in this price range are affordable by all but the bottom income segment of our population, so we include income brackets A through E in our estimation.

Table 10: Affordability testing

Case study: *Building Houses, Financing Homes*, Monitor Inclusive Markets, July 2010

Line	Data type	Unit	Min	Max	Calculations	Notes
1	Price	Rs	280,000	1,000,000		
2	Pricing date		2010	2010		
3	Avg inflation rate		10%	10%	From 2005 — pricing date	
4	Price	2005 Rs	171,236	611,558	Line 1/[(1+line 3) ^(line 2 - 2005)]	
5	Annual interest @ 12%	2005 Rs	20,548	73,387	Line 4 × 12%	
6	Annual income required	2005 Rs	51,371	183,467	Line 5 / 40%	Assume max payment/income ratio = 40%
7	Annual income required	2005 PPP	3,211	11,467	Line 6 / 16	2005 conversion rate: 16 Rs per int'l dollar
8	Price	Current USD	6,000	22,000	Line 1 / 46.5	2010 conversion rate: 46.5 Rs per USD

Source: J.P. Morgan. Minimum price from Monitor Group, referencing Foliage developers.

3. *Cut off the top: We are sizing only the BoP market*
Since we are focused on only the BoP segment of the population, we consider the case study pricing that will be affordable to our target population. As such, we limit our pricing estimates (Line 1 in Table 10) to the maximum amount affordable by the top of our population bracket. Working backward through our Affordability Test, we calculate the maximum price affordable by households in this population – INR 1,000,000. At current exchange rates, our price range is then \$6,000 – \$22,000.
4. *Limit to urban or rural population, if applicable*
As the housing case study is one that applies only to urban customers where apartment blocks are more suitable, we restrict our target customer base accordingly. Some sectors will better address rural populations while others will successfully cater to both rural and urban populations. The restriction to urban or rural will be applied only where needed. In India, the average percentage of our

⁴⁹ We translate the per capita income brackets into per household income brackets by multiplying the income by the number of earners per household as implied by the UN Statistics Division's Economic Activity Rate – 69% in the case of India.

⁵⁰ As defined by the UN Statistics Division, Economic Activity Rate refers to the percentage of the population aged 15 and over which is economically active.

⁵¹ *Building Houses, Financing Homes*, Monitor Inclusive Markets, July 2010.

⁵² In the table, we assume a maximum payment/income ratio of 40% as per Monitor's guidance.

target BoP population that lives in urban areas is 37%. Across our measured countries, it is 58%. Since we have the percent of urban population by income bracket and by country, we incorporate this data on a granular basis.

At this stage, we have determined the parameters of the population we will target with our housing product: the Annual Household Income (line 1 in Table 7: Income brackets A – E in Table 8 and Table 9), and only the urban population. Next, we broaden our focus globally and count the number of people or households that fall within those parameters.

5. *Using the WRI data, identify population or number of households in each income bracket*

The WRI data provides the number of people per income bracket. Since housing is a product sold to a household rather than an individual, we count the number of households that would fall within our target income bracket. For the 36 countries represented in the WRI data set, the populations given in each income bracket count the people earning the relative incomes but exclude non-earning members of the household. In order to determine the number of households, we first take the size of the earning population (the WRI number), and divide by the Economic Activity Rate to find the total population size (earning and non-earning). Then for each country we divide by the average number of people per household to obtain the total number of households⁵³.

6. *Factor in population growth*

From the WRI database EarthTrends, we find the growth rates for urban populations in each country measured from 2005–2010. Since the population data we have is from 2005, we apply these growth rates – 1.06% on average – to each country’s number of households. Similarly, we apply the rural population growth rates when relevant. We do not consider urbanization rates, which could be expected to change over time.

7. *Extrapolate to the rest of the region*

Finally, we extrapolate from the 36 countries to the broader regions, just as WRI has done in *The Next 4 Billion*. We calculate the ratio of measured to extrapolated population and apply the same ratio to the number of households in our target income bracket. Table 11 shows the countries included in the measured work, and the regions to which we then extrapolate.

Table 11: Countries included in WRI data

Africa	Asia	Eastern Europe	Latin America and Caribbean
Burkina Faso	Bangladesh	Belarus	Bolivia
Burundi	Cambodia	Kazakhstan	Brazil
Cameroon	India	Macedonia, FYR	Colombia
Cote D'Ivoire	Indonesia	Russian Federation	Guatemala
Djibouti	Nepal	Ukraine	Honduras
Gabon	Pakistan	Uzbekistan	Jamaica
Malawi	Tajikistan		Mexico
Nigeria	Sri Lanka		Paraguay
Rwanda	Thailand		Peru
Sierra Leone			
Uganda			
South Africa			

Source: World Resources Institute

⁵³ Also based on WRI data.

This brings us to the Target Market (line 2 in Table 7) — the number of households that could afford the type of housing in our case study, which is 393 million. Next, we consider the number of households that we expect will choose this type of housing – i.e. the anticipated penetration rate – and the price they can afford.

Sizing the revenue opportunity

Once we have our target customer base, we turn to our selected case study to identify some of the microeconomics of the business.

1. *Identify an anticipated penetration rate and an anticipated customer base*

Above, we quantified a target market, but the total number of households in our target market may not be consumers of our product or service. In the case of housing, for instance, some households may decide the assumed pricing is too expensive, may already own their own home or may be unable to access the required financing, or they would prefer not to lock up cash in mortgage payments. Regardless of the reason, there will be a penetration rate of less than 100% for any business. While Monitor believes that a penetration rate of 80% is feasible⁵⁴, we apply a haircut to this rate given our assumption that this business model will successfully transfer to other geographical and regulatory regimes, and our assumption that these projects are to be delivered in the next ten years. We assume a more conservative 50% penetration rate (line 3 of Table 7). Then, multiplying our anticipated penetration rate by our target market gives our anticipated customer base of 196 million households (line 4 of Table 7).

2. *Identify the average price per unit*

Next, we use our case study to give us a feasible price estimate for the given product or service. In our affordability test in Table 10 above, we have already calculated the price range that will be affordable: \$6,000–\$22,000 (line 5 of Table 7).

3. *Estimate the growth in customers*

We do not believe it is reasonable to assume that the estimated penetration rate can be achieved in the first year of our 10 year period. Instead, we assume that the number of customers starts at a low penetration in year 1 and then grows to reach the target market penetration, such that each subsequent year represents the same multiple of the first year (e.g. the number of customers in year 2 is two times the number of customers in year 1, and the number of customers in year 3 is three times the number of customers in year 1). In the case of housing, the aggregate number of customers over the 10 year period equals the target market penetration, as we assume housing represents a one-time purchase for each customer. In the analysis for other sectors where purchases are recurring, the customer base in year 10 equals the target market penetration.

4. *Estimate the revenue opportunity: Anticipated customer base × price per unit*

Now that we have the number of customers we can reasonably expect to participate in our business in each year of our model, we can multiply the number of customers by the average price per unit to obtain the revenue opportunity over the 10 year period: \$1,179–\$4,323bn (line 6 of Table 7).

⁵⁴ Monitor Inclusive Markets, based on interviews with potential homeowners.

Potential profit opportunity

We also calculate the potential profit opportunity over the 10 year period, which is simply the revenue opportunity multiplied by the operating margin. In the case of housing, Monitor estimates a margin of 22% on the housing project they present; to be more conservative, we round this down to 15%. This results in a potential profit opportunity of \$177–\$648bn (line 8 of Table 7). Again, these profitability figures will not take into account the cost of capital or expenditure toward assets, such as the building in which a hospital might be located, and an investor would need to consider these further financial constraints when analyzing a potential investment.

Sizing the capital required to generate that revenue

Finally, we use the revenues generated by the case study business model to identify the amount of capital that would be required to realize that revenue potential. In each case, we assume that the year 10 revenues generated in the sector represent an adequate proxy for the total invested capital that would be required for the 10 year period we are evaluating. In the case of housing, this results in required invested capital of \$214–\$786bn over the 10-year period (line 9 of Table 7).

Nature of invested capital required

One further question will be to determine what kind of capital will be needed for each sector: Will the business be funded mostly by equity or debt? While this is a relevant question in helping investors identify where they should focus their capital from a risk/return standpoint, we believe that both the debt and equity portions of business financing will be impact investment.

Further considerations on our methodology

We have already mentioned the difficulty in our ambitious method of extrapolating around the globe based on the success of one case study. In addition, a few other methodological considerations arise that we wish to highlight.

The growth of financial access alongside the market will be crucial

Housing in particular is an industry that cannot grow alone. Without access to finance, many of the households we have counted amongst our customers will not be able to take advantage of even the lowest-price house. When CEMEX, a cement company in Mexico, decided to stabilize its cyclicalities by increasing its focus on the more stable revenue streams that came from the low-income population, it realized that financing was the most difficult hurdle for these customers to overcome⁵⁵.

Our methodology has assumed that external support mechanisms such as financing will grow alongside the business within some reasonable timeframe. In India, for example, as a result of the National Urban Housing and Habitat Policy of 2007, the National Housing Bank has established financing toward slum redevelopment projects and upgrades/additions to existing dwellings⁵⁶. With respect to our specific housing case study – based on the work by Monitor – there is reference to tie-ups with Bank of Baroda, DHFL, MAS, HDFC and MHFC (a selection of housing finance corporations in India)⁵⁷ for the provision of financing. For BoP populations without this access, incremental building models, such as Patrimonio Hoy (CEMEX's project) may be a more feasible starting point. In that Mexican business

⁵⁵ *The Fortune at the Bottom of the Pyramid*, C.K. Prahalad, 2010.

⁵⁶ http://www.nhb.org.in/Financial/Refinance_of_construction.PHP

⁵⁷ *Building Houses, Financing Homes*, Monitor Inclusive Markets, July 2010.

case, end users contribute monthly in a pay-over-time scheme toward the purchase of building materials to build one room at a time. This model might be more accessible where access to finance is a challenge.

While finance is clearly necessary to provide access to housing – one of the most expensive things for most households around the world – the BoP household might also need to use finance to buy other things that require a large cash outlay. Broadly speaking, if impact investments are to succeed at delivering products and services to BoP populations, the customers' access to finance will be a critical component of growing the market across all sectors.

Having walked through the housing sector study in detail, we will review the same approach in less detail taken in the other sectors. The first sector we examine is the water sector.

Water: Clean Water units for rural areas

Case studies:

Byrraju Foundation

Water Health International

Case study: Community filtration units

There are a few different business models aimed at providing water to BoP populations, from point-of-consumption filtration systems to community filtration plants. In choosing our case study, we again reference the work of Monitor Inclusive Markets. Monitor studied the market in India in particular, and found that point-of-consumption carbon water filtration units can often be too expensive for BoP populations in India. There are also concerns that point-of-consumption filtration units are less effective over time, since the user may not change filters as frequently as required, for example.

The business model on which Monitor focused its analysis is the community water system, where a centralized filtration unit provides water for the community and is operated by trained staff. This business model is illustrated by India's Byrraju Foundation and by Water Health International ("Water Health"), which operates in India, Ghana and the Philippines⁵⁸. According to Monitor, the community filtration business model provides access to purified water at about half the price of individual activated carbon water filters and about a third of the cost of boiled water. It has disadvantages as well, such as leaving the buyer to transport the water back to the home for use⁵⁹. Nonetheless, this has been a successful business model employed by the two case studies, and the affordability leads us to choose the community filtration model over the point-of-consumption model for our analysis.

Potential size of investment: \$5–\$13bn; estimated profit opportunity: \$2.9–\$7bn

Using the economics of these community filtration units, we conclude that the potential size of investment in this market over the next 10 years could be \$5–\$13bn, with an estimated profit opportunity of \$2.9–\$7bn. Table 12 highlights the key assumptions going into this conclusion, and we explain them in more detail below.

⁵⁸ See *Emerging Markets, Emerging Models*, Monitor Group, March 2009 for more examples.

⁵⁹ Both Byrraju and Water Health International have offered delivery services, though many Byrraju customers have stopped using this service citing price.

Table 12: Water market sizing

Data point	Source	Water example
Annual household income of target market	Case study	Brackets A–E, Rural
Target market (# of households, mm)	N4B	683
Anticipated penetration rate	Case study	40.0%
Anticipated customer base (# of households, mm)		273
Average price of unit	Case study	\$20–\$47
Aggregate revenues over 10 years, bn		\$29–\$71
Estimated operating margin	Case study	10.0%
Estimated profit opportunity, bn		\$2.9–\$7
Total invested capital, bn		\$5–\$13

Source: J.P. Morgan. Case study indicates the particular case study used for each sector. "N4B" indicates *The Next 4 Billion*, 2007, WRI.

Table 13: Household income brackets – India

Average number of people per household = 5.3
India Economic Activity Rate = 69%
Average number of earners per household = 3.7

2005 PPP (upper bound)	
A	11,923
B	9,936
C	7,949
D	5,962
E	3,974
F	1,987

Source: World Resources Institute, UN Statistics Division

Affordability: Income brackets A–E, rural

In testing the affordability of the water produced by these business models, we reference the price of a 20 liter bottle of water, which should meet the daily needs of a household⁶⁰. According to surveys conducted by Monitor, over fifty percent of the Byrraju customers have household incomes less than INR 2,000 a month (\$1,000 in 2005PPP, annualized), putting them in the lowest income bracket F. The price that Water Health charges in Ghana is lower than in India (about \$0.07 in Ghana vs. about \$0.11 in India⁶¹), so we consider the water to be affordable to the same population brackets there as well.

To check that this pricing is not far from the current expenditures by BoP households on water, we contrast this pricing with the expenditures measured by the WRI in *The Next 4 Billion*. There, we find that the population in the measured countries spends an average of 1% of their household income on water⁶². In Table 14 we show how we calculate which income brackets will fall within our target market based on our affordability test.

Table 14: Affordability test

	Min	Max	Units/Notes
Daily cost	2.5	6.0	2010 Rs
Annual cost	913	2,190	2010 Rs
Inflation (2005 – 2010)	10%	10%	
Annual cost, 2005	558	1,339	2005 Rs
Annual cost, 2005	35	84	2005 PPP
If annual salary =	1,000	1,000	Equip to INR 2,000 a month in 2010
Then percentage of annual salary =	3.5%	8.4%	
If annual salary =	1,987	1,987	Bottom of income bracket E
Then percentage of annual salary =	1.8%	4.2%	
If annual salary =	3,974	3,974	Bottom of income bracket D
Then percentage of annual salary =	0.9%	2.1%	

Source: Monitor Inclusive Markets, J.P. Morgan. All annual salary figures in bottom half of table are in 2005 PPP.

For the poorest households, those in the middle of bracket F, the pricing range provided by our case studies of INR 2.5–6 per 20 liters (\$0.05–\$0.13) would amount

⁶⁰ While the United Nations considers 20–30 litres per capita per day to be enough to meet basic human needs (<http://www.un.org/waterforlifedecade/factsheet.html>), Monitor Inclusive Markets has interviewed kiosk attendants and 75 customers to determine how much water they would buy for the household per day.

⁶¹ We can draw the same conclusion if we measure in PPP terms as well as USD.

⁶² If weighted by population, this expenditure drops to 0.3%.

to 3–8% of household expenditure. This expenditure drops below 1% for households in income bracket D. In an attempt to balance the findings from Monitor with the findings from the *The Next 4 Billion*, we include bracket E and will leave bracket F out, to be more conservative⁶³.

Table 15: Target population

Brackets A–E, Rural, mm

	Population
Africa	49
Asia	579
Eastern Europe	32
Latin America	23
Total	683

Source: WRI

Focus on rural populations, and haircut the penetration rate to target larger villages

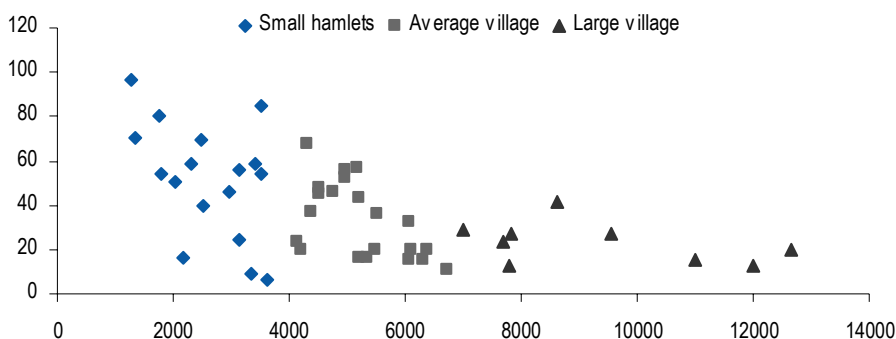
Having identified income brackets A – E as our target market, we focus on rural populations where access to clean water is less readily available (and the business is more likely to attract customers as a result): This brings us to a target market of 683 million households globally, which is broken down by region in Table 15. As with many businesses operating in these markets, though, the profitability of these filtration units will depend on high volume, which can require that they be located in larger villages⁶⁴. Figure 22 shows Monitor's analysis of Byrraju's penetration rates by village size. They note that while smaller villages sustain higher penetration rates (perhaps due to necessity), a higher proportion of the larger villages are profitable. As such, we haircut our anticipated penetration rate to accommodate the fact that our rural population will include smaller villages that may not sustain a profitable filtration unit. Byrraju has obtained penetration rates of 40–50% in average-size villages and Water Health is targeting 60%, so we will employ an anticipated penetration rate of 40% (the lower end of the range) to be conservative. As a result, our anticipated customer base is 273 million households.

Revenues, margins, capital and profit

As noted in Table 12, reaching 273 million households over the next ten years results in potential revenues of \$29–\$71bn. Applying an operating margin of 10% suggests profit potential of \$2.9–\$7bn and applying our one-to-one assumption of invested capital to year 10 revenues suggests required capital of \$5–\$13bn.

Figure 22: Penetration rates by village size

x-axis: Number of people in the village; y-axis: Penetration rate



Source: Monitor Inclusive Markets

⁶³ Monitor confirmed that a significant portion of Byrraju customers earn less than INR 2,000 per month (equivalent to \$1,000 in 2005 PPP), putting them in bracket F. If we include bracket F, we add 150 million households to the target population, and about \$20–\$30bn to the capital required.

⁶⁴ With populations between 5,000 and 10,000 according to Water Health

Complementing government service provision

Access to water has recently been deemed a basic human right by the United Nations⁶⁵, and in many countries, access to water is provided by governments. The same is true in the BoP markets we analyze, though in many cases the businesses are successful because of the lack of government provision (particularly in rural areas). For example, according to Water Health, consumption at their water purification plants in Ghana is about 3–4x that of a typical site in India, mainly because of the lack of alternative sources for water in Ghana. In India, by contrast, many communities still have access to water through the Rural Water Supply Programme⁶⁶, even though this water is not what Water Health would consider safe for drinking. Not only will this variation in government provision across regions affect the success of businesses as they start up in different geographies, but it can also be a factor that changes over time, affecting the competitive landscape and long-term prospects of a business operating in this sector.

Case studies

LifeSpring Maternity Hospital
(India)

R-Jolad (Nigeria)

Health: Maternal care in urban areas

Case studies: Maternal care in India and Nigeria

Within the health sector, there are many potential businesses we could use for a case study, from pharmaceutical providers to specialist surgical hospitals. We have chosen a maternity hospital chain in India – LifeSpring Maternity Hospital. We complement the analysis of LifeSpring’s business with an analysis of R-Jolad, a hospital based in Lagos, Nigeria that also delivers antenatal care (although its services are broader). These two hospitals are both designed to operate as high volume, low cost businesses and target high occupancy, utilization and turnover rates in order to ensure profitability. LifeSpring, founded in 2005 and currently operating as a for-profit chain of six 20-bed hospitals, broke even after only 18 months operating as a private company⁶⁷. R-Jolad delivers high single figure net margins⁶⁸, having grown from a single-physician clinic in 1982 to a 150 bed, 250 out-patients per day hospital.

Sizing summary: \$0.4–\$2.5bn of potential invested capital; \$0.1–\$1.4bn potential profit opportunity

Given the case studies we reference, there is potential for \$0.4–\$2.5bn of invested capital to fund hospitals that, like LifeSpring, specialize in maternal health services. Sizing the entire market for healthcare provision is too broad a task for this research piece. Instead, we have identified the capital that could fund maternal health provision, particularly the attendance of births by a skilled professional when otherwise a professional would not have been present. This of course is only one segment of healthcare services that could be provided by impact investment, and given that maternal health has been estimated to account for only 2% of total healthcare expenditures on average in the developing world⁶⁹ we can estimate that the total health market for impact investment could be as large as \$18–\$123bn.

⁶⁵ *General Assembly declares access to clean water and sanitation is a human right*, UN News Centre, July 28, 2010.

⁶⁶ http://www.india.gov.in/sectors/rural/rural_water.php

⁶⁷ *LifeSpring Hospitals*, Gita Johar, Columbia CaseWorks, April 26, 2010.

⁶⁸ *The Business of Health in Africa*, Annex I, IFC, Dec 2007.

⁶⁹ Estimate provided by Marty Makinen, Results for Development Institute

Table 16: Health market sizing

Data point	Source	Healthcare example
Annual household income of target market	Case study	Brackets A–E, Urban, Unattended births
Target market (# of unattended births, mm)	N4B	113
Anticipated penetration rate	Case study	40.0%
Anticipated customer base (# of unattended births, mm)		45
Average price of unit	Case study	\$43–\$301
Aggregate revenues over 10 years, bn		\$2–\$14
Estimated operating margin	Case study	5.0%–10.0%
Estimated profit opportunity, bn		\$0.1–\$1
Total invested capital, bn		\$0.4–\$2

Source: J.P. Morgan. Case study indicates the particular case study used for each sector. "N4B" indicates *The Next 4 Billion*, 2007, WRI.

Table 17: Income brackets

INDIA, calculated as in Table 9
NIGERIA

Average number of people per household = 4.75

India Economic Activity Rate = 57%

Average number of earners per household = 2.7

	India Household income 2005 PPP (upper bound)	Nigeria Household income 2005 PPP (upper bound)
A	11,923	8,835
B	9,936	7,363
C	7,949	5,890
D	5,962	4,418
E	3,974	2,945
F	1,987	1,473

Source: World Resources Institute, UN Statistics Division

Affordability: Income brackets A – E

In measuring affordability in this sector, we are able to reference the customer base that both LifeSpring and R-Jolad are targeting, summarized in Table 18 and referencing the income brackets in Table 17. LifeSpring is targeting customers with daily household incomes of \$2–\$5, which translates into an annual household income of \$720–\$1,800. This means that its business aims to serve those in income bracket F, in particular. However, R-Jolad has customers from a wider income base, as illustrated in Figure 23. From this data, we see that over 50% of R-Jolad's customers earn less than \$1000 per annum. Especially since the R-Jolad data does not specifically reference that these are household incomes, we will again apply the conservative assumption that the bottom income bracket may not be able to afford these health services. As such, we retain brackets A–E in our target market. In practice, the roll-out or expansion of demand-side financing reforms (i.e. health insurance) is likely to have a large influence on which customers will be able to access maternal as well as overall healthcare services delivered through the private market. Additionally, the design of demand-side financing reforms is likely to have a major impact on private sector providers – if national/state health insurance programs only reimburse for public services, or reimburse differentially, this will have a major impact on the size of the market.

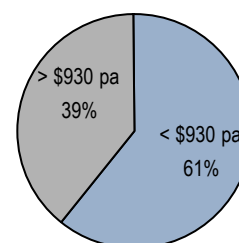
Table 18: Affordability test

	India	Nigeria
Daily household income of target customers	\$2–\$5*	
Annual household income of target customers	\$720–\$1,800	< \$930 for more than 50% of patients**
So, comparing to Table 17 we target:	Brackets A – F	Brackets A – E

Source: J.P. Morgan. * LifeSpring corporate brochure available on website.
** *The Business of Health in Africa*, Annex I, IFC, Dec 2007.

Figure 23: R-Jolad patients by income level

pa = per annum

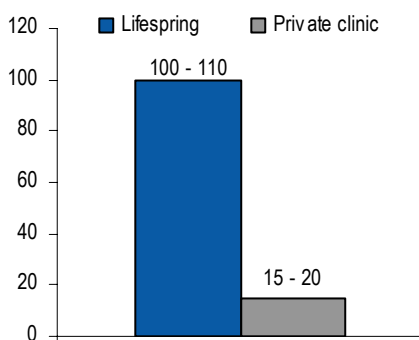


Source: *The Business of Health in Africa*, Annex I, IFC, Dec 2007.

Urban locations are more likely to be profitable

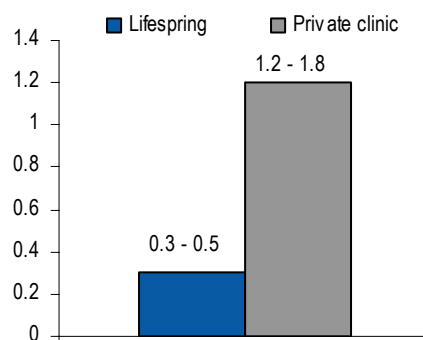
As in some of our other case studies, the success of these hospitals will depend on their ability to maintain high bed occupancy and turnover rates, as well as high outpatient visits to optimally utilize doctors' time. Figure 24 and Figure 25 highlight the high resource utilization rates that LifeSpring delivers relative to comparable private clinics. In order to achieve these utilization rates, the hospitals must be located within reach of enough potential patients – the majority of their patients come from within a 5km radius⁷⁰. LifeSpring's hospitals are located in peri-urban areas, and R-Jolad is located in Lagos, the capital of Nigeria, so in choosing the target market we will consider the urban population.

Figure 24: Average # of deliveries per month



Source: Monitor Group. Private clinic refers to small 20–30 bed nursing house, usually run by a family.

Figure 25: Cost of doctor per patient (USD)



Source: Monitor Group. Private clinic refers to small 20–30 bed nursing house, usually run by a family.

Target market: Unattended births expected in the next 10 years

Similar to water, the health sector is one where governments typically provide some degree of service. In considering the potential customers of a private hospital, we target those that are not currently accessing those government services. Some mothers will avoid government hospitals because of cost (subsidies do not necessarily cover the full cost of treatment⁷¹), while others may not utilize them because of quality of service or lack of access to or knowledge about them. While LifeSpring costs more than the government service, customers who do not utilize the government services might choose LifeSpring for some of the other reasons. The hospital aims to deliver-high quality service by retaining talented doctors with non-monetary incentives, such as fewer administrative duties⁷². LifeSpring also dedicates time and money to marketing its services through outreach, education and advertising. Where costs are concerned, the hospital does compete with other private clinics by cross-subsidizing lower-cost delivery rooms with higher-cost private delivery rooms.

⁷⁰ *Low cost service delivery in health & education*, Monitor Inclusive Markets, 2008.

⁷¹ *LifeSpring Hospitals*, Gita Johar, Columbia CaseWorks, April 26, 2010.

⁷² Other private clinics often pay doctors based on consultations, forcing them to spend time soliciting new patients into the clinic.

Table 19: Target population

Brackets A–E, Urban, Unattended births in next 10 years, mm

	Population
Africa	18
Asia	68
Eastern Europe	7
Latin America	20
Total	113

Source: WRI

Considering the landscape of healthcare provision, we focus on the population that is not currently utilizing healthcare services (whether provided by government or private sector). According to the World Health Organization, which publishes data tracking countries' progress on the Millennium Development Goals, only 43% of births in low-income households are attended by skilled health personnel⁷³. Given this data, we have chosen to calculate the size of our target market by considering the births that will occur within the next 10 years⁷⁴ and be unattended by a skilled professional. Across regions, this gives us 113 million births over the next 10 years, broken down by region as shown in Table 19. Applying the penetration rate – LifeSpring has obtained a 43% market share, which we haircut to 40% for the transferability assumption described above – the target market is then 45 million births. Our haircut is less dramatic in this sector since we've already limited our target population to those who will not be expected to employ government services. In practice, the private sector hospitals may attract some customers that could otherwise have used government services.

Revenues, margins, capital and profit

Now that we have identified our target market, we can estimate revenues by applying the costs of each of those deliveries. The price ranges from INR 2,000 (about \$40) for a normal delivery in a general ward to INR 14,000 (about \$300) for a Caesarian delivery in a private room. Multiplying these prices by the number of deliveries over the 10 year period gives us an estimated revenue opportunity of \$2–\$14bn. Factoring in a profit margin between 5% and 10%⁷⁵ we calculate a potential profit opportunity of \$0.1–\$1.4bn. Based on revenues in year 10, we conclude that potentially \$0.4–\$2.5bn of impact investment capital could be allocated to fund hospitals that deliver maternal health care over the next 10 years.

Education

As young children grow to school-age, they ideally are able to access quality schools close to home, an opportunity we explore in this section. While the UN Millennium Development Goal of universal primary education has spurred government activity in extending primary education to all income levels, there remain areas in which affordable private schools are supplying services that meet with high demand from parents who are willing to pay. In the Dominican Republic, research concludes that parents' demand for private education is driven by lack of access to public (government) schools and by a preference for private schooling when the public education is perceived to be low quality⁷⁶. In India, one study finds that 73% of families in slum areas send their children to private school, and that many parents believe the quality of these affordable private schools is higher than that provided by the government (if any local alternative is provided)⁷⁷. Similarly, urban schools in

Case studies

Gyan Shala (India)

Analysis of Private Budget Schools in Hyderabad City, India

by S Joshi, Gray Matters Capital

Ancillary model:

Indian School Finance Company, (established by Gray Ghost Ventures)

⁷³ Where low income is as defined by the World Bank: 2009 GNI per capita of \$995 or less. The percentage of births attended by skilled health personnel is calculated as a fraction of the total number of live births in the defined population.

⁷⁴ Using current crude birth rates from the CIA World FactBook (country by country).

⁷⁵ We do not have explicit profit margin data from LifeSpring, though we know it is profitable (i.e. more than breaking even). R-Jolad, which operates a similar high volume hospital model, delivers high single-figure net margins, according to the IFC report.

⁷⁶ *The Private and Public School*, G Murray cited in *Affordable Private School Initiative Research in Latin America*, I Faulhaber, Gray Matters Capital Foundation, 2008.

⁷⁷ *Private Schools for the Poor: Development, Provision, and Choice in India*, R Baird, May 2009.

Kenyan slums cater to over 500,000 students a year, offering lower student/teacher ratios and better facilities when compared to public schools⁷⁸.

Case study: Gyan Shala (India), Indian School Finance Company (India)

There are two types of business models that stand out in the education sector, and we analyze both in our market sizing work. The first business, Gyan Shala, runs over 350 one-room schools in the urban slums of Ahmedabad, India. They have successfully delivered education at scale by creating highly standardized materials that teachers with less specialized training can implement without sacrificing the quality of the education provided. Part of that quality derives from the materials, and part is derived from teachers' local ties and their "appropriate attitude" toward teaching (which are part of the criteria for employment). Essentially, Gyan Shala has employed the "no frills" model in the education sector and done so successfully.

Gyan Shala currently operates as a not-for profit organization, but parents in Income Bracket F (the bottom bracket) confirmed a strong willingness to pay school fees at a level that would sustain the business model commercially⁷⁹. In order to complement this case study with profitable schools, we reference a study from Gray Matters Capital of private budget schools in Hyderabad City. The study surveyed private, unaided (by governmental or donated funds), budget schools located in and around old Hyderabad City in India. Tying together the economics of these surveyed affordable private schools with those of the Gyan Shala project allows us to estimate the cost/revenue structure of a feasible business model.

Potential size of investment: \$5–\$10bn; estimated profit opportunity: \$2.6–\$11bn

Based on the above case studies, we conclude that the potential required impact investment capital in this market over the next 10 years could be about \$5–\$10bn. The sector could also provide an estimated profit opportunity of \$2.6–\$11bn. Table 21 and the following text detail the key assumptions going into this conclusion.

Table 20: Household income brackets

INDIA, calculated as in Table 9

India	
2005 PPP (upper bound)	
A	11,923
B	9,936
C	7,949
D	5,962
E	3,974
F	1,987

Source: World Resources Institute, UN Statistics Division

Table 21: Education market sizing

Data point	Source	Education example
Annual household income of target market	Case study	Brackets A–E, Urban, primary school age children
Target market (# of children, mm)	N4B	238
Anticipated penetration rate	Case study	40.0%
Anticipated customer base (# of children ,mm)		95
Average price of unit	Case study	\$50–\$103
Aggregate revenues over 10 years, bn		\$26–\$54
Estimated operating margin	Case study	10.0%–20.0%
Estimated profit opportunity, bn		\$2.6–\$11
Total invested capital, bn		\$5–\$10

Source: J.P. Morgan. Case study indicates the particular case study used for each sector. "N4B" indicates *The Next 4 Billion*, 2007, WRI.

Affordability: Brackets A–E, urban

Both Gyan Shala and the affordable private schools in Gray Matters Capital's study cite that their students come from households in Brackets C–F. Again, we exclude Bracket F from the potential customer base, and we also include the higher income

⁷⁸ *Understanding the Kenya Independent Schools Sector*, Y Musani, Gray Matters Capital, June 2008.

⁷⁹ *Emerging Markets, Emerging Models*, Monitor Group, March 2009.

brackets within the BoP since these schools will be affordable to them⁸⁰. This leaves us with Brackets A – E. We then narrow our focus to urban areas as the starting point for our target population, since the success of the school is dependent on its proximity to a significant student population. Gyan Shala, for example, had opened two rural clusters with donor support. Although they delivered similar education results to the urban program, they were shut down due to resource constraints⁸¹. UNESCO also cites that urban for-profit education provision cannot be extrapolated to rural areas with more dispersed and often much poorer populations⁸². So we restrict our target market to the urban population.

Table 22: Target population

Brackets A–E, Urban,mm

	Population
Africa	31
Asia	148
Eastern Europe	15
Latin America	45
Total	238

Source: WRI

Target market: Primary school age children, ages 5–14 yrs

Within the urban income brackets A – E, we then concentrate on the primary school age population– the percentage of the population aged 5–14 in 2010, as estimated by the United Nations Population Division⁸³. Applying these percentages to the population in our urban income brackets brings us to the target market of 238 million primary school age children, broken out in regions in Table 22.

Penetration rates are high in some regions, but lower elsewhere: We assume 40%

In India, studies have found that up to 80% of urban children aged 5 – 14 attend private school, including children from low-income families⁸⁴. More broadly, surveys across cities in the developing world conclude that as many as 75% of students attend private schools paying fees of less than \$10 a month⁸⁵. By contrast, in the urban areas around Lima, Peru only 38.2% of children attend private schools, although the numbers have been increasing⁸⁶. Given this range of penetration rates, and our assumption that we will include income brackets A and B, we assume a penetration rate at the low end of the range: 40%. This brings our Anticipated Customer Base to 95 million children.

Revenues, margins, capital and profits

Using the pricing from our case studies, we obtain a price range of \$50–\$103 for one year of primary school. We then multiply this price range by the 10-year time frame we consider and the size of our anticipated customer base over that period, which gives us a revenue opportunity of \$26–\$54bn.

In order to estimate the types of profit margins that could be realized from these kinds of schools, we compare the pricing used by the schools studied by Gray Matters Capital with the costs analyzed by Monitor in their work on Gyan Shala. The Hyderabad schools charge between \$50 and \$103 per student per annum, while the

⁸⁰ We include them in the Target Market, though we will haircut the penetration rate to account for the fact that they may not choose to use these kinds of schools.

⁸¹ <http://www.gyanshala.org/Introduction.html>.

⁸² *Education for All, Global Monitoring Report*, UNESCO, 2009.

⁸³ <http://esa.un.org/UNPP/>

⁸⁴ *India: Development and Participation*, J Dreze, A Sen, (2nd ed.) New Delhi/Oxford: Oxford University Press as cited in *The Relative quality and cost-effectiveness of private and public schools for low-income families: a case study in a developing country*, J Tooley, P Dixon, Y Shamsan, I Schagen, School Effectiveness and School Improvement, September 2009.

⁸⁵ *Private Education for Low-Income Families*, J Tooley, P Dixon as cited in *Private Schools for the Poor: Development, Provision and Choice in India*, R Baird, Gray Matters Capital, May 2009.

⁸⁶ *Affordable Private School Initiative Research in Latin America*, A Faulhaber, Gray Matters Capital, 2008.

annual cost of providing that education is about \$30–\$65 per student per annum (based on Gyan Shala’s ultra-low-cost model and the cost structures of alternative affordable private schools analyzed by Monitor⁸⁷). These figures imply operating profit margins of about 35%. Making a more conservative assumption (particularly given we are comparing fees charged by schools that are different from the ones for whom we consider the operating cost), we will assume profit margins between 10% and 20%, which gives us an estimate of the potential profit opportunity of \$2.6–\$11bn. In our analysis, year 10 revenues provide the estimate for required funding of \$5–\$10bn.

Challenges for affordable private schools: Late fee payment and high competition

One of the challenges with providing services for BoP populations is managing the volatility of income cashflows that the customers experience. Within the education sector, this has been recorded by Gray Matters Capital’s research to the degree that 71% of surveyed schools had 25–50% of fees pending. The research also cites such high competition in Hyderabad City that 93% of schools give concessions of some kind – such as free uniforms or textbooks – to attract students. Schools may be able to cope with the competitive landscape by operating in less penetrated cities and delivering high quality education (as quality is one of the main reasons parents choose to pay). The late fee payment question may be more difficult to manage but some schools mitigate this risk by retaining one month of recurring expenses as a reserve or by collecting portions of the fees throughout the month rather than in one lump sum⁸⁸.

Complementing government service provision

As with water, education is a service often provided by the government. Several studies cite that the success of the affordable private schools relies on the quality of service (that they are deemed to be higher quality than government schools). One study has actually identified several relationships to give evidence to this otherwise anecdotal conclusion. In *Private Schools for the Poor*⁸⁹, R Baird finds an inverse relationship between government education spending and private school enrollment, such that higher government spending corresponds to lower private school enrollment. Further findings include that high teacher absence in government schools also has a major statistical link with private school enrollment.

Clearly, the absence of high quality government-provided alternatives can encourage parents to pay for their children’s education. However, should government spending (and consequently the quality of government schools) increase, private schools may naturally lose student enrollment.

Further opportunities within the Education sector: Gray Ghost Ventures and education finance

An ancillary model that has been successful within the education sector is one that provides financing for education. The Indian School Finance Company, for example, extends medium-term loans at market rates to affordable private schools in India. While the schools are mostly operationally profitable, many struggle to

⁸⁷ *Introduction to the Gyan Shala Model*, Monitor Inclusive Markets, September 2009.

⁸⁸ *Private Budget Schools in Hyderabad City, India*, S Joshi, Gray Matters Capital, 2008.

⁸⁹ *Private Schools for the Poor: Development, Provision, and Choice in India*, R Baird, May 2009.

invest in furniture, infrastructure or construction to grow their product offering. Also, many of the schools' financing needs fall outside the reach of both microfinance providers (for which school financing requirements are too large) and typical SME finance providers (for which the financing requirements are too small). Gray Ghost Ventures specified that they pursued the finance avenue rather than actually building and running schools because their market research found local entrepreneurs were successfully delivering affordable education (across regions, including in Kenya, Ghana, Dominican Republic, Peru, China and India). Rather than competing with these local entrepreneurs, they sought to encourage their success, applied their experience in the microfinance sector and entered the education sector with a financial services model.

Based on conversations with Gray Ghost Ventures, the economics of the business model sound attractive. While the interest rates are similar to microfinance (20–24% on a declining balance), the operational costs per loan are lower given the loan sizes are larger (minimum loan size is INR 500,000, or about \$10,000). The Indian School Finance Company is targeting a return on equity of 20% once the business has reached scale (it is currently in its second year of operation).

Sector by sector analysis: Financial services

Given that the microfinance sector serving BoP customers is a more mature industry with more widely available data, we take a different approach, extrapolating from the available data on current market size. Modern microfinance emerged as a tool intended to create a vehicle for improving the access of poor people to affordable finance that could grow without reliance exclusively on donor capital. As such it was a quintessential impact investment intended to create social benefit along with financial return. While the microfinance industry continues to be a hallmark of impact investing, the recent flurry of commercial activity in microfinance does call into question whether all microfinance institutions will continue to constitute impact investments. For the purposes of this analysis, we consider the potential market size for microfinance that could be served by impact investors, but, as we have with the other sub-sectors, recognize that not all the businesses that seize this market opportunity will in fact have social purpose as an intent.

MFIs vs. MIVs

Investment flows into microfinance primarily through:

- Microfinance institutions (MFIs) that provide microfinance loans to end clients
- Microfinance investment vehicles (MIVs) that collect funding from investors and invest into MFIs

While some of the data we use in this exercise references MIVs rather than MFIs (which we use as proxies), we focus in this section on sizing the potential capital that could be deployed to finance the MFI market.

Focus on microfinance

The microfinance sector is one of the most developed of the impact investment sectors notwithstanding recent problems related to excessive growth. The modern microfinance industry launched in the early 1970's with separate initiatives in Bangladesh and India⁹⁰, and has benefited from the development of infrastructure and data histories that have yet to be as well established in many of the other impact investment sectors. The Consultative Group to Assist the Poor ("CGAP") has produced extensive market research, and the Microfinance Information eXchange ("MIX") has collected a significant data set that they believe captures 80% of microfinance institutions globally.

Microfinance sizing methodology

In order to make use of the extensive data collected on the sector, we built a methodology that extrapolates from the current market size. We start with a list of country-by-country data from MIX, including total assets, total deposits, and penetration rates⁹¹. Using this data, we follow the calculation shown in Equation 1.

Equation 1: Calculating potential invested capital

$$\text{Potential invested capital} = \left(\frac{\text{Current invested capital}}{\text{Current penetration rate}} \times \text{Target penetration rate} \right) - \text{Current invested capital}$$

where

$$\text{Current invested capital} = \text{Total assets} - \text{Total deposits}$$

Source: J.P. Morgan.

Our starting point is the current invested capital, which we define as total assets minus total deposits, since we assume the deposits are sourced locally rather than from impact investment. Then, in the bracketed part of the equation, we scale up the current invested capital to the amount it would be in case penetration rates hit 100%. However, given we think a 100% penetration rate is neither attainable nor healthy, we set a target penetration rate of less than 100% and scale down by this amount. We have also assumed a simplified set of two funding sources: invested capital and deposits. As the market matures, the MFIs will grow to access more diversified funding sources. In the future (and for some, currently) there may be access to interbank lending, repurchase or "repo" transactions, or even central bank funding. For the time being, we assume that these funding sources are not being accessed.

⁹⁰ In Bangladesh, BRAC was founded in 1972 and Grameen a year later while SEWA also began microfinance programs in India at the same time.

⁹¹ See Appendix VI: Notes on market sizing for full data set.

Table 23: Microfinance penetration rates currently above 20%

Penetration rate = # of borrowers/# of poor adults

Country	Penetration rate
Bosnia and Herzegovina	60%
Mongolia	42%
Montenegro	29%
Vietnam	28%
Bangladesh	28%
Paraguay	24%
Mexico	24%
Sri Lanka	22%
Morocco	21%
Cambodia	21%

Source: MIX Market, J.P. Morgan.

Choosing Target penetration rates: 20% over 10 years

In choosing the target penetration rate we aim to capture a healthy potential rate of growth over the next 10 years. Anecdotally, some of the markets with penetration rates higher than 20% (Table 23) are exhibiting symptoms of multiple lending and significant over-indebtedness. Since high growth can result from lending more to the same population rather than increasing the penetration into new markets, we prefer to target a more conservative growth estimate. Targeting a lower penetration rate than might be achievable over the coming years can allow the companies to tackle the costs of accessing new customers in new regions, increasing their market penetration in a more gradual way.

Sizing the market: \$176bn could capitalize the market over 10 years

Once we have identified the target penetration rate, we can apply the calculations in Table 24. We start with the calculation from Equation 1 for each country's microfinance sector (using the MIX data set, which represents about 80% of the market) and determine the potential investment capital for each country (excluding any countries for which the penetration rate is already higher than 20%). Adding these up gives the \$150bn of potential invested capital for the MIX data set (line 1)⁹².

Table 24: Microfinance market sizing

	USD bn	Calculations	Assumptions
1 Potential invested capital for MIX data set	150	Sum of country data using Equation 1	as at 2008, using 20% target penetration rate
2 Potential invested capital for global MFIs	187	Line 1 / 80%	as at 2008, MIX data represents 80% of global MFIs
3 Potential invested capital for global MFIs	269	Line 2 ((1+20%) ²)	as at 2010, applying global growth rate of 20%
4 Percentage currently funded by the private sector	66%		From the CGAP 2010 MIV Market survey
5 Private sector investment opportunity	176	Line 3 (Line 4)	

Source: J.P. Morgan. We omit any countries where current penetration rates are higher than 20%. Private sector market opportunity is the sum of the sum of investments from private individuals, private institutions and fund-of-fund MIVs. The investments surveyed by CGAP reference in Line 4 are MIV investments, which we take as a proxy for MFI funding sources.

Then, we scale line 1 by 80% to capture the part of the market not represented by the MIX data (line 2), and we grow that amount by 20% annually⁹³ to bring the potential invested capital for global MFIs to a 2010 number: \$269bn (line 3). Finally, we apply the percentage of investment that comes from private sector investors (66% as determined by CGAP⁹⁴, line 4) to find that the potential private sector investment opportunity in microfinance is \$176bn. As with the other sectors, we take this to be a number representative of the currently unfunded market opportunity over the next 10 years.

We note at this point that we have aimed to size the potential opportunity for microfinance such that the market does not fall down the path of indebtedness and multiple borrowing that we have recently seen in markets that have undergone very rapid growth. The potential market could clearly be bigger than our estimate, but we hope that growth in this sector will remain driven by the social mission and avoid putting borrowers into challenging debt situations. Indeed, the recent problems in India highlight the critical need for strengthened credit risk management and regulatory frameworks.

⁹² *How many borrowers and MFIs exist*, A Gonzalez, MIX, December 2008.

⁹³ According to CGAP, growth in microfinance investment vehicles (MIVs) slowed in 2009 to 25% from 34% in 2008. Since we are analyzing microfinance institutions (MFIs) and not the vehicles that invest in them, we will be slightly more conservative and use the lower 2009 growth rate as our proxy for the MFIs.

⁹⁴ CGAP 2010 MIV Survey.

Putting the size in context: Potential market is almost 5x the current market

The current invested capital (total assets *minus* total deposits) in the microfinance market is about \$37bn⁹⁵. This means that our estimate will allow for the market to grow by just over five times in the next 10 years. We recognize that some of this capital may come from increased deposits rather than impact investment as MFIs encourage their customers to save as well as borrow with them. Our analysis does not take this potential increase in deposits into account. While there has been significant growth already, and growth rates are slowing down from 34% in 2008 to 25% in 2009, our analysis reveals that there remains room for impact investment capital in this market.

Segments we haven't measured

As stated earlier the above framework has been applied only to some sub-segments of the impact investment market and leaves significant scope for further research and refinement. We expect a full and complete sizing effort would produce invested capital and profit numbers many multiples of those we've presented above. In addition to the fact that we only tackled sub-segments of the five sectors we analyzed, the following significant segments of the market were left out due to limitation in data availability, methodological challenges, and/or simply to keep manageable the scope of analytical work for this particular report.

Agriculture

Impact investments in agriculture can span businesses providing food to BoP customers, BoP suppliers of food or other agricultural inputs, businesses providing logistical support such as storage and distribution, and businesses that organize or aggregate smallholder farmers' products to capture higher value in domestic or export markets. Due to the challenges in finding a representative case study, we leave an analysis of this sector for future research.

Energy

We did not attempt to size the market for clean energy products, given the wide array of product and business types, and often the significant regulatory hurdles for scalable business solutions. Clean energy services and products include solar home systems, solar lanterns, energy efficient cook stoves, and hydro- or waste-biomass generated electricity. The potential for clean energy solutions for the BoP market is huge – a recent study⁹⁶ conducted by IFMR Research-Centre for Development Finance and the World Resource Institute estimated that the consumer market in India alone is \$2.1bn per year.

Small and Medium Enterprise (“SME”) finance

We have not attempted to separately size the SME finance market due to both the significant overlap between the SME market and the various sectors (education, housing, etc.) that we have measured, where many impact investments would be defined as SME, and the difficulty in determining what subset of the SME market serving or employing the BoP+ populations can be considered to represent an impact investment (i.e. operating with social intent).

⁹⁵ About \$30bn is measured by taking the total assets minus total deposits across the MIX data set. We then scale by the 80% representative factor to arrive at \$37bn.

⁹⁶ *Power to the People: Investing in Clean Energy for the Base of the Pyramid in India*, IFMR Research-Centre for Development Finance and the World Resource Institute, October 2010

Technology

Many experts focus on the potential to spur development through the adoption of technology, especially technology that promotes information and communication (“ICT”). This interest has accelerated recently with the explosive spread of mobile phones across the developing world. Entrepreneurs are developing business models that use this new mobile phone infrastructure to deliver basic services such as healthcare, education, agricultural information and, most successfully, the basic banking service of money transfer. For the purposes of our analysis, we do not consider technology as a basic service that constitutes a discrete sub-sector of impact investing. Instead, technology will play an increasingly important role as an input to business models that seek to reduce costs in serving dispersed populations of poor customers (and will therefore be incorporated in comprehensive analyses of these sub-sectors). Future research could determine what components of technology investment are most socially beneficial and suitable for impact investment capital.

Investments in infrastructure

According to the World Bank, emerging countries need 7 to 9 percent of their GDP per annum, or approximately US\$400bn, to address their core needs in building infrastructure. Historically, though, less than half of this amount has been invested in infrastructure development and maintenance, leaving a financing gap of 3.5 to 4.5 percent.⁹⁷ Further, according to the World Economic Forum, this underestimates the true need as it excludes electricity transmission, waste-water treatment, urban transport, ports, airports, and oil and gas. Including these sectors would bring the annual investment need to more than US\$900bn or close to 20 percent of the GDP of emerging countries. In total then, the investment need could be as high as US\$3 trillion per annum globally (or close to 5 percent of current global GDP), of which approximately US\$1 trillion per annum needs to be spent in emerging countries.⁹⁸

We presented the opportunity for investment into water service for the BoP above, but broader opportunities exist within infrastructure. Ports, roads, on-grid power generation, and large-scale water delivery are all examples of products or services that could greatly improve the lives of BoP+ populations. Poor roads for example contribute to post-harvest food losses that can range from 15% to as high as 50% of what is produced.

“Plus populations” (those that make up the BoP+ category but are not BoP)

As we have explained earlier, impact investments do include businesses that serve or employ poor people that earn more than the strict WRI definition of \$3,000 per annum. However, we have not endeavored in this report to define which segment of the more developed countries’ populations would be considered in the BoP+ classification and leave that for future research.

Investments that generate impact through their business processes

Our market sizing work has focused on business models that deliver affordable products or services to BoP populations, which is one segment of the “means of impact” characterization we presented in Figure 7. The other segment includes businesses that employ BoP (or BoP+) people. Root Capital, for example, engages

Demographic changes over time are also ignored in our analysis. Economic growth in emerging markets can propel some of the BoP populations into higher income categories, outside of our target markets. On the other hand, fiscal crises and financial shocks can have the reverse effect. Rather than take a view on how these demographic changes will materialize, we assume current dynamics will remain as they are.

⁹⁷ *Paving the Way: Maximizing the Value of Private Finance in Infrastructure*, World Economic Forum, August 2010.

⁹⁸ *Paving the Way: Maximizing the Value of Private Finance in Infrastructure*, World Economic Forum, August 2010.

BoP suppliers of food products for export. The typical impact thesis for investments such as these is that connecting BoP suppliers more effectively with the markets will increase the reliability and amount of income those suppliers can generate from their produce. We fully acknowledge the financial and social value of investing in BoP supply chains, but refrained from sizing this portion of the market.

Appendix I: Managing impact investments

One of the most challenging aspects of participating in impact investments is managing the risk. It is an asset class where we find peculiar financial behavior – as evidenced by the flat yield curve from the Calvert Foundation database as analysed in Appendix V: Additional Returns data – and many investments will be made in countries where even hedging currency moves can be a challenge. Still, the risk management is not unlike that required for venture capital or high yield debt investments, particularly in emerging markets.

The risks for impact investments are similar to those for venture capital or high yield debt investments, with heightened reputational risk

A venture capital or high yield debt investment can be characterized by the early-stage nature of the business in which the investment is made. Many impact investments are similarly early-stage private companies that often operate on small scales. These kinds of investments involve several different types of risk typical in traditional investments, including: company risk, country risk, and currency risk. Further, and particular to impact investments, are certain legal and reputational risks that arise especially when operating in emerging markets and with vulnerable populations. We start by discussing these impact investment-specific risks, and then return to the more general financial risks that investors will need to understand.

Legal and reputational risks

When setting up a new business, there are always legal and regulatory hurdles that will take some resources and time to accommodate. This can be amplified for impact investments, particularly when operating in emerging markets. We will focus on those cases in this section, and acknowledge that some of the same will be true in developed markets, but (hopefully) to a lesser extent.

Legal and regulatory infrastructure in local markets can be onerous

In his book *The Mystery of Capital*, Hernando de Soto puts forward the theory of “dead capital”: That in too many countries the barriers to legal ownership result in informal ownership that then inhibits the owner from later being able to realize the value of assets. De Soto points out that many transactions in emerging markets are not legally enforceable transactions. The “obstacles to legality” include the sheer wall of bureaucracy that can face business or asset owners, and the cost of legal registration. For example, in Peru, he cites that it took his team 289 days of working six days a week to fully register a garment workshop, which then cost them \$1,231 – 31x the minimum wage. According to de Soto, 4.7 million people in Egypt chose to build their dwellings illegally rather than face the 77 bureaucratic procedures that could take anywhere from five to 14 years⁹⁹. Particularly if the scale of the business is small, the time and resources required to obtain approvals and secure legitimacy for the business can be very onerous. Water Health International, a business that sells purified water to BoP customers cites the ability to get all the necessary paperwork completed as one of the main hurdles to successfully building scale in their business.

In addition to legal and regulatory challenges upon inception of the business, there may also be changes to legal and regulatory regimes over time, or challenges to

⁹⁹ *The Mystery of Capital*, Hernando de Soto, 2000

transitioning the business as it grows or changes ownership. For many impact investors, the path to exiting a private equity investment in an emerging market can be less clear than say for a venture capitalist operating in developed markets. While these risks will introduce challenges to the growth of impact investments, they will hopefully be manageable with local management teams who can more easily maneuver within the local regimes. This again points out the value of having a local team that is fluent in the legal framework (and the politics that might change that framework) within which the business will be operating.

Reputational risks: Profiting from the poor?

While the impact investment marketplace is growing mostly out of a combined value set of financial gain and positive social impact, there will be those that identify impact investors as profiteering from the poor. The recent global financial crisis will no doubt provide further evidence to support the claims of skeptics that capitalism left unchecked can be more destructive than constructive toward economic growth.

An impact investment must constantly balance the dual imperative of generating positive social impact and profit. Some impact investment business models, especially those employing high-volume, low-cost approaches are able to drive financial return and social impact together with impact and profit correlated as the business expands. But it would be naïve to believe that these two imperatives are never in tension. In pursuit of more profit, a business may be inclined to target relatively better-off customers, raise prices to take advantage of the lack of competition often encountered in underserved markets, or take cash out of the business rather than reinvest in innovation to enable even broader customer reach.

Indeed, within the microfinance sector, some concerns about mission drift are already beginning to appear. As purely commercial investors (that may not be committed to “double bottom line” business) take stakes in impact investments, observers fear that the companies may succumb to pressure to prioritize financial returns over social impact. When Banco Compartamos SA, Mexico’s largest microfinance institution, went public in 2007, many market participants expected the social mission to become a secondary priority for the new set of shareholders, and consequently for the management. Similar questions arose when Sequoia Capital, a traditional private equity investor, took a stake in India’s SKS Microfinance Ltd., and when the company went public in July 2010.

The proliferation of microfinance has also resulted in increased rates of overindebtedness in some countries. Referencing this and the high interest rates that some microfinance institutions charge, some observers will claim that these finance institutions pursue growth at the expense of the financial health of their customer base.

Beyond microfinance, many impact investments that seek to deliver basic services such as clean water, healthcare or electricity to poor populations will encounter opposition from those who believe that access to these services are human rights that government, and not private markets, are obliged to provide. These rights-based principals have been enshrined in numerous international covenants; most recently the UN Declaration in July 2010 that access to water and sanitation is a human

right¹⁰⁰. In practice, many poor people are still unable to freely access these “human rights” and acquire these services from private markets (often incurring the “bottom of the pyramid penalty” with higher prices than their middle-class compatriots). Despite this reality, skeptics will maintain that private sector solutions for these kinds of services are exploiting their consumers by charging for what should be free of cost. Impact investors will need to recognize that when their business seeks to provide basic services they are operating in a complex social and political context. In some cases they will also be competing directly with government agencies tasked with providing the same service to the same population but failing to do so in a way that satisfies demand from poor customers. This creates an especially complicated operating context that can easily flare up as evidenced in the 2010 controversy over microfinance in the Indian state of Andhra Pradesh that resulted in strong government action to curtail for-profit microfinance institutions.

Mission drift and exploitation are risks that are amplified when BoP are affected

We believe that mission drift (or even false claims of an impact mission) and exploitation are legitimate concerns and impact investors should ensure the right metrics are in place to monitor their portfolio companies. These are concerns that one should apply when making any investment, where due diligence processes assess management values and growth targets. In the case of impact investments, however, the consequences of a business exploiting its customers can be particularly devastating, given how little they have.. It is crucial, for these reasons, that impact investors demand transparency and measure for themselves whether their investments uphold their initial claims of producing positive social impact.

The philosophy: Economic engagement of BoP+ can build a path out of poverty

The question of whether it is right to make money from the poor is philosophical. In our experience, impact investors have resolved this question in several ways:

1. Impact investments can reduce the BoP Penalty
Poor people already pay for goods and services, often with unreliable quality and at higher prices than their middle class compatriots (the BoP penalty).
Introducing more efficient and lower cost means of supplying products and services can improve quality and reduce the cost to the end user, while still generating enough profit to make the service provider financially sustainable.
This results in a better situation for the clients, freeing them from relying on other providers that would charge more or from the reliance on philanthropic or government aid money, which can be redirected to other purposes in the future.
2. Philanthropic or government money will be limited
Across sectors, for-profit business channels can deliver services to more people sooner than would be reached by government and donors alone and can leave a smaller burden for government and philanthropy to address. For example, the UN states that almost 900 million people worldwide do not have access to clean water¹⁰¹, despite annual global expenditures estimated at \$485bn¹⁰² in 2005.
While philanthropic initiatives and government subsidy will always be needed to

¹⁰⁰ *General Assembly declares access to clean water and sanitation is a human right*, UN News Centre, 28 July 2010.

¹⁰¹ *General Assembly declares access to clean water and sanitation is a human right*, UN News Centre, July 28, 2010.

¹⁰² *Charting our Water Future*, The Water Resources Group (available on the website of McKinsey & Company), citing Global Water Markets 2008, Global Water Intelligence.

provide water to those below a given income level (our income bracket F from *Section 4. The potential BoP market opportunity*), affordable business solutions can be designed to reach some portion of that 900 million. Similar analysis shows the opportunity for business to reduce the basic service gaps in education, healthcare provision, and the other impact investment sectors.

3. Impact investments can spur economic growth, promoting a path out of poverty. The real goal for many in targeting impact investments toward the BoP+ population (BoP plus the underserved populations in developed markets), is to promote a path out of poverty. While the literature remains inconclusive about the poverty-alleviating power of economic growth alone, sustained economic growth that ensures a reasonable distribution of surplus between poor customers, suppliers and employees is a powerful anti-poverty engine. The development of financially-sustainable businesses that provide affordable services and employment is a critical component.

Rounding out our thoughts on this question is a concept inherent in our original definition: The intent with which the business is designed. After all, if the business is intended to help people while maintaining financial sustainability, we should hope that the best efforts will be made to introduce cost-lowering solutions, increase efficiency and charge reasonable (and not exorbitant) prices, sufficient to ensure the financial sustainability of the business.

Despite these best efforts, impact investors will need to manage carefully the political and social risks inherent in selling life-sustaining services to poor and vulnerable communities. Having seen the risks that are more specific to impact investments, we now return to the financial risks that are common to both impact and traditional investments.

Financial risk: Company, country and currency

Company risk

Company risk is the risk affiliated with the particular entity in which the investment is made. As impact investments are often private companies, due diligence is key in ensuring that the company applies sufficient rigor in its accounts and operations. In this respect, impact investment is not unlike traditional venture capital where a premium must be placed on understanding and vetting the character and capabilities of the management team. For impact investors buying directly into a company, visiting the premises of the company and getting to know the management can provide some insight as to the policies and procedures by which the company abides. For fund investors, visiting the fund headquarters as well as some of the portfolio companies will similarly provide comfort in the management practices. Many of these companies and funds will also be first-time operators, so investors should expect some degree of learning from mistakes as processes are refined.

However, there will be several risks that can arise even for a diligent management team. Fraud can be just as common in these investments as it is in other companies. Political challenges can also crop up if the company is disrespectful of community culture or it is seen to be competing with initiatives already attempting to deliver the same product or service. For example, in 2008, local politicians in Pakistan were encouraging borrowers to withhold repayments on their microfinance loans, feeding into a more general “borrowers’ revolt” in that region¹⁰³. A similar problem arose in Nicaragua when a group of politically influential borrowers in one northern region decided to forgo their payment obligations¹⁰⁴. Given the sensitive nature of the services provided, in many impact investments, businesses must recognize that they are dealing not just with customers but with citizens who can mobilize political opposition to collateral collection or debt payments. If the company fails to manage these kinds of risks, the financial performance of the company and the investment will suffer.

Hedging company risk is most commonly done with credit default swaps for larger companies. For impact investments, it is unlikely that there will be liquidly traded credit default swaps, and shorting bonds or equity is unlikely to be possible. The best protection against credit risk is likely to be a thorough due diligence process both at the time of investment and throughout the investment holding period.

Country risk

The political risks that we mentioned on a community basis can challenge an impact investment when they occur on a national scale. Country risk is common to investments made in emerging markets, whether impact investments or traditional. The recent financial crisis has shown, though, that country risk can significantly affect investments made in the developed world as well. Sovereign stress can come in the form of heightened financial risk pushing funding costs higher, and in extreme cases can even result in a sovereign default. If a sovereign reveals financial data that brings investors to question its solvency, it will be faced with higher funding costs. Its limited access to financial markets could lead to a liquidity crisis forcing emergency fiscal consolidation that would impact the companies operating in that country.

¹⁰³ *Unraveling the delinquency problem (2008/2009) in Punjab – Pakistan*, H Burki, October 2009.

¹⁰⁴ *Growth and Vulnerabilities in Microfinance*, G Chen, S Rasmussen, X Raille, CGAP, February 2010

Furthermore, if the fiscal consolidation (emergency or not) is unsuccessful, the sovereign may be left with no choice but to restructure its debt. This could impact the companies within that country in a few possible ways.

1. If the companies hold government debt, losses from the debt restructuring can significantly affect their financial health. Financial institutions in particular tend to hold government debt, so the financial services sectors – microfinance and SME finance – of the impact investment universe could be especially at risk should the sovereign restructure its debt. Even if the particular impact investment does not own government debt, it will likely be affected indirectly by the increase in bond yields of the sector in which they operate.
2. If the government debt is not held by the local companies, then there may be less of a direct impact on their financial health. However, the indirect impact of higher funding costs is likely to remain in place as many of these companies will be borrowing from financial institutions that may be holders of the government debt. With losses on the books, lending standards would be likely to tighten and borrowing costs could increase to compensate for those losses as well. Furthermore, foreign investors will also be likely to price in sovereign risk to the company itself, particularly as there will likely be further uncertainty as to sovereign policies going forward.

Hedging country risk is also possible through sovereign credit default swaps, though liquidity will be challenging in many of the BoP markets we analyze and the required trade size may also be too large to make sense for most impact investments. Should the size and relevant country be accessible, the cost of hedging may be too high for debt investments, but may make sense for equity investments where higher returns are expected.

Currency risk

Currency risk will likely coincide with sovereign stress and uncertainty. As such, it will be driven by investor perception of the solvency of the country, but can also be impacted by technicals in the market. For example, Hungarian Forint, Mexican Peso and Turkish Lira are popular currencies from which to earn carry for many investors. The concentration of positions held by foreign investors and fears of contagion across the emerging markets can exacerbate volatility in times of general market stress, even if there is no particular country-specific news.

Hedging currency risk depends on whether there is liquidity available in the currency. The most common hedging instrument is the non-deliverable forward, which allows investors to lock in a forward exchange rate at a given time in the future. In *A Primer on Currency Risk Management for Microfinance Institutions*¹⁰⁵, we present currency hedging considerations in more detail. The document is written with microfinance institutions in mind, but is generally applicable for hedging impact investments more broadly.

Having seen the legal, reputational and financial risks with which an impact investor will be faced, we can now turn to the question of measuring the social impact of investments. After all, alongside the financial return and the financial risk, the social impact is equally critical to the success of the impact investment. The next section

¹⁰⁵ Published by J.P. Morgan Social Finance, 2010.

explores how social impact is currently measured and what initiatives are in place to standardize this measurement across sectors and investors.

Social impact risk: Metrics, standards and ratings

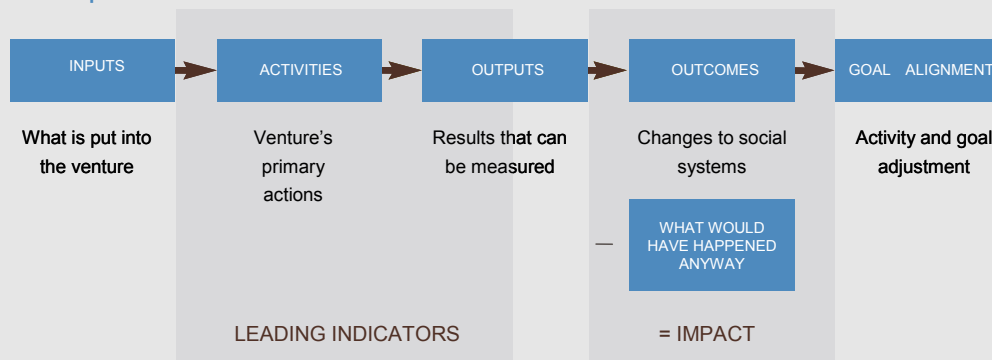
Throughout, we use the term “social” to include social and environmental.

We have defined impact investments as investments intended to create positive impact beyond financial return, which allows us to identify impact investments at the time of investment. But we cannot assess whether one of these investments has been successful without measuring the financial returns and the social impact. The financial performance measurement is arguably simpler (we’ve done this in Section 3. Financial return expectations), as metrics are more readily transferred from the traditional investment world to impact investments¹⁰⁶. Measuring social impact, however, remains a work-in-progress for many market participants, and in this section we explore the tools that are currently under development.

Defining our terminology: Outcomes vs. output

Before we can speak of impact measurement, we should define just what we are looking to measure. This section discusses the measurement of ‘impact’ because that is the term used by most market participants. However, in social science, ‘impact’ has a specific definition: it describes outcome(s) that can be attributed to a particular intervention, as depicted in Figure 26. An academic impact evaluation of a bednet manufacturer, for example, might entail a multi-year study on the incidence of malaria among target customers, with a control group to understand what would have happened to those customers if the company had not sold them bednets. This type of evaluation would provide the greatest possible certainty that the bednet company had delivered the social impact intended by its management.

Figure 26: Impact Value Chain



Source: The Rockefeller Foundation, J.P. Morgan.

Rigorous impact evaluation, including Randomized Control Trial (“RCT”), is powerful, but onerous and expensive in practice. Many impact investors therefore settle for measuring ‘activities’ or ‘outputs’ (such as number of bednets sold) rather than running control groups to measure the ‘impact’¹⁰⁷. Investors balance the need for rigorous impact evaluation against the need for simple, cost effective ways of measuring this impact. We believe the tools being developed to balance these needs should build on knowledge generated by the existing body of academic literature, while acknowledging the need for systems that add value and are pragmatic for investment activity.

¹⁰⁶ While there is room for debate around the financial metrics of impact investments (such as ‘risk-adjusted’ return), we leave the more detailed exploration of that topic for future research.

¹⁰⁷ There could also be ethical questions about running control groups if it meant denying the product or service to a part of the population that should have equal access.

Investors measure impact for many reasons, and in many ways

Participants in the impact investing industry are motivated, at least in part, by the desire to create positive impact. Entrepreneurs, fund managers, Limited Partner investors, service providers and other stakeholders may vary in the theories of social change with which they approach their investments, in the relative importance they place on impact or profitability, or in their requirements for impact measurement systems. Nonetheless, each will need some degree of information about the social performance of their investments. Even some traditional investors have begun to track the social performance of their portfolios in order to understand the impact they are having and the relationship between these metrics and financial return.

Social impact can inform investment covenants, performance targets or certifications

Beyond their own understanding of their impact, entrepreneurs and fund managers are also asked to provide social performance data to their investors. In some cases, the data is requested for initial due diligence or on an ongoing basis as a condition of investment. In other cases, they influence the way an investment is structured, informing covenants or performance targets the company is expected to meet over time. In addition, metrics may also be used for certification (e.g. fair trade labeling), compliance with regulatory requirements (e.g. Community Reinvestment Act investments in the US) or to access public loan guarantees or preferential tax treatment (as is the case with the GroenFunds scheme in the Netherlands). At an industry-wide level, social impact measurement will also ensure that the industry can demonstrate its ability to deliver multiple bottom line performance.

Social impact performance data allows for comparisons across investments

In addition to having different reasons for measuring impact, participants in the impact investing industry will use the measured data in different ways. Companies want to understand, track and report their social performance, and compare their performance with that of their peers. Fund managers also need a system for managing the variety of social performance information they receive from their portfolio companies. Limited partner investors often invest across different geographies, sectors and asset classes, with investments directly into companies as well as funds. They require an overarching framework to facilitate comparisons across these varied investments.

Measuring impact is complicated, expensive and subjective

Some investors seek a credible agency to whom they can effectively outsource their social due diligence; others want to perform this function in-house, but need a set of analytical tools to use. Almost all industry participants seek a set of industry benchmarks that can provide a standard framework for understanding the social performance of a company or fund, but there are significant challenges to designing the right system:

1. *Data collection can be resource intensive, expensive and difficult to execute*

In order to measure social impact, one needs data about a company's practices, suppliers and clients. This data typically must be collected and reported by the company itself. Since many impact investments are small companies located in countries with limited infrastructure, the data can be difficult and costly to collect. As a result, company management may consider data collection as a distraction from business priorities, particularly in cases where investors' impact goals are more expansive than those the company sets for itself.

2. *The tension between feasibility, credibility and cost*

In order to be certain of the relationship between a company's activities and the desired social impact, an investor must know what would have happened absent that company's activities. Furthermore, he must know what would have happened to the company were it not for his investment. As we described above, measurement against a control group is often considered the best way to answer these questions, but is often prohibitively expensive (or impossible) in practice.

Investors can also be more confident in social performance data when it has been audited, ideally with third-party verification. Self-reported social performance data, much like financial data, are susceptible to error and deliberate misrepresentation. An assurance process, however, introduces significant costs, and it remains unclear how much investors will pay to enhance the credibility of social performance data.

3. *Impact investments exist within a complex system of impacts*

Social impact is difficult to parse out and attribute to a specific intervention. The extent of social impact of a water delivery business for example will result from a complex interplay of forces in a community including education levels, public health campaigns, or potential new job opportunities. Assessing social impact requires an understanding of the system in which a business operates that cannot be developed from company-level data alone.

4. *Diversified investors need to balance custom metrics and universal frameworks*

Investors that concentrate their impact investments in a single sector, such as microfinance or green real estate, may find that a single set of metrics is sufficient for assessing the social performance of their entire portfolio. For investors that invest across sectors and geographies, however, relying on a customized set of metrics for each business model or sector may make it difficult to understand the impact they are having across their portfolio or to compare potential investments. Diversified investors will seek out a common framework for understanding impact, which requires a less specific set (and weighting of metrics) that are comparable across investment types.

5. *Different people have different opinions about what matters*

There is no single metric for assessing the impact of an investment because people value things differently. Some investors, for example, place a high premium on environmental performance; others may consider poverty alleviation a much more important goal. Investors in a bednet manufacturer in India may differ in their views on whether the company creates more value by creating local jobs or by maximizing bednet production. Others will debate the importance of the bednet itself compared to clean water or education.

6. *Even if we agree on what matters, different metrics will give different conclusions*

In *Does Microfinance Really Help Poor People* (R Rosenberg, CGAP 2010), CGAP argues against two studies that found no evidence that microcredit loans improve household income or consumption over a 12- to 18-month period. CGAP proposes that those studies are measuring the wrong thing: that the impact of microfinance is best reflected by the increase in *reliable access* to financial instruments rather than in a change in household financial status, since many borrowers will already have had access to financial instruments via informal (but unreliable) providers. Further, they argue that while it seems unlikely that a year of microlending helps poor people as much as a year of primary education, the fact that the same level of government subsidy can support many more people to

access financial services than to access education should be considered when weighing these alternative uses of capital.

The values attached to social impact are by nature subjective and often driven by emotion (just as people tend to donate to charities with which they feel some connection). As a result, it is difficult to be objective when constructing an impact measurement system and when comparing investments on the basis of their impact. Investors often implicitly assign value to certain types of impact over others when deciding where and on what terms to allocate their capital. By instituting standard approaches to impact measurement, the industry can become more objective and transparent around the drivers of investment decisions.

Reporting standards need to grow from the right definitions

To date, most impact investors have created their own systems for tracking and measuring impact, which is inefficient for the market as a whole and limits comparability across investments. Indeed, among our survey respondents only 2% currently employ a third-party impact measurement system. As the market has grown, participants have identified that standardized, well-defined social performance metrics will ensure that impact investments can be assessed against a set of rigorous social impact criteria and compared more broadly.

In defining measures of social impact, these standards must find the line between a level of detail that is too onerous to collect and one that is too superficial to be useful. For example, when asking businesses to collect data on the jobs they create, it may be reasonable to expect them to report the wages they paid, any benefits they offer and the skill level of the worker prior to employment. These are data that good management will know about their employees. But to rigorously assess the social impact of these jobs would also require additional data such as their prior income level and job history, and the alternative job opportunities in the community. It is unlikely that all businesses in an impact investing portfolio would be able to record all these data in a cost-effective and comparable manner (particularly without consistent definitions and data measurement standards).

A common language for social performance metrics will encourage transparency, credibility and comparability, just as the International Financial Reporting Standards (IFRS) provide transparency and comparability across financial performance reports. A common taxonomy prevents the (false) side-by-side comparison of companies and funds on the basis of social metrics that may share the same name but have different underlying meanings, such as 'jobs created' and 'number of poor consumers served'. Common reporting standards will also streamline and simplify the reporting requirements of entrepreneurs and fund managers, who sometimes face inconsistent requests for information from investors.

IRIS is building the taxonomy to standardize social impact reporting

If it is to be successful, this common language should function as a non-proprietary public good¹⁰⁸. The Impact Reporting and Investment Standards (IRIS) initiative was launched in 2009 as a project of the Global Impact Investing Network to develop this taxonomy and provide a reporting framework that is applicable across a range of

¹⁰⁸ It would not serve the interests of the industry, for example, to have multiple competing definitions of basic social metrics. Common reporting standards will also enable a variety of industry infrastructure to emerge, many of which may be private or proprietary in nature.

sectors and geographies. The standards include metrics related to the social aspects of a business' operational practices as well as of its products and services.

The standards are overseen by an independent governance body that provides guidance toward the ongoing advancement of the framework and ensures its alignment with existing best practices. Furthermore, the standards are updated through an iterative review process that involves broad participation and objective consideration of comments provided by various industry stakeholders.

With standard metrics in place, benchmarks can be developed

Among other things, a set of standard definitions enables the production of industry benchmarks, and the IRIS initiative maintains a repository of IRIS-compatible performance data generated from across the impact investing field. These data are kept anonymously and, once sufficient data is collected, will be used to produce industry benchmarks and other aggregate analyses.

Investors need to adopt this taxonomy to provide industry-wide comparability

Common reporting standards will only improve investment efficiency and market intelligence with widespread adoption. The success of the IRIS reporting standards relies on broad participation by organizations that are committed both to assessing their social impact and to understanding the industry's impact more broadly.

Impact rating systems will help inform investment decisions (and lower costs)

With the IRIS reporting standards in place, a wider set of specialized information services, such as impact ratings, can reference that framework. Just as in financial risk measurement, a third-party rating system can reduce investors' due diligence costs and enable performance benchmarking over the life of an investment¹⁰⁹. Ratings can also improve the social impact of an investment by creating clear guidelines about what generates impact and enforcing accountability for impact across the sector as it grows. Specialized ratings have been developed in microfinance and US community development finance, which are among the most mature sectors of impact investing. The recent proliferation of investment opportunities across a variety of sectors, as well as countries, requires impact rating systems with equally broad reach.

GIIRS will assign relative value to investments' social impact

The Global Impact Investing Rating System (GIIRS) was launched in 2010 in response to this need for a broader impact rating system. GIIRS, which is being incubated by the independent non-profit organization B Lab, will assess the social impact of companies and funds using a ratings approach analogous to S&P credit risk ratings. The GIIRS methodology utilizes IRIS reporting standards wherever applicable, and provides an overall company rating that is based on sub-ratings across five stakeholder categories and multiple sub-categories.

GIIRS will provide company and fund ratings in both developed and emerging markets, and supplement individual ratings with tailored key performance indicators as well as benchmark and trend analysis. It is well suited for a number of impact

¹⁰⁹ We caution investors against relying solely on third-party ratings as nothing should substitute due diligence; rather they should be taken in conjunction with due diligence and can provide a standardized source for much of the information that currently is predominantly obtained through interviews that can be time consuming for both the investor and the investee.

investors because it provides comparable ratings across diverse portfolios of investments, and investors have access to an aggregate rating, sub-ratings and individual underlying data points. A robust assurance process, which is being developed in coordination with the sustainability team at Deloitte, is intended to provide a high degree of confidence in the accuracy of data reported for investors.

The current plan is to develop new versions of the rating methodology every two years under the oversight of an independent standards board. This dynamism is designed to enable the rating methodology to keep pace with developments in academic impact evaluation, evolution in business models and the experience of company and fund managers in collecting and reporting data related to social performance.

Appendix II: Glossary and acronyms

- **Angel investor:** An affluent individual who provides capital for a start-up enterprise, usually in exchange for some stake in ownership equity.
- **BoP:** The “Base of the pyramid” describes groups of people in emerging markets who earn less than \$3,000 a year (2002 PPP) (World Resource institute.).
- **BoP+:** Population with incomes exceeding BoP definition, but who can still benefit from impact investments that expand their access to services and opportunities.
- **BoP Penalty:** The BoP often pay higher prices for basic goods and services than do wealthier consumers, either in financial or transaction cost, and often receive lower quality (World Resource Institute.).
- **Development finance institution (“DFI”):** DFIs are government-controlled institutions that invest in private sector projects with a double bottom line objective of spurring development in emerging countries while remaining financially viable institutions.
- **Community development finance institution (“CDFI”):** CDFIs are financial institutions created to reduce poverty in economically depressed areas, typically through providing credit, financial and other services to underserved markets or populations, mainly in the U.S. and U.K.
- **Double (or triple) bottom line:** The simultaneous pursuit of a social enterprise or business to achieve financial, social and/or environmental returns on investment.
- **Invested capital:** For non financial companies the sum of total shareholders equity and net debt. For microfinance total assets minus total deposits.
- **Mission-related investment (“MRI”):** An investment capitalized with assets from the endowment of a foundation that seeks to create social impact as well as typically market-rate, risk-adjusted financial returns.
- **Plus Population:** The population of people that are included in the BoP+ classification but not in the BoP.
- **Program-related investment (“PRI”):** An investment made by a US-based foundation that qualifies as a charitable expense under the tax code, allowing the foundation to include the investment as part of the 5% of assets it must distribute philanthropically each year.
- **Small and Medium Enterprises (“SME”):** Many institutions and countries define SME differently, but often the size of an enterprise is determined by the number of employees or the annual sales generated by the business. The World Bank defines enterprises meeting two out of the following three criteria -: minimum 50 employees, under \$3m in each assets and sales – as SMEs.
- **Social Entrepreneur/Enterprise:** An entrepreneur or organization that pursues a double or triple bottom line business model, either alone (as a social sector business) or as part of a mixed revenue stream that includes charitable contributions and public sector subsidies.

- **Social performance vs. Social impact:** *Social performance* refers to organizations' direct inputs, outputs, and business activities that are designed to have a positive social or environmental effect. For example, a business providing affordable healthy school lunches to inner-city students may measure its social performance, in part, by recording and tracking the quantity of ingredients sourced from local organic farms (inputs), the number of lunches served (outputs), and the percentage of student customers whose families live below the poverty line (business activity). *Social impact* refers to a broader set of outcomes, such as increased income and assets for the poor, improved basic welfare for people in need, and mitigation of climate change. The desired social impact in the example of a business providing healthy school lunches might range from a reduction in childhood obesity to long-term poverty alleviation achieved through improved academic performance. Because social outcomes are more likely to be influenced by external factors, it is often difficult to attribute specific impact to a particular organization's activities.
- **Social Return on Investment ("SROI"):** SROI is an approach to understanding and managing the social impacts of a project, organization or policy. SROI seeks to provide a fuller picture of how value is created or destroyed through incorporating social, environmental and economic costs and benefits into the decision making process.
- **Socially Responsible Investing ("SRI") vs. Impact Investing:** SRI historically described investing in companies, typically through publicly-traded securities, that favor strong environmental and social governance ("ESG") policies and avoid investment in businesses involved in industries such as alcohol, tobacco, gambling, weapons and others. While socially responsible investors continue to rely primarily on public equities "screening" some also take active positions in voting proxies and engaged management to promote social causes. Alternatively, impact investing describes making investments that proactively intend to create positive impact beyond financial return, in addition to upholding strict ESG policies.
- **Underserved:** Substantial markets of potential consumers, particularly within the BoP, remain underserved by commercial suppliers, thereby limiting or preventing these consumers from gaining access to quality, affordable basic goods and services.
- **Venture philanthropy:** This style of philanthropy applies concepts and techniques from venture capital finance to achieve philanthropic goals and create social return.

Appendix III: CDFIs

In depth: Community Development Finance Institutions in the US

In the US, community development finance institutions (“CDFIs”) were some of the earliest impact investors. As non-profit companies created to reduce poverty in economically depressed areas, CDFIs evolved from depository institutions that emerged in the early 1900s to serve economically disadvantaged communities by lending capital from collected savings. Credit unions and banks dominated the industry until the 1960s and 1970s, when community development corporations and community development loan funds emerged to finance small business and affordable housing developers.

As part of President Bill Clinton’s urban development agenda, a 1994 law formalized the legal concept of a CDFI and established a government-funded CDFI Fund to provide risk capital to spur investment in CDFIs. Since its inception, the CDFI Fund has awarded more than \$1bn in funding and has granted allocations of New Market Tax Credits¹¹⁰ that have attracted more than \$26bn in private investment¹¹¹.

There are over 1,295 CDFIs currently functioning in the US, including more than 400 community development loan funds, 80 venture capital funds, 290 credit unions and 350 community development banks. In the 2008 CDFI Data Project, a collaborative of the leading CDFI trade associations, 495 CDFIs were surveyed and sampled in industry landscaping research. The sample managed over \$29bn in assets, with the average total asset size for each CDFI, being \$59,408,271. They invested over \$5.5bn in 2008. 40% of their investments were in housing, 37% in business, 8% in consumer finance, 4% in community services, 1% in micro-enterprise and 11% in other. Those investments created 35,524 jobs, financed 60,205 affordable housing units and provided 116,405 responsible mortgages for new home buyers¹¹².

During the last five years, the total assets for CDFIs in the Data Project grew by 10% per year. At this growth rate, the assets in this sample would grow to over \$76bn in 10 years. However, when compared to the \$13.8 trillion under management by US banking institutions, CDFIs are a small subset of mainstream finance, and will need government support to reach scale. We expect that this support will mainly be given by the CDFI Fund. The CDFI Fund is the government’s most effective tool for increasing the asset size of CDFIs. The CDFI Fund estimates that for every dollar that they give in financial assistance, they leverage \$20 in private and non-CDFI public capital¹¹³. This is a highly promising statistic for the CDFI industry, given that the Obama administration has increased the CDFI financial assistance appropriations to a record \$245m in FY 2010 and \$250m in FY2011, up substantially from the \$54m in appropriations in 2007 and \$107m in FY 2009. The new appropriations budget is projected to leverage an additional \$2.7bn in private financing.

¹¹⁰ The New Markets Tax Credits program is a program administered by the U.S. Department of Treasury and the CDFI Fund to encourage economic development in low income communities.

¹¹¹ The CDFI Fund, http://www.cdfifund.gov/who_we_are/about_us.asp

¹¹² *FY 2008 CDFI Data Project Report*, CDP Publication Committee. 8th ed. Philadelphia: Opportunity Finance Network, 2010.

¹¹³ http://www.community-wealth.org/_pdfs/featured/bang-for-buck.pdf

Impact investors have found various avenues to invest in CDFIs. They can invest into community development venture and loan funds or direct capital into a CDFI bank. To invest in a public CDFI bank, investors can buy stock, negotiate a PIPE transaction (Private Investment in Public Equity) or enter into a preferred stock transaction with a warrant. In both private and public CDFI banks, investors can purchase trust-preferred securities¹¹⁴ or make linked deposits, which reduce the interest rate to a particular borrower or act as a guarantee for borrowers who would not be able to access capital independently. Lastly, impact investors who wish to support community development credit unions (that cannot take on equity due to their non-profit status), can support them through a deposit or through “secondary capital” subordinated debt that strengthens the existing capital of the credit union.

¹¹⁴ Trust preferred securities are long-term debt instruments with qualities of preferred equity.

Appendix IV: GIIN Survey participants

- Acumen Fund
- Anne E. Casey Foundation
- Bill & Melinda Gates Foundation
- Bridges Ventures
- Calvert Foundation
- DOEN Foundation
- E+Co
- EcoEnterprises Fund
- Equilibrium Capital Group
- Gatsby Charitable Foundation
- Gray Ghost Ventures
- IGNIA
- J.P. Morgan
- LeapFrog Investments
- Lundin for Africa
- Omidyar Network
- Prudential
- The Rockefeller Foundation
- Root Capital
- Sarona Asset Management
- SNS Asset Management
- TIAA-CREF
- W.K. Kellogg Foundation
- Wolfensohn Fund Management L.P.

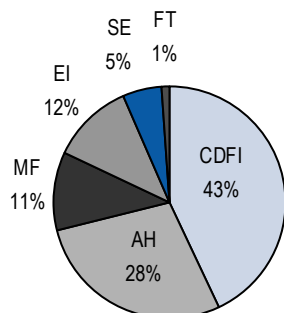
Appendix V: Additional returns data

In depth: US-based fixed income reveal a flat (but disperse) range of yields

Characteristics of the data set: Instruments, sectors, geographies

While the GIIN survey represents a broad spectrum of impact investments across sector and instrument type, we have also been granted access to a set of data on fixed income investments that spans a longer history. The data set, provided by Calvert Foundation¹¹⁵, covers 1,587 predominantly fixed-rate debt investments going back as far as 1990 and totaling \$1.385bn in notional. There are three instrument types with enough data to explore, and the distribution of deals and notionals across instrument type is shown in Table 25. The investments themselves span sectors including community development finance initiatives (“CDFIs”), affordable housing, environmental initiatives, fair trade, microfinance, and social enterprise. Figure 27 shows the distribution of sectors across the data set, and Table 26 shows the data in terms of number of deals as well as notional.

Figure 27: Sector distribution of notional



Source: Calvert Foundation, J.P. Morgan.
CDFI = Community development finance institution;
AH = Affordable housing; MF = Microfinance;
EI = Environmental initiative; SE = Social enterprise;
FT = Fair trade

The geographic distribution of this data set is heavily focused on investments in the US, representing 91% of the deals and 94% of the notional in the database. The investments in the US tend to target companies in poor communities that either provide basic services such as housing to low-income families or hire under-employed people in these communities. Table 27 shows the number of deals and notional invested in the most commonly referenced countries in the database. After the US, Nicaragua, Ecuador, Azerbaijan and Bolivia are most frequently represented, albeit only by 1% of the total notional each. The remaining deals were done in 26 other countries.

Table 25: Instrument distribution

	# of deals	Notional (USD mm)
Debt — Fixed Rate	1,492	1,228
Debt — Variable Rate	63	86
Debt — LOC	32	55
Total	1,587	1,369

Source: Calvert Foundation, J.P. Morgan.

Table 26: Sector distribution

	# of deals	Notional (USD mm)
CDFI	870	588
Affordable Housing	225	386
Microfinance	195	146
Environment	165	161
Social Enterprise	80	72
Fair Trade	52	15
Total	1,587	1,369

Source: Calvert Foundation, J.P. Morgan.

Table 27: Geographic distribution

	# of deals	Notional (USD mm)
United States	1,437	1,294
Nicaragua	29	11
Ecuador	27	19
Azerbaijan	20	9
Bolivia	11	10
Other	63	28
Total	1,587	1,369

Source: Calvert Foundation, J.P. Morgan.

Illustrating the yield curves

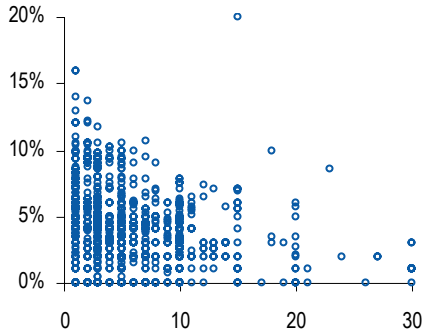
Based on our characterization above, we can see that this data set is a subset of the impact investment space focused on US-based fixed income investments. Given this context, we can now look at the financial information revealed by the data set. The most interesting characteristics are the interest rates charged across tenors for the various instruments. Essentially, by plotting the interest rates against tenor for the data sets by instruments in Figure 28, Figure 29, and Figure 30, we look to see whether an impact investment yield curve emerges. Interestingly, there is not much of a yield curve at all, but rather a fairly disperse range of interest rates. This

¹¹⁵ This is a set of transactions that borrowers from the Calvert Foundation have engaged in.

dispersion indicates that there can be room for investors with a range of return requirements, particularly those with a higher cost of capital¹¹⁶.

Figure 28: Fixed rate debt

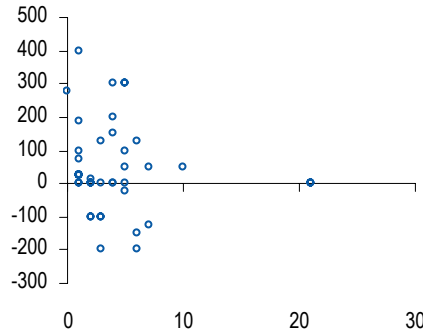
x-axis: Tenor (years); y-axis: Interest rate



Source: Calvert Foundation, J.P. Morgan

Figure 29: Variable rate debt

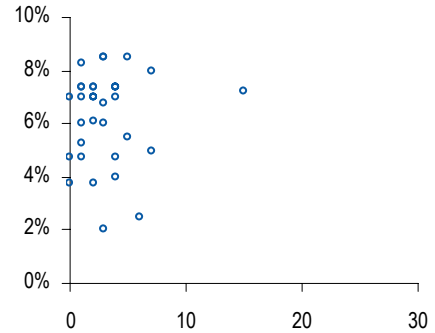
x-axis: Tenor (years); y-axis: Spread above benchmark (basis points)



Source: Calvert Foundation, J.P. Morgan.
Note: These spreads reference different benchmarks, including US Prime, LIBOR and Euribor.

Figure 30: Line of Credit

x-axis: Tenor (years); y-axis: Interest rate

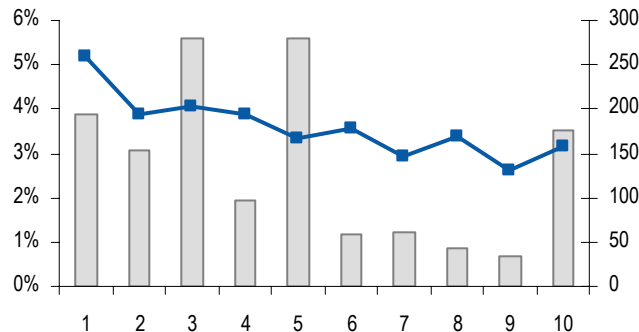


Source: Calvert Foundation, J.P. Morgan

Focusing in on the fixed-rate transactions where we have the most data, we illustrate the average rates just for the sake of further information. Figure 31 shows the average rate per tenor (blue line) and the number of transactions that inform that average. Clearly, there is more data in the shorter tenors, and also at the 10-year point. Nonetheless, we caution much interpretation of this chart since, as we saw above, there is a wide dispersion around these averages. So rather than focusing too much on the slightly downward sloping nature of the curve shown in Figure 31, we conclude from the scatter plots above that there is a fairly flat range of yields across tenors. We do note that the data is more heavily weighted toward recent deals.

Figure 31: Fixed-rate yield curve

Blue line shows the average yield for a given tenor (left-hand axis); Grey columns show the number of deals contributing to each tenor's data set (right-hand axis).



Source: Calvert Foundation, J.P. Morgan.

¹¹⁶ Anecdotally we believe that historical data oversamples investors that are more concessionary on returns (as is considered to be the case with Calvert Foundation).

There are a few marketplace dynamics we can consider to potentially explain the lack of a traditional upward slope to the yield curve, as well as the high level of dispersion across realized rates:

1. Debt impact investments can be compared to high yield credit investing, where yield curves can often be downward sloping to reflect the near term risk of smaller companies in growth phases¹¹⁷.
2. Foundations and/or government programs may be more comfortable lending at subsidized rates. This could keep longer-term yields artificially low.

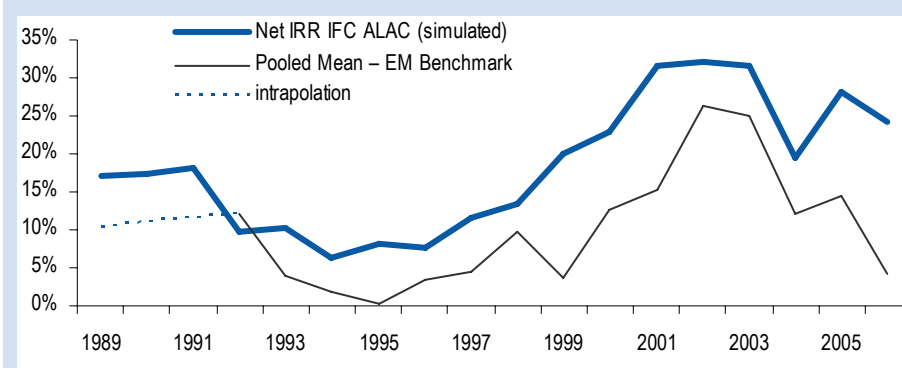
In any case, we find it intriguing that there have been transactions made at such a range of interest rates, since this reveals that there can be a place in the market for investors that might demand a range of return expectations. We also would have liked to analyze risk data on this portfolio, but the database was compiled at the time of investment without tracking defaults or payments in arrears over time. We anticipate that future data sets will begin to incorporate more of these kinds of risk metrics, and future analysis will then be possible on the risk profiles as well.

IFC's sample of private equity returns

While our survey did not produce enough realized return data on private equity impact investments to analyze in a significant way, we did receive the performance history of one long-term private equity investor in the international development arena. The IFC has been investing to encourage private sector development in EM for over twenty years. While some part of IFC's investment portfolio may not meet our definition of impact investments, we believe it is a representative sample of how a portfolio of EM equity investments can perform. The data is shown in Figure 32, where we can see that the IFC portfolio has outperformed the Cambridge Associates Emerging Market Venture Capital and Private Equity Index over much of the past twenty years.

Figure 32: Private equity portfolio returns for IFC against benchmark

IRR by vintage year



Source: IFC, Cambridge Associates. To simulate performance for comparison, each vintage year represents start of a notional fund with 5-year investment period that includes every IFC equity investment in that time period. Investments held until exit or June 30, 2010. Performance simulated on 5-year rolling-basis, i.e. each investment considered in several vintage years. Cambridge Associates Emerging Markets Venture Capital and Private Equity Index (March 2010).

¹¹⁷ The concept is that the highest risk lies in the near term, as the company establishes itself. If it overcomes the initial hurdles to financial sustainability, the risk is expected to subside. Yields for longer tenors can be lower to reflect this expectation.

Table 28: Venture Capital annualized returns in developed and emerging markets

(% to June 30, 2010)

	US Venture Capital	Emerging Markets Private Equity and Venture Capital
Last 5 years	4.27	13.7
Last 10 years	-4.15	7.7

Source: Cambridge Associates

Appendix VI: Notes on market sizing

Population data from the World Resources Institute

The work done by the WRI in *The Next 4 Billion* has proven invaluable to us in identifying target markets for our business case studies. By having divided the BoP population into income brackets of \$500, the WRI study allows us to count how many people or households fall within the population that can afford our case study's product or service.

Per capita income brackets and affordability

The starting points are the per capita income brackets defined by the WRI in \$500 increments of 2002 international dollars (PPP). The 2002 numbers are used for ease of reference as they are nicely rounded figures; in our work, we use the 2005 figures also provided to avoid having to deflate our financials by too many years (since the more we do that, the more we assume a constant state of nature outside inflation). The affordability test is then also applied in 2005 PPP terms, for comparability. However, when it comes to calculating the actual business financials – e.g. potential revenues and profits – the current USD equivalent is presented, since this is an actual figure that can exist in the marketplace as opposed to the more theoretical PPP numbers.

The per capita income data is referenced by the WRI to be calculated using the methodology presented in *Worlds Apart: Measuring Global and International Inequality*, by Branko Milanovic¹¹⁸, Lead Economist in the World Bank research group. The methodology constructs an income distribution for each country, which then gives the income distribution for the BoP segment of the population. This gives the number of people in each income bracket, which we use in some of our sector analysis. Other sector analyses, though, require the per household income brackets, for which we explain the calculation next.

Translating from per capita to household income brackets

One of the sectors where we consider the household income is the housing sector, since a home is a purchase made by the earning members of the household together. In the case of housing, we had used a case study based in India, so we illustrate the calculation made using India as an example in Table 29 and Table 30. First, in Table 29, we calculate an average number of people per household – 5.3, from the WRI data – and multiply that number by the economic activity rate for India, which is 69% according to the UN Statistics Division, giving an average number of earners per household of 3.7 people. Then, in Table 30 we translate the per capita income brackets by multiplying the incomes by the number of earners per household.

¹¹⁸ *Worlds Apart: Measuring Global and International Inequality*, B Milanovic, Princeton University Press, 2005.

Table 29: India population data

Divide the total population by the number of households to obtain an average household size. Then multiply by the economic activity rate to obtain average number of earners per household.

	India
Total Population	973
Households	183.3
People per household	5.3
Economic activity rate	69%
Earners per household	3.7

Source: WRI, UN Statistics Division. Note that the average number of people per household is calculated based on population and household numbers for the entire population, not just the BoP.

Table 30: Indian household income bracket conversion

Multiplying the per capita income by the number of earners gives a household income bracket.

	Per capita income bracket		India household income brackets
	2002 PPP	2005 PPP	2005 PPP
A	3,000	3,260	11,923
B	2,500	2,717	9,936
C	2,000	2,173	7,949
D	1,500	1,630	5,962
E	1,000	1,087	3,974
F	500	543	1,987

Source: WRI.

Calculating the number of households

Having translated the per capita income brackets into per household income brackets, we can then reference the population data provided by WRI again to see how many people fall within the brackets that will afford our products or services. But again, in the case of housing, it is most relevant to have the number of households (rather than number of people), so we need to translate the population data. Table 31 shows the steps to the calculation. We start with the number of people in each income bracket, and then focus in on the urban population (since our housing case study was for urban populations). Once we have the number of urban people in 2005, we can grow that number using the WRI's urban Indian population growth rate, which is 0.9% over the period from 2005 – 2010. Finally, we scale the number of urban people in each bracket by the economic activity rate from Table 29 to get the total number of people (earners and non-earners), and then divide by the average number of people per household.

Table 31: The number of households in India's BoP income brackets

To grow the population from 2005 to 2010, apply India's 0.9% urban population growth rate for 5 yrs.

	India Household Income brackets	Number of people	% Urban	Number of urban people	Number of urban people	Number of households
	2005 PPP	2005	2005	2005	2010	2010
A	11,923	31.5	68%	21.3	22.3	6.1
B	9,936	68.3	53%	36.5	38.1	10.4
C	7,949	147	37%	55.0	57.5	15.7
D	5,962	309	20%	61.2	64.0	17.5
E	3,974	349	8%	28.6	29.9	8.2
F	1,987	19.3	6%	1.1	1.1	0.3

Source: WRI. 0.9% growth rate is the urban population growth rate for India over the period from 2005 – 2010 according to the WRI database.

Relationship between revenues and invested capital

Shifting from the income statement to the balance sheet: Assume a ratio of expenses to total invested capital = 1 to 1

Our analysis estimates the potential market for selected goods and services to BoP consumers. We present the revenue opportunities, assume an operating margin and hence arrive at estimates of expenses and profit.

In order to move from the income statement to the balance sheet and calculate required capital it is necessary to make an assumption regarding the relationship between Invested Capital and the revenue base of the company. This relationship is

not something that financial analysts are called upon to estimate and there is no established methodology or rules for doing so. In order to make a reasonable estimate we took a sample of global small cap equities. Our sample consisted of almost 6,000 non financial companies with Market Caps between \$100m and \$1bn. We also excluded any companies with sales of less than \$10m. The results are shown by region in Table 32. While there is obviously dispersion and the ratio is driven by, among other factors, the capital intensity of the business we found the average Sales to Invested Capital ratio to be 99.7% and hence have used a 1 to 1 ratio in all our sizing studies.

Table 32: Small caps by region (market cap \$100m–1bn)

Region	Sales/Invested Capital
Europe	95.7%
US	114.8%
Asia (ex Japan)	86.9%
Japan	157.6%
LatAm	77.9%
Global	99.7%

Source: J.P. Morgan

Microfinance

The underlying data used in our microfinance market sizing is presented in Table 33.

Table 33: Country data on microfinance institutions

Total assets, deposits and market opportunity shown in USD mm; Penetration rates are calculated as # of borrowers divided by # of adults.

Country	Total Assets USD mm	Deposits USD mm	Penetration	Market Opportunity USD mm	Country	Total Assets USD mm	Deposits USD mm	Penetration	Market Opportunity USD mm
Afghanistan	255	67	2%	652	Madagascar	58	19	0%	656
Albania	500	290	11%	285	Malawi	53	26	2%	74
Angola	10	2	0%	837	Malaysia	232	38	7%	1,879
Argentina	30	0	0%	2,214	Mali	175	75	3%	175
Armenia	676	150	17%	-	Mexico	3,098	1,333	24%	988
Azerbaijan	1,036	284	8%	535	Moldova	124	14	1%	1,247
Bangladesh	3,020	1,443	28%	-	Mongolia	832	599	42%	-
Benin	176	89	5%	196	Montenegro	230	126	29%	6
Bolivia	2,011	1,204	13%	-	Morocco	845	-	21%	565
Bosnia and Herzegovina	1,159	238	60%	-	Mozambique	64	50	1%	225
Brazil	680	173	2%	7,548	Nepal	154	39	7%	212
Bulgaria	798	505	7%	1,827	Nicaragua	677	119	18%	-
Burkina Faso	156	107	2%	215	Niger	21	5	1%	97
Burundi	3	1	0%	59	Nigeria	104	38	1%	1,494
Cambodia	1,023	493	21%	-	Pakistan	338	53	2%	2,137
Cameroon	360	287	3%	321	Palestine	157	72	2%	548
Central African Republic	9	8	0%	67	Panama	20	4	1%	282
Chad	10	5	0%	133	Papua New Guinea	31	23	0%	339
Chile	911	315	7%	2,972	Paraguay	449	315	24%	34
China	33	2	0%	64,018	Peru	4,948	2,748	18%	-
Colombia	4,166	2,636	7%	721	Philippines	766	388	11%	515
Congo, DR	9	8	0%	54	Poland	58	-	0%	9,746
Congo	123	51	0%	3,412	Romania	520	210	1%	7,840
Costa Rica	69	0	2%	903	Russian Federation	2,750	1,357	1%	62,874
Cote D'Ivoire	177	164	1%	309	Rwanda	25	8	1%	148
Dominican R.	239	85	4%	364	Samoa	1	0	7%	1
East Timor	4	1	3%	10	Senegal	378	200	5%	357
Ecuador	1,511	671	11%	176	Serbia	1,211	534	9%	1,415
Egypt	275	1	7%	1,346	Sierra Leone	14	4	1%	100
El Salvador	469	211	8%	215	South Africa	515	155	5%	1,211
Ethiopia	535	173	5%	457	Sri Lanka	381	259	22%	50
Gambia, The	7	5	2%	6	Sudan	11	0	0%	1,151
Georgia	524	192	6%	403	Swaziland	34	-	1%	358
Ghana	210	127	5%	226	Syria	18	0	0%	1,289
Guatemala	187	2	4%	329	Tajikistan	429	179	3%	488
Guinea	22	8	2%	71	Tanzania	1,166	963	2%	1,464
Haiti	71	13	2%	225	Thailand	1	-	0%	1,096
Honduras	285	46	5%	291	Togo	123	95	3%	84
India	2,684	92	5%	8,707	Trinidad and Tobago	5	-	0%	358
Indonesia	110	47	13%	140	Tunisia	37	-	12%	245
Jordan	136	0	17%	231	Turkey	5	0	0%	1,465
Kazakhstan	179	-	3%	2,948	Uganda	325	207	3%	443
Kenya	1,512	880	6%	574	Ukraine	418	175	1%	14,736
Kosovo	1,020	796	19%	-	Uruguay	3	-	0%	923
Kyrgyzstan	383	112	11%	95	Uzbekistan	194	56	1%	3,655
Laos	15	2	0%	939	Venezuela	174	102	0%	2,364
Lebanon	25	-	3%	274	Vietnam	3,187	1,015	28%	-
Liberia	1	0	1%	15	Yemen	4	0	0%	182
Macedonia, FYR	324	193	11%	243	Zambia	8	1	0%	206

Source: MIX Market, J.P. Morgan. Penetration rates are calculated by MIX who cite that the number of poor people is determined using national poverty rates.

Appendix VII: Further reading

The Mystery of Capital, Hernando de Soto

Presents the concept of “dead capital” in many emerging markets: Due to extensive bureaucracy and high registration costs, assets are owned informally (outside the legal infrastructure), which then limits the owner’s ability to realize the value of those assets in future transactions.

The Fortune at the Bottom of the Pyramid, C.K. Prahalad

The original thesis that profitable business models can serve to improve the lives of poor people. The latest edition (2010 at time of publishing) includes case studies of some of the most prominent examples of impact investments.

The Next 4 Billion, World Resources Institute

A survey of the population that comprises the base of the economic pyramid, globally. The work includes analysis of income and expenditure data for poor households across sectors including Healthcare, Food, Water, Housing, Energy, Transportation, Information and Communication Technology.

New Frontiers of Philanthropy: A Guide to the New Actors and New Tools that Are Reshaping Global Philanthropy and Social Investing, William Burckart

Provides an overview and roadmap of the significant proliferation of new actors and tools that have emerged in the philanthropic and social investing arena. (Forthcoming Spring 2011.)

Investing for Social and Environmental Impact: A Design for Catalyzing an Emerging Industry, The Monitor Institute

An outline of the developments that would facilitate the growth of the impact investing industry.

Investing for Impact: Case Studies Across Asset Classes, Bridges Ventures and The Parthenon Group

An introduction to impacting investing and a showcase of current examples of impact investments across the impact- and financial-first spectrum.

Emerging Markets, Emerging Models, Monitor Group

Analyses the behaviors, economics and social outcomes of different types of social enterprise business models in India.

Impact Investing: A Framework for Policy Design and Analysis, Ben Thornley, David Wood, Katie Grace, and Sarah Sullivan

Describes the role of government in impact investing markets and is a resource for designing policy with the objective of catalyzing private capital. Includes sixteen detailed case studies of policies from around the world. (Forthcoming December 2010.)

Financing Change: Impact Investing for Blended Value, Antony Bugg-Levine and Jed Emerson –

An overview of the emergence of the global impact investing industry and description of the opportunities and challenges it creates for how we invest, address social challenges, regulate investment and philanthropy, and develop leadership. (Forthcoming 2011.)

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