Mexico City, is not part of the course curriculum, but its experience is at hand: BBOP teacher Michael Chu is a co-founder.

Launched in 2007 and initially funded with $102 million from private individuals and institutional investors, IGNIA aimed from the start to be a "proof of concept to bring capital to this area," said Álvaro Rodríguez Arregui, M.B.A. '95, managing director, in a telephone interview. Some 70 to 80 percent of the population in emerging economies, like Mexico's, live daily lives "very, very foreign" to those at the top of the pyramid: "It's not a good recipe for attracting capital." Most investors, he said, are "more comfortable investing in a building on Madison Avenue than investing in a project in Queens," even if the latter is more profitable. By seek-

Measuring Impact in the "Missing Middle"

New metrics for a mixed business model

In an idealized business transaction (ignoring restraints on competition and marketing blandishments), willing shoppers choose the products and services they want, and companies measure their sales, cash flow, profits, and return on capital—financial metrics that managers and investors alike can assess.

But how should *social* impact be evaluated? In "Business at the Base of the Pyramid" (see main article), students contend with the relative worth of enabling lower-income people to exercise consumer sovereignty (buying a television) versus securing their access to medicines. They consider research suggesting that microfinance—a high-profile tool in development economics and a vehicle for base-of-the-pyramid "financial inclusion"—often appears to bolster consumption more than it enables entrepreneurship, arguably a higher-impact goal.

A broad, deep effort to develop methods for measuring social impact exists in Cambridge's Central Square, just down Massachusetts Avenue from Harvard Yard. Root Capital (www.rootcapital.org), a nonprofit founded in 1999, lends to small agricultural enterprises—for example, Latin American coffee cooperatives—that need funding beyond the smaller loans offered by microfinance institutions, but are not yet served by commercial banks. Such enterprises provide vital rural services to hundreds of member growers, but are financially stuck in the "missing middle." To date, Root Capital has disbursed more than $900 million in loans, focusing on producers of high-value, traded products such as coffee, cashews, and cocoa, but also extending of late to smaller growers of local, staple crops in Africa.

Asya Troychansky and researcher Henry Caba Escobar (center) interview a farmer in Guatemala; Troychansky and Antonio Alberto Tzep López examine coffee plants at Nahualá Cooperative.

Does Root's lending make a real difference? Brian Milder '01, M.B.A. '07, the senior vice president who oversees strategic planning, financial advisory services for clients, and innovation, also directs impact assessment. He outlines three principles. The deepest in-field assessments (see below) ought to be *client-centric*: not merely generating information for external parties, but engaging clients in a process that results in better growing and operating practices. Assessment also aims at determining *"additionality"*: measuring the real impact from, say, Root's agricultural lending versus what would happen in the market were Root not making funds available. Finally, in Root's vision, there ought to be a *balance* between impact and financial investment decisions, with both considerations playing a role at a loan's inception. (For Root, that balance has been shifting in interesting ways; as its clients have grown to need larger and longer-term loans—not just to finance a season's crops but to build processing facilities, for example—hoped-for bank financing has not been forthcoming, so Root has stepped in. On such loans, it aims to make a profit, following the commercial model, in order to subsidize lending to smaller borrowers—where it is not able to cover its costs.)

Mike McCreless, M.B.A.-M.P.A. '10, director of strategy and impact, says those principles shape the criteria loan officers use in the field. Given Root's goal of supporting rural entrepreneurs and rapid economic growth, he said, "We had to figure out how to direct money to where it has the most impact" on local investment: boosting farmers' income by obtaining higher prices for their produce, and so on. Root's website and quarterly and annual reports display data on the number of producers affected, women farmers benefited, acreage under sustainable cultivation, and so on—alongside accounting for loan balances and performance.

Of late, those analyses have been supplemented by deeper, almost ethnographic studies. Impact officer Asya Troychansky '07, for example, visited four Root client coffee cooperatives in Guatemala, interviewing their managers and staff, and training four local consultants who in turn surveyed 407 farmer-members and 233 *non*members, seeking to tease out their relative incomes, pro-

Photographs courtesy of Root Capital

ing out high risk, even for venture capitalists, and creating "extraordinary returns," he continued, IGNIA hoped to have a demonstration effect on other investors: "Once you are able to show the numbers of a successful endeavor, then you can open people's eyes" about the sector.

Finding entrepreneurs has "been the least of our problems," Rodríguez Arregui continued: IGNIA made 11 investments in its first fund, choosing from among 300 opportunities. But those entrepreneurs' profile could not differ more from the prototypical American coder in a garage. The average founder in whom IGNIA invested is 45 years old, with at least some experience serving the base of the pyramid. A successful IGNIA CEO is not the "polished M.B.A. with the perfect PowerPoint and funding model," as principal Christine Kenna, M.B.A. '05, put it in a separate interview. That seasoning is crucial, Rodríguez Arregui said, because "The opposite of the word 'frictionless' doesn't exist, but that's the environment you operate with in Mexico."

Investments range from a chain of optical centers where customers can get exams and low-cost eyeglasses within 45 minutes, to a company that buys groups of foreclosed homes in low-income developments and revitalizes them with community groups to stabilize the neighborhood. IGNIA is also backing a kiosk-based, online, correspondent-banking system that serves customers in the small stores where base-of-the-pyramid customers do most of their shopping—banking without branches, which increases the stores' traffic. The rapid rise of smartphones (which Rodríguez Arregui estimated are now used by 20 percent of lower-income customers in Mexico) "opens a whole set of windows" for entrepreneurs, he said, even since IGNIA began committing funds in 2008.

Emerging opportunities aside, IGNIA has learned from failures, too. Two of three investments that did not work involved agriculture, where—as Tomato Jos recognizes—business risk and the risks of the underdeveloped rural ecosystem may be complicated by the need to change partners' *behavior*: how growers farm; how they pack produce for sale. "Business models that have an underlying assumption that 'If people only did this, everything would be great,'" can work, Rodríguez Arregui said, but need more time to do so than the financing horizon allows. "Facebook changed the way we interact," as he put it, "but it didn't have to build the Internet."

Although it is too early to know the returns on IGNIA's initial portfolio, the companies are "performing very well," he said, and the firm is raising a second fund. Mexican venture capital remains in its infancy, but indigenous pension funds are considering investing—a first for such institutions. Nonetheless, after traveling the world to promote the idea of high-return investing in businesses with a large social impact, Rodríguez Arregui cautioned about progress to date. Compared to the wave of investors in 2007, he said, "There's basically nobody new." Philanthropists and backers of social enterprises remain interested, but the finance industry overall still views "impact investing as a spin-off of not-for-profit activity." Nonprofit organizations, short of capital, have naturally tried to present themselves as pursuing "market solutions to social problems," but unconvincingly.

Nor have measurements of social impact evolved to the point that they can be applied as usefully as metrics like profit margin and ROE (see "Measuring Impact in the 'Missing Middle,'" opposite). Mariana Mazon Gutierrez, who directs IGNIA's industry and institutional relations, noted that prospective portfolio companies undergo "social due diligence" before investments are made, and comply with annual reporting requirements such as those developed by the Global Impact Investing Network. Compliance is time-consuming for the entrepreneur-managers, she said, and it is still difficult to know *(please turn to page 74)*

duction practices, and other outcomes—and the connection to Root-supplied financing. She found that in effective cooperatives with Root funding, membership was associated with higher incomes, in part because the co-ops could pay growers a base price *during* harvest—reducing dependence on intermediaries that customarily buy at prices less advantageous to the farmers. Enabling co-ops to pay farmers earlier contributed to a virtuous cycle of higher membership, with member farmers able to take advantage of the cooperatives' services, including agronomic training that promoted wider use of sustainable practices. Troychansky also gathered evidence on gender inclusion and agricultural environmental impacts—data in place of suppositions, facts by which to direct lending.

Beyond its Root-focused work, Milder's team works to advance assessment tools generally. One locus is the Global Impact Investing Network, with its impact reporting and investment standards (IRIS): an effort to evolve what he calls an impact "taxonomy" equivalent to Generally Accepted Accounting Principles for financial statements. McCreless, who has driven, and disseminates, some of this work through a blizzard of journal articles and papers on impact assessment, says the measures get at *types* of impact (income, for instance); *scale* (the affected population); and *depth* (the level of impact on each person). Much of Root's information on impact types and scale comes from loan officers' reports; depth metrics are least developed. That is where Troychansky's studies come in. "The metrics are the *starting* point," she says. The field studies aim at a "more holistic impact profile" of lives likely changed.

Whatever tools are finally evolved, Milder puts their importance in a larger context. "Business at the Base of the Pyramid" (which he took in 2007) describes the world as a triangle, but from Root's perspective, he says, the relevant image is a snowman—perhaps ironically so, given the warm regions where Root works. "Think of the 450 million to 500 million smallholder farm families in the world," he explains: the 2 billion to 2.5 billion people who till less than 5 hectares, and who are perhaps three-quarters of the world population living on less than $2 per person per day. The top 10 percent of this group (the small head) are in organized supply chains for cash crops like coffee or cocoa—and Root and similar organizations are beginning to get them the capital they need. Mid-body are the 150 million to 170 million semi-commercial farmers who grow and sell staples. And at the bulging bottom are the marginal, subsistence farmers, who just manage to survive working their land.

In agriculture, Milder says, the need for investments with beneficial social impact is far greater than anyone envisioned when Root was founded. In human needs, business opportunities, and prospective impact, the same holds true across the entire base of the pyramid.