Identifying and Relaxing Constraints to Employment Generation in Small Scale African Enterprises

Detailed proposal submitted to the World Bank’s project on *Understanding Labor Market Informality in Developing Countries*

Marcel Fafchamps, Oxford University
Christopher Woodruff, University of California, San Diego

April 4, 2009

**Motivation**

The ultimate purpose of the research described in this proposal is to identify better ways of fostering a dynamic small and medium size enterprise sector in Africa. In the last three decades we have witnessed a dramatic increase in the urban informal sector throughout sub-Saharan Africa. Most of this growth has taken the form of an increasing number of very small enterprises, typically with no paid employees. While this has provided employment and business experience to millions, it has not enabled local businesses to tap into the productivity gains that modern technology and modern forms of organization permit. The low level of productivity among the smallest firms ultimately acts as a brake on economic growth. What Africa needs is a vibrant small and medium size enterprise sector that can serve as an entrepreneurial incubator for large enterprises while at the same time supporting the rise of a modern enterprise sector capable of capturing returns to scale and specialization. We propose to research how the growth of such a sector can realistically be achieved. The research is designed to provide insights into the factors constraining growth of small scale enterprises, providing an important input for the development of new policies for enterprise development.

Globally, there is a strong negative correlation between rates of self employment and income levels (Gollin 2002; see also Lucas 1978). In a typical sub-Saharan African country, a third or more of the urban labor force is self employed. Simple arithmetic suggests that not all of those currently self employed will become employers hiring a significant number of workers. Rather, many urban workers are self employed because they are unable to find reasonable wage jobs.1 As the economy advances, we should expect that some portion of the informal enterprise owners will grow their enterprises, and some portion will exit self employment in favour of wage work. Separating those more likely to grow from those more likely to exit will allow the design of more efficient policy interventions for the informal sector.

Why is separating those with the most potential for growth so important? One reason is that the heterogeneity of the sector makes it difficult to identify constraints to growth and formalization of the informal sector enterprises. Informal entrepreneurs face two sets of constraints. One is internal to the individual (e.g., desire to grow, entrepreneurial capacity to

---

1 De Mel, McKenzie and Woodruff (2008) compare the characteristics of microenterpreneurs with larger firm owners and wage workers in Sri Lanka. They find that two-thirds to three-quarters of the self employed have characteristics more like typical wage workers, while the remainder have characteristics more like larger firm owners. Given the larger percentage of the workforce which is self employed in sub-Saharan Africa, we expect that similar proportions would hold there.
manage a larger firm) and one is external to the individual (e.g., access to finance, availability of training, or administrative corruption). Policy interventions are likely to be successful only in relaxing constraints external to the enterprise. The research challenge is to identify which of the constraints external to the individual might be eliminated through policy interventions. If the majority of the informal sector enterprises will not grow even if all of the potential constraints are relaxed—because their owners lack a desire to grow or the capacity to manage a larger enterprise—then identifying the impact of relaxing a given external constraint requires a very large sample of enterprises. That is, the power of any particular study is reduced by the large number of enterprises who respond to no intervention. By identifying the informal enterprises with the highest growth potential, we will make identification of the binding constraints feasible.

This project aims to devise a rigorous method to identify informal enterprises with the greatest potential for growth in Ghana and Ethiopia. In addition, we will use randomized interventions to identify among those enterprises the constraints which are most important in limiting growth, employment generation, and formalization. The project will screen entrepreneurs using both survey diagnostics and panels of judges from the industry. The panels will judge a written business plan and an oral presentation by the owner. We will then provide training and assistance with loan applications to selected enterprise owners. We have successfully piloted the methodology in Ghana, and will discuss the details of that pilot in this proposal.

**Research questions**

**Summary**

This project addresses two research questions:

1. Can external observers, survey diagnostics, or a combination of the two predict which entrepreneurs can successfully grow?
2. Is the beneficial effect of training achieved through the revelation of hidden ability or through the acquisition of new knowledge?

Many explanations have been proposed for why small firms fail to grow, such as:

1. Lack of finance (e.g., equity, long term loans, line of credit/overdraft facility, supplier credit)
2. Lack of insurance (e.g., equity diversification, protection against bankruptcy)
3. Lack of education of the management and workforce
4. Excessive regulation which incites firms to remain small and informal
5. Lack of business knowledge (e.g., accounting, marketing, management)
6. Lack of self-confidence/of information about true potential

Policy solutions have been proposed for the first four. In the interest of space, we will not discuss them extensively here. Our primary focus is on the last two. To our knowledge, a clear policy solution to the last two has yet to be developed. A major hurdle comes from the fact that only a small proportion of the total population seems to have ‘what it takes’ to be a successful small entrepreneur – what some would call ‘the X-factor’. Furthermore, it is difficult even for the entrepreneurs themselves to know whether they have ‘what it takes’ or not. Given this, it is not surprising that lenders find it difficult to identify promising entrepreneurs – and often give up on the task.
We propose to run a controlled experiment to test whether business knowledge and self-confidence play an important role in business success. The main purpose of the experiment is to test whether business training or business screening are key to the successful expansion of small and medium businesses.

We will also investigate whether the future growth performance of entrepreneurs can be predicted. This is important because if the information revealed by entrepreneurs through various assessment methods does not predict their future performance, then it is misleading and should not be used. To this effect we compare the performance of different entrepreneur assessment methods in predicting their future growth performance, with or without entrepreneurial training.

**Dynamics of informal firms**

There are two primary views of informality. One view, most often associated with the International Labor Organization, is that urban workers enter self-employment primarily because they are unable to find wage work. The other, associated with the path breaking work of Hernando de Soto, views informal owners as entrepreneurs trapped by the shackles of the state, or more broadly, stunted by a large number of potential constraints. One thing we know is that the informal sector is quite heterogeneous. Both ‘ILO’ and ‘de Soto’ types of individuals are almost certainly present in significant numbers. Optimal policies for the ‘de Soto’ group revolve around removing constraints to allow growth. Such policies are unlikely to meet with success among the ‘ILO’ group, though policies which attempt to increase income generation may be beneficial.

The evidence on dynamics of growth of informal sector firms is sparse. Mead and Liedholm (1998) and Liedholm and Mead (1999) report on the results of either panel or retrospective surveys of microenterprises in several African and Caribbean countries. Their data indicate employment growth from startup to the time of survey averaged 13-16 percent per year in their sample of five African countries and the Dominican Republic. In their data, all of the growth is generated by a minority of the enterprises. They note that more than three-quarters of the firms in their samples show either no growth or contraction in employment in the time between startup and the surveys.

Maloney and coauthors examine dynamics of microenterprises in Latin America using much larger samples drawn from household labor surveys (Maloney 1999; Bosch and Maloney 2007; Bosch, Goni, Maloney 2007). Labor market surveys generally follow a given household quarterly for periods of around a year, and hence the Maloney et al analysis generally covers dynamics over a relatively short period of time. The household labor survey data show high rates of mobility between formal wage work and informal self-employment in all of the countries examined. A large majority of the self-employed in the Latin American surveys indicate they are self-employed by choice rather than by force—that is, because they are unable to find wage jobs. Moreover, in Mexico, at least, transitions from formal wage work to informal self-employment are procyclical (Bosch and Maloney 2007), which again suggests voluntary entry into self-employment. This work provides important evidence regarding transitions between wage work and self-employment in Latin America. But since a large majority of the self-employed never hire paid workers, and since the panels generally cover only one year, these data provide less evidence on the dynamics of employment generation among informal sector enterprises.
Using data from a panel of enterprises without paid employees (non-employers) and cross sections of wage workers and larger firms with 5-75 workers, De Mel, McKenzie and Woodruff (2008) attempt to separate the self employed into those who look more like larger employers and those who look more like wage workers. Using characteristics of education and ability, family backgrounds and labor history, they find that around a quarter of the non-employers have characteristics more like larger employers, while the larger share have characteristics more like wage workers. In the sample of larger enterprises, retrospective data indicate that about one in eight enterprises (12 percent) had no paid employees at the end of their first year of operation, and another 21 percent started with one or two paid employees. These data also suggest that some portion of the smallest enterprises grow to a more substantial size over time.

**Training or sorting**

The potential benefit of training for small enterprise owners in developing countries is clear. Small-scale entrepreneurs often fail to keep financial accounts that would enable them to assess the true profitability of their activities; they have only a limited understanding of modern marketing techniques and sourcing practices; and their capacity to manage a medium to large scale enterprise is hampered by their inability to organize and monitor a large workforce. The lack of these skills is likely to be the binding constraint to enterprise growth in many cases. For this reason entrepreneurial training programs have been introduced in many countries, with significant donor involvement. There is, however, surprisingly little rigorous evaluation of training programs for microenterprise owners.\(^2\)

Training can also generate indirect benefits, such as screening, signalling, and networking. Individuals seldom know their true potential. Going through a training program often reveals to the trainee, as a by-product of assessment, valuable information about their hidden potential. This information is particularly valuable for entrepreneurs because business potential is very costly to ascertain through trial and error. As a result, many entrepreneurs may refrain from investing and growing for fear that they do not possess the necessary ability. Revealing this ability to some may give them the self-confidence required to invest and grow.

In contrast to knowledge acquisition and ability revelation, signalling and network building refer to the ease with which economic agents transact with each other. Signalling has value whenever the cost of investing in and acquiring a signal is lower for more able agents than it is for less able agents. These individuals may then elect to acquire the signal in order to distinguish themselves from other, less talented or less competent individuals. As a result, those with the signal gain access to resources (inputs, orders, loans, jobs) or advantages (better prices and conditions) that are not available to those without the signal. For instance, an entrepreneur may elect to go through a training program to signal his or her high ability to potential clients, suppliers, and lenders.

Training can also provide networking benefits in terms of market access. During training, individuals make new acquaintances. These business acquaintances can subsequently become sources of valuable information about technology and market opportunities. Connected

---

2 Karlan and Valdivia (2006) show that training has impacts on some outcomes among female enterprise owners in Peru who borrow from a particular microlender. They find that training leads to higher reported revenues and levels of business knowledge, and more frequent repayment of loans. There are few other evaluations of microenterprise training programs, though we are aware of ongoing projects by Xine and Fischer and Schoar which focus on microenterprise owners.
entrepreneurs may also come together for the provision of club goods such as information about bad suppliers and clients, or for lobbying public authorities for various advantages. Networking may also lead to nepotism, that is, to the provision of advantages (jobs, contracts) to individuals who are less competent but who can later reciprocate in kind.

What is unclear is which of these potential benefits is most valuable in the case of entrepreneur training. An objective of this research is to disentangle some of these benefits from each other. Our primary focus is on acquisition of knowledge and revelation of information about ability. To this effect we propose a four-way experimental design that randomly assigns entrepreneurs to two types of treatments, training and assessment. We also conduct a networking experiment.

For reasons of cost and feasibility, we will not apply experimental methods to investigate signalling and networking. To document these two possible effects, we will rely on observational data and examine whether the benefits of training are achieved through pure productivity effects or through new forms of interaction with clients, suppliers, and finance providers. Indeed, both knowledge acquisition and revelation of hidden talent can affect business performance directly – e.g., through investment and better management. In contrast, signalling and networking only work through the market. By examining in detail the nature of the changes taking place in trainees’ business we hope to gain additional valuable insights regarding the nature of the benefits entrepreneurs derive from business training and assessment.

The policy benefits from our research will be in terms of more effective training programs. If knowledge acquisition is the main channel by which entrepreneurs benefit from training, assessment methods are important only to identify the pool of entrepreneurs most likely to benefit from the training. Hence methods developed to provide assessment feedback to entrepreneurs – such as oral presentation in front of a panel of judges – are not likely to justify the costs of undertaking them. In contrast, if most of the benefits of entrepreneurial training are in the revelation of hidden talent, then assessment should be a central part of training programs, and training for specific skills may be less important.

It is customary for agencies assisting entrepreneurs to screen potential recipients of assistance. This is true as well for lenders, who look for characteristics thought to be associated with the capacity for successful business expansion. These characteristics typically include current saving/down-payment/collateral (which sometimes – though not always – also serves as protection against default), current turnover and profit, gender and age, education level, and the like. The kind of indicator used by financial organization varies according to firm size. Micro-finance organizations, for instance, put less emphasis on collateral but may require borrowers to first demonstrate their capacity to save.

Venture capitalists similarly screen entrepreneurs before providing them with equity finance. Entrepreneurs are expected to prepare and defend an expansion plan, a feature that has been popularized in TV shows such as ‘Dragon’s Den’ and others. Banks also typically require firms to produce a plan with financial projections before granting investment finance.

Entrepreneurial training agencies also select the entrepreneurs to whom to provide business knowledge. Selection takes various forms, using information obtained from application forms (de facto excluding entrepreneurs with insufficient education). Requiring the entrepreneur to pay a training fee up-front may also act as a screen, both of the current wealth of the
entrepreneur and also of the entrepreneur’s commitment to the training. While entrepreneurial performance will never be fully predictable, these assessment methods are useful only if what they reveal about entrepreneurial quality is a good predictor of future performance. But if the entrepreneurial assessment methods used by training and lending organizations are uninformative, they may lead to entrepreneurs expanding their business beyond what they can cope with.

We investigate these issues in two ways. First we collect from each experimental subject information which lending agencies require, and an additional battery of information on labor and family background and entrepreneurial attitudes. We also conduct tests of numeracy and non-verbal reasoning to obtain measures of ability beyond what is provided by levels of formal schooling and previous life experience. Second, we ask participating entrepreneurs to write a simple business plan and to defend that plan in front of a panel of successful entrepreneurs and specialists. We then follow up entrepreneurs over a two year period and we investigate whether either the survey data or the panel of experts can predict success with any degree of accuracy, and which, if any, of the survey data is useful for predicting the panel rankings. A randomly selected control group is used for cross-validation purposes.

**Research protocol**

The experiment can be divided into 10 steps as follows:

1. Identify a sample of individuals who operate a small business (3 to 14 employees) and who wish to expand their business. Owners will be between the ages of 20 and 45, and reside in an urban area. Farming and fishing will be excluded from the set of industries, though agricultural or seafood processing will be included.

2. Select a stratified random sample of those who apply as program participants. The initial target group is 400 enterprise owners in each of two countries. Stratification will be by major sector (trade, services, manufacturing) and by geographic region (city).

3. Matching on key characteristics, we will randomly separate the participants into a group of 300 and a group of 100. The group of 300 will be invited to participate in a short (2-3 day) business plan training course. Business plan training will be carried out in groups of 20-25. The group of 100 will serve as pure controls. (They may be offered a small gift for participation, but the gift will be a consumption good rather than one that affects their business.)

4. Those completing the training will then be asked to submit a written business plan, 6-8 pages in length. The plan will describe the current business operation, plans for growth, and the key constraints to meet that growth.

5. The entrepreneurs will then present and defend their business expansion plan in front of a panel of three judges selected from among successful local entrepreneurs, loan officers of financial institutions that lend to small and medium enterprises, and consultants. Each panel will interview 20 or 40 entrepreneurs. (Entrepreneurs will be re-randomized to presentation groups so that we can separate identify any effects of the training and panel cohorts, if any of these should occur.)

6. Each judge will independently rate each entrepreneur/proposal according to several criteria. Each judge will also rank the candidates. This provides both absolute and relative rankings. The criteria used in the pilot project are shown in the appendix.

7. For half of the panels, entrepreneurs will be told their rankings. For the other half, they will not be told their rankings. (This allows us to test whether the rankings
themselves have an effect through boosting the entrepreneur’s confidence, even without any further intervention.)

8. Half of the participants from each of the two groups (those told their rankings and those not) will be selected for training. For each panel, two of the top three rated firms will be selected to receive training, and one will not. Among those ranked 4-10, 4 will be selected for training and 3 will not. Among those ranked 11-20, 4 will be selected for training and 6 will not. Thus, the likelihood of receiving training will be increasing in the ranking, but we will be able to examine how the effect of training varies with entrepreneurial quality.

9. Those awarded training will be provided a 5-10 day business training course and 8-10 hours of follow-on consulting time which is individualized to the enterprise.

10. A random subset of trained entrepreneurs will be invited to a ‘networking event’ with panel judges. The purpose of this treatment is to investigate the possibility that some of the benefits to participating entrepreneurs come not from training or screening, but from networking with panel judges. Since we cannot eliminate the possibility of networking from the experimental design, this additional treatment should reinforce networking effects and, if significant, should alert us of the possible confounding presence of networking effects for all treated participants.

We will undertake the experiment in two countries, Ghana and Ethiopia. The sample will be 400 enterprises in each country, with 100 in each country serving as pure controls. To test the feasibility of the research design, we conducted a pilot project in Accra, Ghana between December 2008 and March 2009. The pilot was successful and demonstrated the feasibility of the proposed method. The pilot included all of the major elements of the proposed method: the generation and selection of a group of applicants, a baseline survey conducted at the place of business, a two-day training course designed to assist in writing a basic business plan, and presentations of the plan before panels of experts. The panel of experts ranked the entrepreneurs and business prospects. Half of the entrepreneurs were then provided with a scholarship for a 10 day training course offered by Empretec, an international NGO with a branch in Ghana which focuses on small and medium sized business development. In addition to the 10-day course, the Empretec program also includes a series of individualized consultancies during the year following the training program and (usually) networking events. We will continue to follow the pilot group to obtain their feedback on the various components of the program. But the pilot was comparable to phase I in drug testing, intended to test the method rather than produce significant results. The logistics of the field work are quite complex, and we gained experience with issues related to sample selection, business plan development, and panel selection. We now describe the research protocol in more detail, incorporating the knowledge gained during the pilot project.

Obtaining participants:
For this experiment the ideal sample is not a random sample of the entire population of firms of the target size. Many of the smallest firms have no desire to grow. Our objective is not to force growth, but to allow it. It is therefore reasonable to rely to some degree on self-identification which brings forward owners who want to have larger firms. But ideally every firm of the target size would learn about the program, and be encouraged to apply to participate. For a related project, we have undertaken a screening survey of 4,200

---

3 The pilot was funded by the World Bank MDTF see grant.
4 Karlan and Valdivia (2006) find that microentrepreneurs in Peru who say they do not need formal business training in fact benefit the most from the training. With this in mind, we do anticipate providing some encouragement to participate.
households across Accra and Tema, listing each working adult in the household. The listing includes only 123 enterprises with 3-14 employees, residing in only 104 distinct households. It is likely that not all of those enterprise owners would be interested in participating in the program. We conclude from this exercise that it will not be practical to recruit applicants with door-to-door screening in selected neighbourhoods.

Because of the compressed time frame for the pilot study, we decided to obtain a pool of participants by placing advertisements in an Accra newspaper and by sending announcements to members of the Association of Ghana Industries (AGI). AGI has many members who own small- and micro-enterprises. Both of these methods tended to reach more educated, more sophisticated business owners than is our intention for the full rollout. For the project, we plan a longer ‘recruitment’ phase. While we will still place advertisements in the newspaper, we will also do extensive ‘direct marketing’ in neighbourhoods with clusters of microenterprises whose owners have more modest education levels and means. We will use available census and other data to identify areas of Ghanaian cities which contain a large number small businesses in the manufacturing, trade and services sectors. We will send research assistants to these areas to promote the program. The research assistants will talk directly with visible businesses. However, while retail shops and some types of services will be very visible, manufacturing activities will be less visible. In order to ensure that information about the program reaches less visible businesses, the research assistants will inquire about small manufacturing and services businesses in the area which may not be visible from the streets. (Because local residents may be suspicious of people asking about informal, hidden businesses, we will have printed material which can be left with residents to pass along to the owners of these businesses. We have found that the Oxford name is widely known and well regarded in Ghana.)

The advertisement and notice for the pilot announced a competition for scholarships for a training program run by Empretece, and explained the elements of the competition—a written business plan and a presentation before a panel of judges. Interested entrepreneurs were requested to fill out a one-page application, which gathered basic information on the enterprise (number of paid and unpaid employees, sector, annual sales, and registration) and the owner (age and gender). Application forms were distributed and collected by Empretece and AGI. We also provided an email address through which applications could be submitted. The simple one-page application form we used for the pilot provided sufficient information to select participants. However, the need to submit the application by internet or to drop off the application at Empretece or AGI would likely be a significant barrier to reaching much of our target group. Hence, we will also acquire a post office box address, use multiple drop-off points, and have enumerators collect applications while they are in neighbourhoods advertising the program. The object is to lower the barriers to the initial application as much as possible.

The sample will be selected from among owners of businesses with between 3 and 14 paid employees. Owners will be either males or females between the ages of 20 and 45. The reason for this choice of age range is to identify entrepreneurs sufficiently far from retirement that growth is potentially an attractive option. Available data suggests that many of these firms will be unregistered. Moreover, their workers are unlikely to be registered and to receive the benefits enjoyed by formal sector workers.

For the pilot, we received 27 applications and selected 23 enterprises. (Again, the compressed time frame should be kept in mind here. There were only two weeks between the
announcement and the application deadline.) For the reasons discussed above, the pilot group is weighted relatively more toward owners with higher education levels than our target for the full program. Nevertheless, the group includes the full range of business types and several people with very modest education levels. Hence, we are able to draw inferences from the pilot experience. A baseline survey just under an hour in length was administered by project enumerators at the place of business of each entrepreneur. While conducting the survey, the enumerators also verified to the extent possible the number of workers, the sector and the age of the entrepreneur. (In one case, we discovered the enterprise did not meet the criteria, and that enterprise was dropped.)

**Baseline Survey**
The baseline survey allows us to gather detailed information about the current business before any intervention is made. More importantly, we will gather information which we expect to be associated with entrepreneurial success. This includes information on entrepreneurial attitudes, numeracy tests (digitspan recall), nonverbal reasoning tests (Raven’s progressive matrix test), work history and family background. Previous research in Sri Lanka indicates that both attitudes and ability differentiate the owners of larger enterprises from the owners of smaller enterprises in the cross section. Moreover, these same factors appear to be associated with employment growth in a panel of smaller enterprises. (See de Mel et al 2008).

**Business Plan Training**
Each of the 300 entrepreneurs selected to participate in the program will be asked to prepare and submit an abbreviated (6-8 page) business plan. The short business plan walks a line between our desire to include entrepreneurs with modest levels of formal schooling and our desire to have some formal, written document describing the current business operations and plans for growth. Requiring a full, detailed, business plan would likely exclude too many of the target population of entrepreneurs. The basic plan will be an input to the panel, and will also serve as a document which can be judged by itself.

In the pilot project, entrepreneurs were invited to participate in a two-day training program on writing a business plan after they completed the one-hour baseline survey interview. The training program was conducted by a local consultant with extensive experience working with small scale enterprises. The outline of the course is attached as an appendix. The course was designed to be practical in nature, with numerous exercises through which the owners completed many of the components of the business plan during the two days. Both the consultant and the research assistant working on the project recommend adding a third day to the business plan training. We believe the larger number of participants in the full project should allow us to add a third day while keeping costs to around the same level as the pilot. Given the desire to reach owners with modest education levels, we agree that the longer training may be necessary.

Owners were given one week after the completion of the business plan training class to submit a written business plan. The plan was expected to be brief—6 to 8 pages—and provide a basic description of the business, its market, and a vision for growth. We expected some dropout between the initial survey and the submission of the business plans. In fact, everyone who was surveyed expressed an interest in attending the business planning course. All 23 owners surveyed attended the first day of the course, and 20 completed the full two day course. 19 then prepared and submitted a business plan. For the full project, we will allow a slightly longer period between the business plan training and the submission of the
business plan. During this time, the consultants will review draft plans and provide feedback to the entrepreneur, allowing for one iteration before the plan is submitted to the panel of judges.

Panel of judges
We will convene ten panels of three judges in each country. The panels will be largely made up of successful business people from the local area, the majority of which will have grown a small business into a larger one. We will also use loan officers from financial institutions and small business consultants as judges. Each panel will be asked to review and rate 30 business plans in anticipation of 20-30 minute interviews with each of the 30 entrepreneurs. Before the interview, the entrepreneurs will be asked to prepare a ten minute presentation describing their business and goals to one of the panels. The remaining interview time will be allocated for questions from the panel members. At the end of the panel, the entrepreneurs will be ranked by each of the three panel members according in three areas: entrepreneurial ability / business acumen, the business opportunity, and the business plan. We will ask each panel member for his/her independent evaluation of the entrepreneur, but allow the panel members to discuss the merits of the business and prospects for growth.

For the pilot we conducted in Accra, we organized two panels of three members each to review the business plans and interview the entrepreneurs. Because of the modest number of participants in the pilot, each panel member reviewed and ranked all of the written plans. They were then assigned nine or ten entrepreneurs to interview. Each panel met on two evenings to interview the entrepreneurs. We obtained suggestions for judges from local business associations and through discussions with local business consultants. Based on the experience, we feel that identifying the panel judges is not a major hurdle.

Each panel member was asked to complete an evaluation form (sample attached) for each enterprise. We provided the judges a rating sheet which asked them to rate on a scale of 1 to 10 the written business plan and the oral presentation. We also asked them to rate, based on the combined written and oral presentation: 1) the owner’s business acumen; 2) How well the owner runs the existing business; 3) the strategy for growth; and 4) the owner’s ability to manage a growing enterprise. Collectively, these provide us with both absolute scores (in several dimensions) and relative rankings for each owner.

Business training and consulting
The final stage of the project is to provide business training to selected entrepreneurs. If we want to generate results which allow us to say not just whether training is effective, but for whom it is effective, we can not simply award the training to those rated highest by the panel. In order to separately identify the effects of ability (as measured by the panel) and the subsequent training, we will randomize the assignment to training. The randomization will also allow a more complete understanding of the interaction between entrepreneurial ability and business training.

Once ranked, the owners will be randomly assigned to one of four cells in a two by two table. Half of the groups of entrepreneurs will be told their ranking, and half will not. In each of these two groups, half of the entrepreneurs will be provided an individual consultancy and the opportunity to participate in a further, much more extensive, training program; the other half will not be provided further training. The first assignment, whether they are told the panel ranking or not, will be purely random at the panel level. For assignment to training, the probability will be two in three for the entrepreneurs ranked in the top 15 percent by the
panel (3 out of every 20), 4 in 7 for those ranked in the 85th to 50th percentile (entrepreneurs 4 through 10 out of 20), and 4 in ten for those ranked in the bottom half by the panel. The higher probability of being selected for further consultancy / training is important to provide the entrepreneurs an incentive to prepare the business plan and presentation. Providing training to some entrepreneurs and not to others at each ability level is important to separate the impact of training and ability.

This design also allows us to separately identify the impact of the ranking and the more extensive consultancy. We are interested in separating the impact of training from any impact which the ranking in the competition itself might have. We expect there may be a ranking effect: those rated well by the judges may gain self confidence in their ideas. They may therefore be more willing to take chances and be more aggressive with investments after receiving the certification of the panel. To separate any ranking effect from the training effect, half of the entrepreneurs will be told their ranking, and half will not. This separation will be done at the panel level, so that either everyone on a given panel is told their ranking, or no one on the panel is.

For the pilot in Accra, we have arranged with Empretec Ghana to provide training for 10 entrepreneurs selected after the panel rankings. The Empretec program is appropriate for firms of this size. The program begins with a 10-day course in a group of 20 entrepreneurs. The course covers basic business skills like keeping records, marketing, and employee management. After the course, Empretec consultants provide a one-hour diagnostic consultancy with each firm. This consultancy identifies areas of concern for the enterprise. Empretec consultants then work individually with the entrepreneurs on these issues over the 12 months following the training course. While the group course should be of value to the target entrepreneurs, we are particularly interested in the more customized training that is provided after the course. By summer of 2009, we will have a better idea of the quality of the consulting services provided by Empretec Ghana. If we find that satisfactory, we plan to work with them for the full project. If we don’t, we have identified other potential providers in Ghana. We need to identify similar providers in Ethiopia. The experience in Ghana will be useful in doing this.

**Networking treatment**

We are also interested in the possibility that one of the benefits from presenting a business plan to a panel of judges is the creation of a business contact with a knowledgeable entrepreneur. Participants may derive a variety of benefits from such a business contact, such as access to information about new technologies, organizational and transactional innovations, or market opportunities. This is potentially important because it implies that some of the benefits to participating entrepreneurs may come not from training or screening, but from networking with panel judges.

Since panels of judges are an integral part of our treatment, we cannot eliminate the possibility of networking from the experimental design. We nevertheless want to ascertain whether networking benefits are present – and hence whether our experimental results must be interpreted as combining elements of screening and training with networking. To investigate this possibility, we propose to add a networking event, the purpose of which is to reinforce possible networking effects that cannot be removed from the experimental design. The precise form of this networking event still needs to be determined, but the idea is to organize, for a randomly selected subset of participants, an informal gathering with panel judges—e.g., cocktail, dinner. If participants to this gathering show stronger growth, this will
suggest that networking is important in the context of the study. This reinforcement effect should alert us of the possible confounding presence of networking effects for all treated participants.

**Outcomes of interest:**

All entrepreneurs will be surveyed at the moment they apply to the program, immediately after they have met the panel of judges, and 6 and 18 months after the intervention. Key outcomes of interest are:

1) Growth in employment  
2) Growth of sales, profits, and capital investment  
3) Survival / closure  
4) Formalization (e.g., business registration, payment of taxes and social security, respect for health and safety regulations)  
5) Production technology  
6) Labor and management practices  
7) Transaction and contractual practices

We will test the following hypotheses:

1. Selected entrepreneurs grow more than controls  
2. Selected entrepreneurs highly ranked by the panel grow more than those ranked further down.  
3. Selected entrepreneurs who receive the business training grow more than selected entrepreneurs who do not receive the training  
4. Selected entrepreneurs who are told the outcome of the screening grow more than those who are not told  
5. Selected entrepreneurs who participate to the networking event grow more than those who did not  
6. Panel judges with an entrepreneur background are better at predicting than loan officers in financial institutions  
7. Ability measures—Raven, digitspan, and years of schooling—and attitudes predict the rankings by the judges.  
8. The combination of judges’ rankings and the survey diagnostics more accurately predicts which entrepreneurs grow than either does separately.

Similar hypotheses will be tested for other outcomes of interest, such as firm survival, formalization, technology, and firm practices.

**Analysis of the data from the pilot**

Though the pilot involved only 23 enterprise owners, we can use the data to demonstrate a part of the analysis the larger project will allow us to undertake. The panel interviewed and ranked 19 owners. While the sample is obviously too small to perform a full-fledged statistical analysis, we provide a few simple correlations to demonstrate the type of analysis data from the full project will allow. Each written proposal was rated by each of the six judges according to five criteria. (See Appendix 1 for a list of the criteria.) The owner’s oral presentation was made to a panel of three judges. There were five criteria applied to the oral presentation, and five to the overall evaluation of the owner. For the purposes of awarding training scholarships in the pilot project, we produced an overall score by assigning the written plan scores a weight of 40 percent and the presentation / overall scores a weight of 60
percent. Some judges gave higher scores overall than other judges, even when evaluating the same entrepreneur. With scores reported on a scale of 1 to 10, the mean score for the harshest judge was just over 3, and the mean score for the most lenient judge was about 6.5. Before averaging the scores for each entrepreneur, we normalized each judge’s scores by dividing each mark by the average score given by that judge. That is, each judge’s average score was normalized to 1.

The overall scores ranged from 0.77 for the lowest ranked entrepreneur to 1.18 for the top ranked entrepreneur, providing substantial variation. However, the judges scores sometimes showed quite a lot of difference in opinion even among the three judges who both read the written plan and interviewed the entrepreneurs. In only 8 of 18 cases are all three judges on one side of the median (normalized) score or the other. But only in 4 cases where there is a ‘dissenting’ judge is the aggregate normalized score of the dissenting judge more than 0.25 away from the average aggregate scores of the two ‘majority opinion’ judges. Thus, there is broad consensus among the judges with regard to the ranking of the entrepreneurs.

Several characteristics of the entrepreneur and the enterprise appear to be correlated with the judges’ rankings, though with a sample size of 19, only one of the correlations is significant beyond the 0.20 percent level. A higher ranking is correlated with education (correlation coefficient of 0.18) and the number of digits recalled in the digitspan test (0.19), and owners who are willing to take more risks (0.16). A higher ranking is also associated with the owners purchasing inputs on credit from suppliers (0.32, the strongest correlation with a p-value of 0.18), owners who make goods to order for customers (0.29), and those who product line is more diversified (the correlation between the ranking and the percentage of sales from the main item sold is -0.39).

These correlations are reported only to give an example of the type of analysis the combination of the survey and panel data will allow. With much larger samples, we expect to be able to use measured variables like these both to predict the judges’ rankings and to predict which enterprises will grow more rapidly. We also expect to be able to do more detailed analysis of the judges’ rankings in more specific categories. A goal of the project is to understand how we can help enterprise assistance programs identify entrepreneurs with better prospects for growth. We are optimistic that the panel of experts will be effective at identifying those with more capacity for growth and job creation—though of course, the follow-on survey data will allow us to confirm this. But the panels are a cumbersome, expensive way to sort informal sector entrepreneurs by type. By matching the survey data to the panels, we hope to provide a more accurate sorting of informal sector firms without relying on panels of judges.

**Sample size and power calculations:**
We lack good data on actual growth rates in employment, sales, and the other key variables of interest in the relevant population of firms. We base our power calculations on the ability to detect differences equal to one-half of a standard deviation in the growth rate among untreated firms with 95 percent confidence. With a pure control sample of 100 and a treatment sample of 150, we are able to detect a difference of one-half standard deviation with 97 percent power. Allowing for 10 percent attrition from both treatment and control samples still results in 95 percent power. Without (with) attrition, we are able to detect a

---

5 With the full data, we will standardize the variation of each judges scores as well.
6 One judge was late for one session, and so one entrepreneur was judged by a panel of 2.
difference of .36 (.38) of a standard deviation at 80 percent power. This gives us adequate power to detect a reasonable size effect of any of the four treatments (business plan training, business plan training plus ranking, business plan training plus follow-on training, and business plan training, ranking and follow-on training) against the pure control group. For any other comparison, each group is at least 150 enterprises, so the power will be higher. So groups of 150 each allows us to detect impacts of 1/3rd of a standard deviation at 80 percent power. Since we might expect the differences in means to be smaller when comparing different types of treatments, this additional power is needed. For variables like profits, data from multiple surveys will reduce the noise in the data and improve power. But repeated observations will not likely improve power much for measures such as employment, where there less measurement error and a large degree of correlation across time. Finally, it should be noted that to the extent we are able to combine data across countries, the power will be increased. Ex ante, we have no way of being certain whether the data will be comparable or not.

<table>
<thead>
<tr>
<th></th>
<th>Told ranking</th>
<th>Not told ranking</th>
<th>Pure Control</th>
<th>Totals by Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>75</td>
<td>75</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>No training</td>
<td>75</td>
<td>75</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>Pure control</td>
<td></td>
<td></td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Total by category</td>
<td>150</td>
<td>150</td>
<td>100</td>
<td>400</td>
</tr>
</tbody>
</table>

**Budget and implementation strategy**

Given fixed costs of operating in each country, the project budget allows a thorough study with a sample size of 400 in each of two countries. We are optimistic about the prospect for obtaining funding to allow us to repeat the exercise in a third country, and are working on a proposal in response to one RFP. There are three major components of the budget: The cost of surveying, the cost of training, and the project logistics. We have budgeted $45,000 for surveying, $120,000 for training, and $60,000 for project logistics. We also anticipate a 10 percent administrative fee paid to Oxford University to coordinate the project finances and supervise the logistical side of the project.

**Training costs:**

The largest part of the budget covers the cost of providing training to entrepreneurs. There are two types of training provided in this project: training all treated entrepreneurs to write a business plan, and providing extensive training to those entrepreneurs selected after the panels judge the business plans and oral presentations. The business plan training will be offered to 300 owners in groups of 25. The budgeted cost of $150 per participant is the cost we paid for this training in the pilot project. We expect costs for the full project to differ somewhat for two reasons, which we expect to offset one another. First, experience from the pilot indicates that a two-day training is not sufficient. Both the person providing the training and the project coordinator indicated that two days were not sufficient to adequately cover the necessary material. In particular, the financial statements included in the business plans were not sufficiently detailed to provide information on the ongoing operations of the enterprises. Therefore, we intend to extend the program to a third day. We expect this increase in cost will be offset by the larger scale and slightly larger number of participants per session (25 rather than 20), allowing us to keep the cost for each of the 300 participants (in each country) to $150.
After the panel judges the rank the proposals, 150 enterprise owners will be selected to receive more extensive training and consulting services. Based on the experience with the pilot, we have budgeted $500 per participant for this training. We are still evaluating the adequacy of the training provided to pilot participants by the selected training outfit and we continue doing so after this proposal is submitted. But we are confident that significant training can be provided for $500 per participant.

**Survey costs:**
We will administer a baseline survey and three follow-up surveys to each of the 400 enterprises participating in the project, including the 100 enterprises in the pure control group. The baseline survey is expected to take between 60 and 75 minutes, and each of the follow-ups will take 30 to 45 minutes, on average. At $25 per survey on average, this comes to $40,000. We include an additional $5000 for the listing activities and screening surveys used to identify and select the initial sample.

**Project logistics:**
Project coordinator: Experience with the pilot indicates that a full time project coordinator will be required in each country because of the complexity of the project logistics. We expect the most intensive work to cover a period of 6-8 months divided as follows: 2-3 months identifying participants and panel members, 2-3 months coordinating panels, and 2 months coordinating the initial phase of the more extensive training. Follow-up survey work will occupy a substantial amount of time 6, 12, and 18 months after the panel decisions. A shorter follow-up survey will be undertaken 2 years after the panel decisions, but we expect to be able to use a graduate student to coordinate this survey. We have budgeted $31,000 of project coordinator time for each country.

Compensation for panel judges: We will form 10 panels of 3 judges each. Each panel will judge 30 proposals. Panels will convene on weekday evenings. Because many panel members are themselves enterprise owners, they typically work until into the evening hours. We therefore plan each session for no longer than 2.5 hours, with presentations from five participants. We have budgeted compensation of 100 GhC per session for each panel member, or $400 per judge for the six sessions. The total cost of panel judges is thus $12,000.

Travel, meeting rooms and other logistics: We have budgeted $12,000 for travel for each country for the two PIs. This will cover 4 trips in all, two for each of the investigators. We have also budgeted $5000 for room rentals for the panel meetings, and for other miscellaneous costs such as the printing and distribution of calls for participants.

**Timeline**
We will begin first in Ghana, where we have the experience with the pilot project. We anticipate adhering to the following timeline:

July / August 2009: Identify participants
September 2009: baseline survey; short courses on business plan training
October 2009: Written business plans submitted
October / November 2009: panels meet treated participants and screen proposals
November / December 2009: extensive business training begins
January 2010-June 2010: individual consulting for enterprises
March 2010: First follow-up survey
September 2010 and March 2011: follow-up surveys

In Ethiopia, the timeline will be similar, but delayed by approximately 3 months. The additional time is required to hire a local project coordinator and make agreements with training providers and local business associations (for panel members). The lag will also allow us to incorporate what we learn from rolling out the full project in Ghana.

**Ethical issues**
Given the nature of the tested intervention, this research project closely resembles a development project and thus does not raise any difficult ethical issue. Participation to all stages of the project is voluntary and does not involve any minor. We expect that all treated participants will benefit in one way or another from the project. We will use a written consent form, approved by Oxford University’s Ethics Committee.

**Project outputs and dissemination**
We expect to produce several academic papers from this project. At this point, we envisage three main papers.

The first will compare the ability of survey diagnostics and panel rankings to predict which informal sector entrepreneurs will grow more rapidly, with or without training, and how their level of formalization and business practices will evolve. We expect the data to show that panel rankings are better able to predict future firm performance. We will also investigate which survey questions are best able to predict how judges rank business plans. The policy purpose of this exercise is to identify accurate predictors of firm growth and formalization potential that can be gathered at minimal cost. This information will be crucial in targeting development assistance to firms with the highest growth potential, avoiding the waste of valuable resources seeking to promote businesses with little or no potential.

The second paper will examine the respective roles of training and screening in assisting firm performance. To this effect we will compare the performance (i.e., growth and survival, formalization, and business practices) of firms across the four treatment cells: with and without training, and with and without communication about panel rankings. We expect the results to show that the biggest effect on firm performance comes from business training. We also expect that entrepreneurs who are told their ranking by panel judges will benefit more from the training if their ranking was high.

The third paper will investigate network effects by comparing the performance of firms that participated to the networking event to those who did not. We expect that close contact with panel judges – who are selected among successful indigenous entrepreneurs – will prove beneficial for some participants, especially those who were highly ranked by panel judges.

We would expect to place one paper in a top general interest journal, and the other two in a top development journal. Given the complexity of the project, we expect that other research topics will arise during the course of the project. The research will be presented at academic conferences and also at events sponsored by the Center for the Study of African Economies at Oxford and the International Growth Center, a DFID funded center run jointly by Oxford
and LSE. We will also look for opportunities to present the results at other venues with important policy leverage, like the World Bank, USAID, DFID, etc.

**Qualifications of the Principal Investigators and Collaborators**

Professor Marcel Fafchamps holds a PhD from the University of California at Berkeley. After teaching at Stanford University from 1989 until 1998, he joined the Department of Economics of Oxford University where he has been teaching development economics since 1999. Professor Fafchamps is Deputy Director of the Centre for the Study of African Economies and Chief Editor of the Journal of African Economies. Before his PhD, Professor Fafchamps worked for the UN in Ethiopia from 1981 to 1985. He has a long history of collaboration with the World Bank where he spent a year in the research department (1998-99).

Christopher Woodruff is a professor of economics at the Graduate School of International Relations and Pacific Studies. He has conducted extensive field-level research on the development of the private sector in low-income countries. He has examined use of informal contracting in governing trading relations between firms and how the institutional environment affects the willingness of entrepreneurs to invest in their enterprises. Recent work in Sri Lanka has examined rates of return to incremental capital investments in microenterprises and the recovery of these enterprises from the 2004 tsunami. Geographically, his research spans a broad area of the developing world Mexico, Vietnam, Sri Lanka, Ghana and Eastern Europe. This project represents an extension of his recent work in Sri Lanka and Ghana.

The PIs have extensive experience doing fieldwork in Africa and other countries. Fafchamps has directed and organized numerous firm level surveys in several African countries, including the three countries in which we propose to work. Woodruff has directed randomized field research projects with microenterprises in Mexico and Sri Lanka. These projects have resulted in publications in the *Quarterly Journal of Economics*, the *Journal of Development Economics*, *AEJ-Applied* and the *World Bank Economic Review*, among others. The work has also had a significant impact on policy makers and NGOs. Together, the two PIs are currently working together on a randomized field experiment designed to measure returns to capital in male- and female-owned microenterprises in Ghana. Our collective experience positions us well to undertake a project with the logistical complexity of that we propose.

The project implies extensive collaboration with researchers and the research infrastructure in Ghana and Ethiopia. Through his previous research and his position at Oxford’s Center for the Study of African Economies (CSAE), Fafchamps has extensive contacts both with researchers at African universities and with governments and private sector entities. We expect to engage researchers at the University of Legon (Ghana), and Addis Ababa University (Ethiopia). Fafchamps’ association with CSAE also provides us continual interaction with perhaps the most extensive research experience on Africa outside the World Bank. Fafchamps’ and CSAE’s network will also be invaluable in engaging entrepreneurs for the panel and as mentors in each of the countries.
References


deMel, Suresh, David McKenzie and Christopher Woodruff, 2008, “Who are the Microenterprise Owners?: Evidence from Sri Lanka on Tokman v. de Soto,” working paper, UCSD.


Appendix 1: Criteria for judging business plans and oral presentations.

Written Business Plan
1. Clear business concept
2. Definition of market
3. Current operations
4. Financial statements
5. Organization of the business plan

Total score (maximum 50/50)

Oral Presentation
1. Preparation
2. Confidence level
3. Understanding of the business
4. Ability to make the case for what makes the business special or stand tall amongst others
5. Answers to the questions posed by the panel

Total score (maximum 50/50)

General
1. Business acumen
2. How well does (s)he run the existing business
3. Strategy for growth
4. Ability to manage a growing enterprise
5. Articulates goals, mission, vision

Total score (maximum 50/50)
# PROPOSED FORMAT OF BUSINESS PLAN FOR PRESENTATION

## (3 YEAR PLAN PERIOD)

<table>
<thead>
<tr>
<th>Section</th>
<th>Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>Business name and brief history</td>
</tr>
</tbody>
</table>
| **Summary of Business Concept**        | o What the business is, what value it adds to the market place (e.g. Employment, Taxes, particular needs it serves etc.  
   o Business location and the legal structure  
   o Management/Owners and experience or expertise to deliver on business objectives.                                                                 |
| The Market                             | o Clear definition of the customer and market; size of the market and potential; Competition and competitive advantage of the business; summary of marketing strategy  
   o Projections on the size of the market and indications of targets during the business plan period                                                                                           |
| Financial Requirements and Projections | Statement on financial requirements during the plan period, clearly distinguishing between existing investment and additional requirements; financing strategy (source of finance); operating statement and cashflow projections with key financial ratios. |
CURRICULUM VITAE

Marcel Fafchamps

Department of Economics
University of Oxford, Manor Road, Oxford OX1 3UQ
E-mail: marcel.fafchamps@economics.ox.ac.uk
Voice: 44 (1865) 281-446 - Fax: 44 (1865) 281-447

Professional and Research Experience

Oxford University 7/99-indefinite
Department of Economics and Mansfield College
Professor in the Department of Economics and Professorial Fellow at Mansfield College:
Teach MSc and MPhil graduate students in Economic Development and Econometrics.
Supervise DPhil theses. Deputy Director of the Centre for the Study of African Economies.

Université de Clermont 1 4/00-ongoing
CERDI
Professeur Invité: Teach graduate lectures in development economics.

The World Bank 7/98-7/99
DECRG
Visiting Research Fellow: Participate to the research activities of the World Bank. Initiate collaborative research on market institutions and other agricultural development issues.

Stanford University: 9/89-6/99
Department of Economics 9/96-6/99
Assistant Professor: Teach a Ph.D. level course on economic development. Teach an undergraduate introductory course on econometrics. Supervise Ph.D. theses. On sabbatical leave from 9/98 until 6/99.

Food Research Institute 9/89-8/96
Assistant Professor: Teach Ph.D. courses on economic development. Teach an MA/undergraduate level course on economic development in Africa. Supervise Ph.D. theses.
University of Chicago 1/95-3/95
Department of Economics
Visiting Assistant Professor: Teach a Ph.D. course entitled Individual Behavior, Market Institutions, and Economic Development.

University of California, Berkeley 1/86-1/88; 10/88-8/89
Department of Agricultural and Resource Economics

ICRISAT, Hyderabad, India 1/88-9/88
Economics Department
Research Scholar: Analysis of the ICRISAT Burkina Faso data bank.

International Labor Organization 1/81-12/85
Jobs and Skills Programme for Africa (JASPA), Addis Ababa, Ethiopia
Associate Expert and later on Expert: Advise African governments on rural employment and income policy issues. Undertake original research work on labor productivity and technology adoption in African agriculture. Supervisors: Dr. Shyiam Nigam and Dr. Vremudiah Diejomaoh, Directors.

Education

Publications
Books:
Marcel Fafchamps, Market Institutions in Sub-Saharan Africa: Theory and Evidence, MIT Press, 2004
Marcel Fafchamps, Rural Poverty, Risk, and Development, Elgar Press, 2003

Articles published or accepted for publication in refereed journals:


Marcel Fafchamps and Forhad Shilpi, "Isolation and Subjective Welfare: Evidence from South Asia", *Economic Development and Cultural Change* October 2009 (forthcoming)

Marcel Fafchamps and Bart Minten, "Insecurity and Welfare", *Journal of Development Studies*, 2009 (forthcoming)


Marcel Fafchamps, Ruth Vargas Hill and Bart Minten, "Quality Control in Non-Staple Food Markets: Evidence from India", *Agricultural Economics*, Volume 38, Issue 3, Date: May 2008, Pages: 251-266


Marcel Fafchamps and Ruth Vargas Hill, "Selling at the Farm-Gate or Travelling to Market", *American Journal of Agricultural Economics*, 87(3): 717-34, August 2005


Marcel Fafchamps and Agnes Quisumbing, "Control and Ownership of Assets Within Rural Ethiopian Households", *Journal of Development Studies*, 38(6): 47-82, August 2002


Marcel Fafchamps and Agnes Quisumbing, "Human Capital, Productivity, and Labor Allocation in Rural Pakistan", *Journal of Human Resources*, 34(2): 369-406, Spring 1999

Alain de Janvry, Marcel Fafchamps and Elisabeth Sadoulet, "Social Heterogeneity and Wasteful Lobbying", *Public Choice*, 98(1-2): 5-27, January 1999


**Book Reviews**


**Book Chapters and Conference Proceedings:**

Marcel Fafchamps, "Risk Sharing between Households", in *Handbook of Social Economics*, Jess Benhabib (ed.), (forthcoming)


Marcel Fafchamps, "Intrahousehold allocation", New Palgrave Dictionary of Economics, 2007 (forthcoming)
Marcel Fafchamps and Agnes Quisumbing, "Household Formation and Marriage Markets", forthcoming in *Handbook of Development Economics, Volume 4*

Donald Cox and Marcel Fafchamps, "Extended Family and Kinship Networks", forthcoming in *Handbook of Agricultural Economics, Volume 4*

Steven Durlauf and Marcel Fafchamps, "Social Capital", in *Handbook of Economic Growth, Volume 1B*, Philippe Aghion and Stephen Durlauf (eds.), pp. 1637-99, North Holland, 2005

Marcel Fafchamps, "The Role of Ethnicity and Networks in Agricultural Trade: Evidence from Africa", in *The Social Economics of Poverty: On Identities, Groups, Communities and Networks*, Christopher B. Barrett (ed.), (Chapter 12), pp. 288-316, London: Routledge, 2005


Marcel Fafchamps, "Trade Credit in Zimbabwe", in *African Entrepreneurship*, Anita Spring and Barbara McDade (eds.), University of Florida Press, 1998


Published Reports:


Marcel Fafchamps, Labor Use and Productivity and Technological Change in African Smallholder Agriculture: a Case Study of Uganda, ILO/JASPA, Addis Ababa, 1985
Marcel Fafchamps, Labor Use and Productivity and Technological Change in African Smallholder Agriculture: a Case Study of Sudan, ILO/JASPA, Addis Ababa, 1985
Participation in Crise économique et perspectives de l’emploi dans une économie ouverte: le cas du Togo, BIT/PECTA, Addis Ababa, 1986
Participation in Réflexions pour une politique de l’emploi au Zaire: alternatives pour le secteur rural et le secteur non-structuré, BIT/PECTA, Addis Ababa, 1986
Participation in Développement rural et emploi des jeunes aux Comores, BIT/PECTA, Addis Ababa, 1985
Participation in Emploi d’abord: éléments de stratégies pour la priorité à l’emploi au Bénin, BIT/PECTA, Addis Ababa, 1985

Unpublished Reports
Marcel Fafchamps, Ruth Vargas Hill and Bart Minten, Non-Staple Food Markets in India, submitted to the World Bank and government of India, 2006
Marcel Fafchamps, Ruth Vargas Hill, Aliziki Kaudha, and Robert Nsibirwa, "The Transmission of International Commodity Prices to Domestic Producers", submitted to the World Bank, 2004
Marcel Fafchamps and Said El Hamine, "Firm Productivity, Wages, and Agglomeration Externalities"
Marcel Fafchamps, "Manufacturing Growth and Agglomeration Effects"
Abigail Barr, Marcel Fafchamps and Trudy Owens, "Non-Governmental Organizations in Uganda", submitted to the Government of Uganda
Carlos Cuevas, Marcel Fafchamps, Rebecca Hanson, Peter Moll and Pradeep Srivastava, "Case Studies of Enterprise Finance in Ghana", March 1993, Report submitted to the World Bank
Participation in Rapport de la mission de programmation BIT/PECTA au Burkina Faso, ILO, Geneva, 1985 (confidential)
Marcel Fafchamps and Willem Keddeman, Où vas-tu paysan? ou Emploi et revenus dans le secteur agricole traditionnel au Bénin, BIT/PECTA, Addis Ababa, 1982

Papers submitted for publication:
Marcel Fafchamps, Sanjeev Goyal and Marco van der Leij, "Matching and Network Effects"
Marcel Fafchamps and Jean-Louis Arcand, "Matching in Community Based Organizations"
Joachim De Weerdt and Marcel Fafchamps, "Social Identity and The Formation of Health Insurance Networks"
David Stifel, Marcel Fafchamps, and Bart Minten, "Taboos, Agriculture and Poverty"
Abigail Barr, Marleen Dekker, and Marcel Fafchamps, "Risk Sharing Relations and Enforcement Mechanisms"
Marcel Fafchamps and Forhad Shilpi, "Determinants of the Choice of Migration Destination"

Articles and book chapters in preparation:
Marcel Fafchamps and Pedro Vicente, "Political Violence and Social Networks: Experimental Evidence from a Nigerian Election"
Marcel Fafchamps and Alex Moradi, "Referral and Job Performance: Evidence from the Ghana Colonial Army"
Marcel Fafchamps and Eliana La Ferrara, "Self-Help Groups and Mutual Assistance: Evidence from Kenyan Slums"
Marcel Fafchamps, Sanjeev Goyal and Marco van der Leij, "Preferential Attachment and Unobserved Heterogeneity"
Margherita Comola and Marcel Fafchamps, "Testing Unilateral versus Bilateral Link Formation"
Marcel Fafchamps, "Household Separation and Child Well-Being"

Other Media Publications
Welcome to Africa, Walnut Creek CDROM, Concord, September 1994 -- A multimedia computer courseware introducing Africa to undergraduates.

Honors
Faculty Research Fellow in CReMic, Cambridge University
Senior Fellow, BREAD
Research Fellow, CEPR, London
Faculty Research Fellow, Centre for Research in Microeconomics (CReMic), Cambridge University
Visiting Scholar, Department of Economics, Harvard University, September 2005-June 2006
Associate Researcher of the International Food Policy Research Institute (2002-5)
Master of Arts, Oxford University

Referee and Editorial Work

I am Chief Editor of the Journal of African Economies and Associate Editor of Economic Development and Cultural Change. I have also served as associate editor for the Economic Journal, the Journal of Development Economics, the American Journal of Agricultural Economics, and the Revue d’Economie du Développement. I have served as referee for numerous professional journals in economics.

Languages

French is my mother tongue. I have been working in English for over 25 years. I have some knowledge of Spanish and Italian.
CURRICULUM VITAE
CHRISTOPHER M. WOODRUFF

ADDRESS:
Graduate School of International Relations and Pacific Studies
UCSD
La Jolla, CA  92093-0519
(858) 534-0590
(858) 534-3939 Fax
e-mail cwoodruff@ucsd.edu

EDUCATION:
Ph.D.   Economics - University of Texas, Austin   1994
M.A.  Economics - University of California at Los Angeles  1984
B.A.  Economics - University of Chicago  1980

CURRENT AND PAST POSITIONS:
Associate Professor, Graduate School of International Relations and Pacific Studies,
University of California at San Diego, 2002-Present.

The B.E. Journal of Economic Analysis and Policy, Editorial Board 2008-Present

Assistant Professor, Graduate School of International Relations and Pacific Studies,
University of California at San Diego, 1994-2002.

Director, Center for US-Mexican Studies, UCSD, September 2003 - 2008


Economist and Manager of Financial Planning, Central Power and Light Company,

DISSERTATION RESEARCH:
Specific Investments and Industry Location: Manufacturer-Retailer Integration in the

JOURNAL ARTICLES:
“Are Women more credit Constrained? Experimental Evidence on Gender and
Microenterprise Returns”, (w/ Suresh de Mel and David McKenzie), AEJ-Applied

“Experimental Evidence on Returns to Capital and Access to Finance in Mexico,” (w/


**BOOK CHAPTERS:**


**BOOK REVIEWS:**


**WORKING PAPERS:**

“Innovative Firms or Innovative Owners? Determinants of Innovation in Micro, Small, and Medium Enterprises,” (w/ Suresh de Mel and David McKenzie), January 2009

“Getting Credit to High-Return Microenterprises: The Results of an Information Intervention,” (w/ Suresh de Mel and David McKenzie), April 2008.

“Who are the Microenterprise Owners?: Evidence from Sri Lanka on Tokman v. de Soto,” (w/ Suresh de Mel and David McKenzie), *paper prepared for NBER volume on International Differences in Entrepreneurship*, January 2008

“Enterprise Recovery following Natural Disasters,” (w/ Suresh de Mel and David McKenzie), January 2008

“Remittances and Banking Services: Evidence from Mexico,” (w/ Asli Demirgüç-Kunt, Ernesto López Córdova, and María Soledad Martinez Pería), April 2007


“How Does Economic Liberalization affect Investment in Education?: Evidence from
Mexico,” (w/ Susan Helper and David I. Levine), June 2006.

TEACHING:
Mexican Economic Policy, Latin American Economic Policy, Managerial Economics, Economic Development, Organizations at the MA level at IR/PS (various years).

2004-2006 Managerial Economics, MBA students at the Rady School of Management, UC San Diego


AWARDS AND HONORS AND RESEARCH GRANTS:
“Identifying and Relaxing Constraints to Employment Generation in Small Scale African Enterprises,” World Bank October 2008 (w/ Marcel Fafchamps)
“A Field Experiment on Rebuilding Sri Lankan Microenterprises After the Tsunami,” NSF February 2005.
Senior Research Fellow, Stanford University, Center for Research on Economic Development and Policy Reform, Fall 2000.
Institute of Latin American Studies, UT-Austin, Faculty Sponsored Dissertation Grant, 1993.
University of Texas, University Fellow, 1992-1993.
Social Science Research Council/Ford Foundation, International Pre-Dissertation Fellow,
University of Chicago, General Honors and Honors in Economics.

REFEREEING:

SELECTED PRESENTATIONS:
"Formal Measures of the Informal Sector Wage Gap in Mexico":

"Specific Investments and Repeated Interactions: Institutions and Vertical Integration in the Mexican Footwear Industry":
Tulane University Economics Department, April 1995.

"Inflation Stabilization and the Vanishing Size-Wage Effect":
Latin American and Caribbean Economics Association meetings, October 1996, Mexico City.
Southern Economic Association meetings, November 1996, Washington, D.C.
Western Economic Association meetings, July 1997, Seattle.

"Non-Contractible Investments and Vertical Integration in the Mexican Footwear Industry":
UCLA November 1997.

“Contract Enforcement in Transition“:
UCSD Economics Department, October 1998.
Econometric Society Meetings, January 2000, Boston.
University of Michigan, William Davidson Institute, February 2000.

"Interfirm Relationships and Informal Credit in Vietnam":

"Private Ordering under Dysfunctional Public Ordering":
"Relationships and Institutions":

"Courts and Relational Contracts":
University of Maryland, Department of Economics, November 2000.
University of Pennsylvania, Wharton School, Management Department, November 2000.
University of Arkansas, Department of Economics, November 2000.
University of Texas, Department of Economics, November 2000.

“Remittances and Microenterprises in Mexico,”
UC Riverside, November 2001.
Conference on Poverty and Inequality, ITAM, May 2002.
USC, April 2005

“The Quality of the Legal System and Firm Size”:
Pittsburgh/CMU joint seminar in applied economics, April 2003.
CIDEMexico City, April 2003.
NYU Stern School of Business, May 2003.
University of Southern California, February 2004.
UC Berkeley, August 2004.
Yale Law School, September 2004.

“Do Entry Costs Provide an Empirical Basis for Poverty Traps? Evidence from Mexican Microenterprises”:
NBER Workshop on Entrepreneurship, October 2003.
UC Davis, May 2004.
World Bank Conference on Industrial Development, May 2004
University of Toulouse, April 2005
INRA, Paris, April 2005

“Returns to Capital in Microenterprises: Evidence from a Field Experiment”:
CEPR/BREAD conference, UVA, Amsterdam, August 2006
Harvard/MIT development seminar, November 2006
World Bank conference, New Delhi India, December 2007
ASSA Meetings, January 2007
Columbia University, March 2007
UC Davis, April 2007
UC San Diego, May 2007
Warwick University, November 2007
UNC Kenan-Flagler, January 2008
UC Berkeley, April 2008
Stanford University, April 2008

“Is Microfinance’s Emphasis on Women Inefficient? Experimental Evidence on Gender and Microenterprise Returns”:
BREAD / CEPR conference, LSE, October 2007
Harvard Business School, October 2007
MIT Sloan School of Management, November 2007
Essex University, November 2007
Oxford University, January 2008
University of Nottingham, March 2008
UVA, Amsterdam, March 2008
Warwick University, November 2008

“Enterprise Recovery following Natural Disasters”:
ASSA Meetings, January 2008
Warwick University, February 2008
UCL / LSE Development Seminar, March 2008

“Measuring Microenterprise Profits: Must we ask how the sausage is made?”
University of Thailand Chamber of Commerce / U Chicago Center, August 2008