

CHAPTER 2. THE PRIVATE SECTOR: UNLOCKING ENTERPRISE

INTRODUCTION

If the poorest countries are to become rich, their business sectors must be transformed. To judge from appearances, developing countries are abundantly supplied with one of the most important factors of production: entrepreneurship. Most workers in poor countries are self-employed or one step away from self-employment. What does this mean for development? What is the potential that waits to be unlocked – and where is it, exactly? How much of that locked potential belongs to women? How can government and non-government agencies and corporate actors contribute to unlocking enterprise and its capacity for development?

Box 2.1. Setting the scene

The market for cut flowers in Aalsmeer, Netherlands. ‘Flowers in all their colors covering an area the size of 125 soccer fields are what you see if you visit the world’s largest flower market, in the Dutch village of Aalsmeer. The scale is astounding. Seven million roses, three million tulips, two million chrysanthemums, and eight million other flowers and potted plants pass through on a typical morning. Some two thousand buyers bid US \$5 million for them.

‘The flowers are flown in from as far away as Colombia, Kenya, and Zimbabwe. While shipping flowers to the Netherlands might seem akin to taking coals to Newcastle, the Dutch today are in the business of running the global flower trade. The marketplace is organised so expeditiously that the flowers are still fresh when they reach their ultimate destinations all around the world.

‘A worldwide market in cut flowers, delicate and perishable as they are, could not exist without modern technology. It was not until the late 1980s that countries like Kenya became significant suppliers. Efficient air transportation and telecommunications are needed to move roses from a grower near Nairobi to Aalsmeer and then on to a buyer, say, in Seoul, all in less than a day. Electronic devices keep track of the flowers as they move through the auction house.

The “Dutch clock” method of bidding allows the thousands of auctions to run in a few hours. A gigantic clock, to which every bidder is wired, dominates the front of each auction hall. As each lot of flowers is towed by, the clock’s hand starts at a high price and rotates through lower prices until one of the bidders stops it with a push of a button. Computers then automatically organise the flowers’ delivery to the buyer’s address.

‘Sophisticated as its processes are, the core of the global flower market – competitive buying and selling – is as old as civilisation. The Aalsmeer market marries high technology to the time-honored practices of the bazaar’. (Source: *McMillan 2002*: 3-4.)

The bazaar in Sefrou, Morocco. ‘To start with a dictum: in the bazaar information is poor, scarce, maldistributed, inefficiently communicated, and intensely valued... The level of ignorance about everything from product quality and going prices to market possibilities and production costs is very high, and much of the way in which the bazaar functions can be interpreted as an attempt to reduce such ignorance for someone, increase it for someone, or defend someone against it.

‘The search for information – laborious, uncertain, complex, and irregular – is the central experience of life in the bazaar. Every aspect of the bazaar economy reflects the fact that the primary problem facing its participants (that is, “bazaaris”) is not balancing options but finding out what they are.’ (Source: *Geertz 1978*: 28-30.)

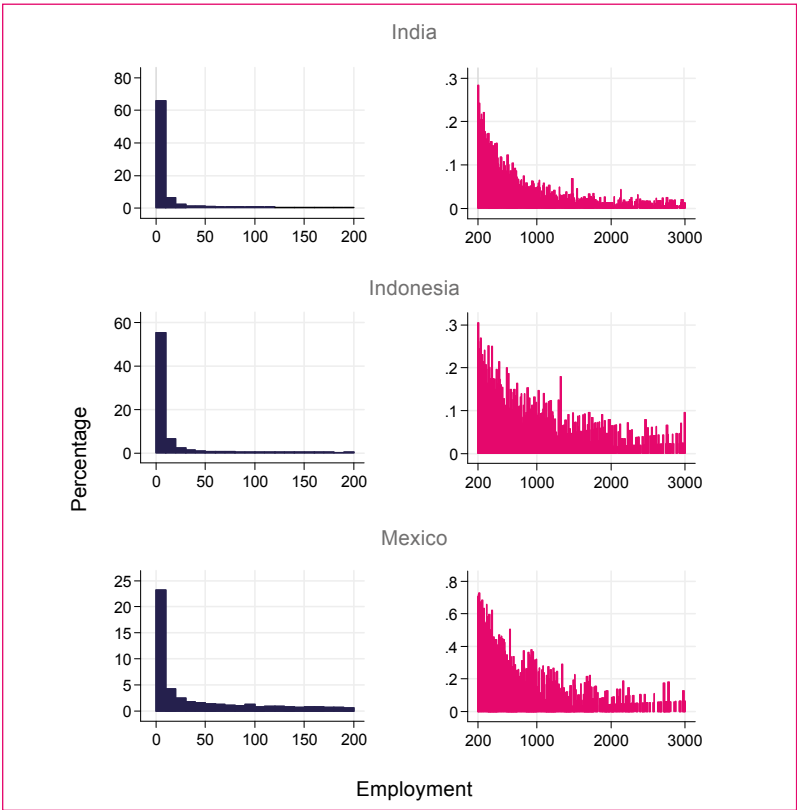
WHERE DOES GROWTH COME FROM?

Half of the labour force in a typical low- or lower-middle income country is self-employed or employed in firms with a handful of employees. A collective term for these firms is ‘micro-enterprise’.

If most people in poor countries are to become moderately rich, micro-enterprise employment must give way to employment in larger, more productive firms. We can think about the role that micro-enterprise can play

in this transition in two ways. On an optimistic view, micro-enterprise can be a source of job creation and a breeding ground for entrepreneurship. A more pessimistic interpretation is that the prevalence of micro-enterprise reflects the failure of larger firms to displace them; the self-employed will escape poverty only when they find jobs in larger firms, led by entrepreneurs that come from elsewhere.¹

Figure 2.1. Distribution of employees by firm size in India, Indonesia, and Mexico, 2011

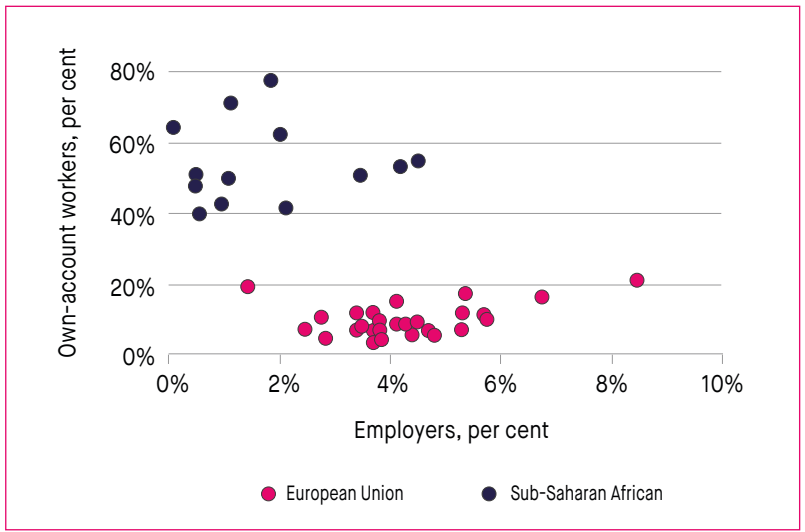


Source: Hsieh and Olken (2014: 105).

Figure 2.1 shows how employees are distributed by firm size in India, Indonesia, and Mexico in a recent year, 2011. For each country the left hand panel shows the proportion of employees in firms or establishments of 10

employees or less. This is two thirds of the workforce in low-income India, more than half in low-income Indonesia, and still nearly a quarter in middle-income Mexico. The right hand panel shows that India and Indonesia do have medium and large firms, and Mexico has more in proportion, but in all these countries the shares of each group of large firms in total employment are measured in fractions of a percentage. This pattern is general for less developed countries. Taken together, in fact, the three countries that are shown account for nearly one quarter of the world’s population.

Figure 2.2. Employers and own-account workers in the European Union and sub-Saharan Africa: shares of total employment, recent years



Source: International Labour Organisation (2010).

Another way of measuring highlights the difference between less developed and more developed countries. Figure 2.2 compares the employment shares of two groups of the population: those that employ others (‘employers’) and those that employ only themselves (‘own-account workers’). Data are shown for a group of wealthy countries and a group of poor countries: European Union member states and sub-Saharan Africa. The figure shows that in the average EU member state employers make up more than 4 per cent of the workforce, but less than 2 per cent in sub-Saharan Africa. In EU

countries around 10 per cent of the workforce is self-employed; in sub-Saharan Africa this figure jumps to more than half. In each region there is some variation around the mean, but the two groups are completely separated, without any overlap.

In poor countries, most people who are able to work pursue low-productivity, low-income occupations. An outcome of successful economic development must be to change these for high-productivity, high-income jobs. If these countries' future is to be one of development, where will the high-productivity, high-income jobs come from?

Consider the firm sizes shown in Figure 2.1. Will these future jobs be created by the firms that today have 2 to 3, 20 to 30, 200 to 300, or 2,000 to 3,000 employees? Where among today's firms are the entrepreneurs hiding who can emerge to make tomorrow more prosperous? Research that is now available helps us to see some of the answers and understand some of the implications.

CAN MICRO-ENTERPRISES GROW?

A first question is: can micro-entrepreneurs increase profits, and hence the household incomes of their owners? When given money to invest, do they make more money? A closely related question naturally follows: when they make more money, can they use that money to grow and create jobs? If the answer is 'No', what other obstacles do micro-entrepreneurs face when they try to scale up? Our research addresses both of these questions.

Are micro-enterprises profitable?

Our research has looked to a number of field experiments in different countries to answer these questions. The first set of projects that we have undertaken asks: when more capital is added to the enterprise, by how much do profits increase? We carefully measure returns to marginal investments in micro-enterprises in Mexico, Sri Lanka, and Ghana. Typically the projects involve a 'treatment' group that receives extra capital (or other material assistance) compared with a 'control' group that is untreated. In all of the projects, the data indicate that profits earned by micro-entrepreneurs

increase substantially when the entrepreneurs invest a bit more capital in their business. In other words, the marginal returns to capital in these enterprises appear to be very high, on average.

Box 2.2. Experimental research in economics

How economic research is done. Economics was once thought of as a non-experimental science. How could any researcher ethically carry out an experiment with other people's fortunes, or even with an entire economy? Yet, in today's understanding, much empirical work in economics is based on experiments of different kinds.

What is an experiment? An experiment requires a treatment group that is subjected to some kind of external stimulus and a control group that is unaffected. By comparing the subsequent behaviour of the two groups, the researcher tries to identify cause and effect. This can happen in three settings – in the lab, in the field, and in nature, so, corresponding to this we have lab experiments, field experiments, and natural experiments. In a lab experiment the researcher usually plays various kinds of game with volunteer subjects, but there are no lab experiments in this report so we focus on explaining the other kinds of experiment.

What is a natural experiment? Does vocational training improve economic growth? A traditional approach would observe that there has been more emphasis on vocational training in Germany than in Britain, and also higher productivity. A sceptic would object that there are many differences between the two economies that are not taken into account. To avoid this problem the inventive researcher might look for a natural experiment: two settings that differ as little as possible, except in the amount of training that has been supplied. In that case no experiment was intended, but one might have accidentally come about. The result would be to enable measurement of the change in productivity associated with the additional training (the 'treatment').

What is a field experiment? Faced with a natural experiment, the sceptic would worry that the higher level of training in one setting might reflect some previously hidden advantage that would also explain the higher productivity that resulted. In a field experiment, this problem is overcome by allocating training to different settings randomly, and then looking for a productivity effect. Because it might be unethical to experiment on people without their consent, this usually requires the cooperation of others. It is also difficult to run field experiments where the focus of interest is on very long term processes – and sustainable development certainly takes a long time.

Our first study examines a large cross-section of micro-enterprises in Mexico with around 200 US dollars of capital. We found returns to incremental investments of 10 to 15 per cent per month. On a smaller sample of male-owned enterprises in Mexico where grants were the source of the increased capital, we found even higher returns of 20 to 33 per cent per month. In this study, the micro-enterprises made highly profitable use of extra capital when it was made available to them.²

A related study of enterprises in Sri Lanka with less than 1,000 US dollars of capital (de Mel, McKenzie, and Woodruff 2008) found returns of 5 to 6 per cent per month for owners who received grants of 100 or 200 US dollars. But these average returns mask an important difference. Male-owned businesses realised increases in monthly profits of around 10 per cent of the amount granted, while female owners did not receive any return on the additional capital. Why men did better than women is a troubling question to which we will return.³

The high returns are puzzling in the following sense. Most of the grants are invested in additional inventories. Why do micro-entrepreneurs not build their business incrementally so that they capture the additional income from these investments? One possibility is that they face a lot of unexpected events that require them to spend resources – sick children, death of parents, and so forth. We see additional profits shortly after the grants are provided, but we might wonder if the additional profits are sustained in the longer term.

Here, a follow-up study (de Mel et al. 2012) gives the answer ‘Yes’. We find that five years later the male owners who received additional capital have had better survival rates and monthly profits which are higher by around 12 per cent of the original grant.⁴ In this study, in other words, the male-run micro-enterprises that received extra capital were able to keep the additional capital in the business and make higher profits in the long run as well as in the short run.

Why are female micro-entrepreneurs disadvantaged?

We return to the question of why some studies show women micro-entrepreneurs at a disadvantage. Where women do worse than men, it might be thought that there is some hidden difference of skills or attitudes, but the evidence does not support this. Instead, our research on female owners in Sri Lanka suggests that a key obstacle for women entrepreneurs is lack of autonomy in disposing of credit and appropriating profits within their families.⁵ Put more bluntly, it is likely that when women receive additional capital male family members either divert the resources when they are received or they divert the profits that are made.

Related research on male and female micro-entrepreneurs that we carried out in Ghana (Fafchamps et al. 2014) echoes these results. Consistently with other studies, the marginal returns are high: 20 to 30 per cent a month. But women entrepreneurs obtain lower returns, especially from assistance given in money; assistance given in kind is more likely to find a productive use.⁶ It is reasonable to imagine a story that goes like this: when a female businesswoman is given access to cash, relatives can divert it for their own use, so that her business does not benefit. But they are less likely to interfere if she is given a sewing machine.

To summarise, our results have an optimistic implication – up to a point. Our optimism concerns the scope for alleviating poverty in developing countries. The evidence suggests that incomes of micro-entrepreneurs can be increased if we can channel capital to them. The micro-entrepreneurs in our samples are among the poorer households in urban areas of Sri Lanka and Ghana. But they also highlight some unexpected obstacles – for example, those facing women who might want to develop their business.

Now we turn to a more demanding question: the goal of sustained development implies a need for job creation. Can micro-enterprises also scale up to a point where they can create additional jobs? Will micro-business be the source of tomorrow's high-wage, high-productivity jobs?

Can micro-enterprises grow and create new jobs?

Here we ask various questions. One of them is obvious: for micro-entrepreneurs, is self-employment an opportunity or just a way to survive? In other words, is it more reasonable to think of the vast reservoir of the self-employed as future businessmen, or as future wage workers? An important consideration is that there are so many millions of micro-businesses in poor countries that even a small proportion of emergent entrepreneurs could still transform the economy and society. In the United States, for example, it is found that only about 3 per cent of non-employers ever move up to hire a paid employee, but their vast number means that these expansions account for 20 per cent of new employees.⁷

Suppose it turned out to be the case that many or most micro-entrepreneurs do not have business talent or opportunities, but a minority does. A next question is: can we work out which are the ones with more potential? Suppose we decide to fund a scheme to help kickstart business growth. An example would be the Start and Improve Your Business programme offered by the International Labour Office. Up to the present this programme has given subsidised training to around 100 million candidates in 95 countries. But it is hardly efficient to fund 90 (or 99) hopeless businesses in order to reach the 10 (or 1) that might succeed. It would be more cost-effective to focus scarce resources on the few with real potential.

Finally, suppose we find that we can identify the micro-businesses that have a chance to take off. What is stopping them now? Is it credit, training, or experience?

One way of trying to sort the types of micro-entrepreneur is to ask which have characteristics and attitudes more like wage workers and which more like larger firm owners. We ask this question of our data from Sri Lanka.⁸ We find some interesting differences. On average, own-account workers

are more willing than wage workers to take control and to juggle tasks. But they are less motivated and less tenacious than firm owners. For the most part, in other words, they have attributes that are necessary to maintain a business but not those that would help to grow it.

In cognitive ability, competitive attitudes, and motivation, therefore, the great majority of self-employed looks more like wage workers. A minority, however, turns out to have attributes more comparable with those of larger business owners. Within the 30 months of our study, moreover, a minority of own-account workers did succeed in growing their business to the point of taking on at least one paid employee. We looked at the attributes of those that did so and found that three attributes were associated with this: the micro-entrepreneurs who experienced growth were more focused on achievement, less focused on taking control (because a large business requires control to be shared), and, discouragingly but predictably, less likely to be female.

Where are the few entrepreneurs?

The idea that a small minority of the self-employed has real entrepreneurial potential is echoed by another project that we carried out in Sri Lanka.⁹ It is important that we worked with a sample of firms with more than one and less than 10 employees. We took the fact that they had already hired at least one employee to indicate some ability and desire to expand by becoming an employer. We used an experiment that induced some firms to become formally registered with the authorities. Our underlying idea was that formalising a business so that it becomes a legally recognised entity has clear costs, such as the cost of registering and after that the liability to pay taxes. But formal registration also brings benefits such as access to a bank account and perhaps bank credit. We wanted to see whether helping micro-enterprises with the up-front costs of formalisation would remove barriers to growth. Nevertheless, it turns out that the answer for the typical enterprise was 'No'. But the answer changed to 'Yes' for a small minority of enterprises where we found a very large effect.

A similar result emerges from a study in which we provided capital, incentives to hire workers, and management training simultaneously to a group of micro-

enterprises in Sri Lanka. This project studied 1,525 enterprises with two or fewer paid employees.¹⁰ In a field experiment, enterprises were randomly allocated to a control group or to treatment groups that offered incentives to save and build capital, or to hire new employees, or to undertake management training. Some enterprises received two of the treatments. They were followed up over time. Four years later, the most consistent effects on employment and profits came from the saving incentive. Wage subsidies alone led to faster employment growth in the short-run, but the differences in the average enterprise went away in the longer term and there was no increase in profits.

Table 2.1. Saving and wage incentives and the distribution of firm size by employment four years later: A field experiment in Sri Lanka

	Control group	Treatment group: wage incentives	Treatment group: savings incentives
Number of firms	197	628	394
By number of paid employees after four years, per cent:			
0	71.1	67.3	68
1	16.3	18.7	17
2 or 3	9.8	9.4	9.3
4 or more	2.8	4.5	5.7
Difference from control group by number of paid employees, per cent:			
0	...	-3.8	-3.1
1	...	+2.4 ←	+0.7
2 or 3	...	-0.4	-0.5
4 or more	...	+1.7 ←	+2.9 ←

Source: De Mel et al. (2014b). The highlighted figures are the findings of most interest. For explanation see text.

Table 2.1 shows the changing distribution of firms in our study by size. They are grouped in three columns: the control group, a group of firms treated by wage subsidies, and another group treated by savings incentives. In the top half of the table, we can see the distribution of firms in each group by size after four years. Initially, none had more than two employees, and most had none, so the firms that now have three or more have grown under the course of treatment during the study.

The bottom half of the table highlights the differences in the distributions of the two treatment groups compared with that of the control group. Here it can be seen that the treatments were associated with three to four per cent fewer firms without any employees. In the case of wage subsidies, about half of that difference is found in firms with exactly one employee – perhaps the one that the wage subsidy induced them to hire. But the remaining two percentage points of the gap are found in enterprises that have grown to four or more employees. In the savings treatment group, moreover, essentially all of the reduction in firms without employees is now found in the group with four or more employees. Here is more evidence for the argument that, with the right initial stimulus, a few micro-businesses can expand.

Can we predict who will succeed?

Can the entrepreneurs of the future be picked out from the mass in advance? We asked this question, looking at micro-businesses in Ghana.¹¹ We considered two different ways of predicting business expansion. One is to measure the competence of micro-entrepreneurs based on years of schooling and performance in tests of numeracy, non-verbal reasoning, and financial literacy. The other is to put them through a competition familiar to British and American audiences as a ‘Dragon’s Den’ where business consultants and successful employers evaluate a business plan. Finally, we surveyed the same businesses one and two years later to see which businesses had succeeded in expanding. This study produced several answers. One is that both objective tests and expert judgements could predict expansion. Another is that these techniques could be seen as complementary: when objective tests had done their bit, expert judgement still improved the quality of prediction.

Our story from Ghana has one more dimension. Part of the reward for success in the Dragons' Den was a chance to be entered for management training. Here the results were disappointing. Access to training had no positive effect. If anything, those that received training were less likely to still be in business when results were followed up.

MICRO-ENTERPRISE: THE STORY SO FAR

To summarise, findings from many studies present us with an inconsistency. Capital invested in micro-enterprise brings high returns. Yet most micro-entrepreneurs seem to lack the capability to grow the firm. That capability is found only amongst a small minority.

Various reasons for this can be eliminated. It is not the lack of opportunity, because the evidence is that returns to additional capital are high. But it is not just a lack of credit, because, given additional credit nearly all micro-businesses do not expand. Nor is it a lack of training, at least as it is most commonly provided, because additional training does not support business expansion.

There is some evidence for the idea that most own-account workers cannot envisage the relentless task of growing their businesses into larger organisations, or shouldering the burdens of responsibility for others and accountability to others in the same organisation. This is hardly surprising. Most citizens of modern Western societies are unique in world history in spending their lives in large bureaucratically regulated organisations from nursery class, school, and college and through employment to retirement. Most citizens of poor countries can acquire this experience only by entering military or public service.

The limited growth possibilities open to micro-entrepreneurs does not take away a role for micro-credit and similar supportive programmes, but it does diminish their significance. These programmes can contribute to poverty alleviation by increasing the incomes of the self-employed and small entrepreneurs. But they are unlikely to unleash sustained economic growth on a wide scale.

It is true that, hidden in the mass of self-employed and small entrepreneurs, are small minorities that have the capability to reap larger profits and sustain growth of production and employment. It is possible, although hardly easy, to identify these future entrepreneurs and support them selectively.

One reason they may need initial support is to overcome residual psychological barriers to business expansion. Another possible reason may be that, while returns to capital are high, they are also variable. In other words, borrowing and investment are risky. Most micro-finance schemes involve lending to own-account workers and micro-businesses at fixed interest, and require repayment beginning within a few weeks of the loan being disbursed. The effect is to place the burden of risk on the borrower, who has to service the debt at a fixed rate regardless of whether or not profits are made. Moreover, the borrower needs either to use part of the loan to make initial repayments, or to invest only in projects that bring an exceptionally rapid return.

Other research indicates that a grace period as short as two months before repayments begin may dramatically increase the profits businesses realise from investing loans.¹² Unfortunately, by inducing the entrepreneurs to make riskier but higher-return investments, the grace period also leads to higher default rates. Hence, micro-lenders will not find it profitable.

The problem is that when a risky investment fails it is the lender who bears the entire loss. When the investment succeeds, in contrast, the entrepreneur takes all the profit above the loan repayments. The solution is that more micro-finance should take the form of equity, where the lender does not expect a fixed schedule of repayment but takes a share of the profit. This allows the lender to share the risks with the borrower.

Even with more suitable financial products, however, employment growth from scaling up of smaller enterprises is likely to be very modest. For the mass of people in low-income self-employment, hope for the future lies in becoming wage workers in larger organisations that someone else has created. We now turn to look at research that identifies ways in which larger firms can be encouraged to grow and create more jobs. In particular, it turns out that globalisation has been a positive factor for exporting firms in poor countries.

FIRM GROWTH AND GLOBALISATION

Another place to look for forces that can unlock development is in the responses of larger firms in developing countries to globalisation. Globalisation means the cheaper and faster movement of goods, services, people, and ideas. These improvements have given developing-country producers the opportunity to serve wider, richer, and more demanding foreign markets.

The firms that are of interest to us from this perspective are not micro-enterprises. They are likely to have dozens or hundreds of employees, making them large enough to be found in the far right tail of their home country's size distribution of firms, and in the right-hand panels of Figure 2.1. They generate substantial incomes. They are not large by Western standards, for in developing countries such true giants are exceptionally rare: Tata Steel in India or Desh Garments in Bangladesh. But they are certainly large by developing-country standards.

Most of these firms are domestically owned, but some will have foreign participants. And most of them have not mushroomed organically out of a micro-enterprise. Their origins often lie in patronage and connections to power, or in early links to exporting and external partners. But here is another reason why we should pay attention to larger businesses that have been formally incorporated. This is because formal incorporation is a step towards the separation of business interests from power structures. Here, as argued in Chapter 1, is one of the basic 'doorstep conditions' for moving to an open-access society where rewards are distributed by the market rather than by force.

You may not have heard of these firms, but you will have heard of their export-market distributors. Between developing-country producers and Western consumers sit large buyers such as Walmart, Carrefour, Tesco, and H&M. These buyers are typically much larger than their suppliers, with stronger bargaining and financial power.

The rich-country distributors often get a negative press: for example, they are often accused of imposing low wages and poor conditions on poor-country suppliers to keep prices low in Western markets. In this chapter

we show another side. Collaborative relationships between Western buyers and producers in developing countries can also promote development by relaxing institutional constraints, unleashing entrepreneurial activity, and pushing up productivity and wages.

Box 2.3. The value of a relationship

When does a relationship have value? First of all, a valuable relationship is more than just an acquaintance. Each of us knows lots of people on a nodding basis. We say ‘hello’ to them every day. But merely to be familiar with someone is not enough for the relationship to have value. A valuable relationship is one that requires initial investment: you have to put something into the relationship, for example by getting to know the other person, learning what they might want from you, and providing something that they need. In due course, the investment will bring a return: something you want, and cannot get more cheaply elsewhere.

Your friend the pharmacist. Here are two examples that are relevant to the arguments in this chapter. First, imagine you live in a world where distribution is unreliable and there are frequent supply breakdowns. You go to buy medicine and there is a shortage. You stand and wait in line with others. Many of the people whom you greet every day will do nothing to help you, but ‘a friend in need is a friend in deed’. If the pharmacist is a good enough friend to take you behind the counter, then that friendship has value. The value is two-sided: in due course, you will need to maintain the friendship by repaying the favour in some way.

Building a business is costly. Here is the second example. Imagine you run a business in a world where written agreements have no value because the courts do not work and the law is ineffective. How can you gain clients? Only through personal contact: you must help your clients get to know you well enough that they appreciate you are a reliable person. One way to show this is to do business with them even when you could make a quicker profit elsewhere. Here the lost profit is your investment in a long-term relationship with your client.

Relationships and markets. A common feature of these two examples is that they both describe a world where things the citizens of rich countries often take for granted don't work well. In the first case, supply failed. In the second case, the law failed. Personal relationships become less important in economic life when the market economy is flexible and the rules of the market are firmly established. This is roughly as it should be: most of us would see economic outcomes as more fair if they depend on what we know, not whom we know.

Relationships and quality. Even in the best organised world, some problems will not go away. In today's market economies the quality of service is often a key aspect of what is delivered. No written agreement can be enforced that guarantees a wine that everyone will like, or service with a smile, or care with compassion and respect. Such dimensions of a relationship can be thought of as 'non-contractable': that is, you cannot write a contract for 'service with a smile' because it would generally be impossible to prove a breach of contract in court. In transactions of this kind the relationship between buyer and seller will always come before a written agreement, and such transactions may become more common as incomes rise.

How does this come about? It is not apparent from the model of a market presented in an Economics 101 textbook. In this model the market is perfectly competitive, information is freely available to buyers and sellers alike, and it is costless to enforce a contract or a promise. In this model relationships are irrelevant and have no value. If that is the case, the market will take care of everything. But this is not the reality facing many producers, especially in developing countries. There the environment is difficult for several reasons:

- Excessive regulation weakens competition and encourages corruption, raising significant barriers to profitable investments.
- Contracts are weakly enforced, so that firms have difficulty in expanding to seize profitable investment opportunities.
- Domestic consumer markets are relatively underdeveloped because most households have low incomes.

In this setting, poor-country suppliers can gain from collaborative relationships with foreign buyers because these relationships can yield solutions to some (though not all) of the problems they face. For example, foreign buyers can offer access to much wider markets; they can provide business finance; and they can enhance suppliers' capabilities.

At the same time, valuable relationships are hard to initiate and hard to sustain. This is true in general, and particularly so in the context of international trade. When trade crosses borders there are higher costs of monitoring and enforcing contracts. Cultural differences can also increase the costs of reaching agreement and resolving problems.

THREE CASE STUDIES

To get an idea of the costs of establishing buyer-seller relationships and the gains from maintaining them, we carried out three case studies: wine (exported from Chile to the UK); flowers (from Kenya to Europe), and specialty coffee (from around the world to the United States). In each case we aim to measure the value obtained by the exporter in the poorer country from establishing a relationship with a rich-country buyer.

Chilean wines

Many countries have the climate, terrain, and soil types that are suitable for making wine, but few of these have made successful wine exporters. With a climate somewhere between that of California and France, forty years ago Chile was one of the many without a significant presence in world markets. Since then the Chilean wine trade has been revolutionised. Today Chile exports around 90 per cent of its wine production, worth nearly \$2 billion, and is the tenth largest wine producer worldwide. Chilean wines account for around one tenth of British 'off' sales (licensed for consumption off the premises). The number of employees in Chilean wineries is uncertain but is numbered in the thousands or more ten thousand.¹³

The situation of Chilean vineyards forty years ago was typical of the problem facing many potential exporters from less developed countries: how to become known as reliable suppliers of a good quality product.

The international wine trade is managed by distributors based in the importing market economies. Typically, a distributor will 'match' with an exporting vineyard on a one-to-one basis; for example, each distributor will sell one Chilean wine label in the UK market and each Chilean vineyard will sell through one distributor. This makes sense from the distributor's perspective because most Chilean wines are seen as intrinsically similar so that they are competitive with each other. A distributor that already has to compete with other distributors in the UK market would wish to avoid the additional complexity of having to manage competition within its own portfolio of wine labels.

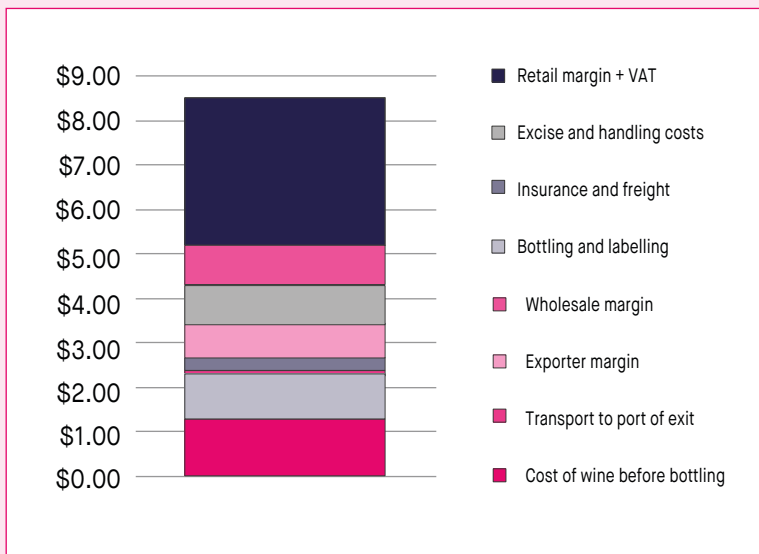
Two aspects of quality are crucial to the buyer-seller relationship. One is the quality of the wine itself. The other is the quality of the supplier in the sense of reliable delivery of the quantity and quality promised. Both of these qualities are summed up in the reputation of the wine label. Here we are fortunate that data on wine quality such as reviews, ratings, and competition medals are widely available, so that we can separate the two dimensions.

In our research, we collected and studied all the 288 agreements made between Chilean vineyards and wine distributors between 1983 and 2006. We wanted to understand how Chilean wine producers have broken into world markets and improved their terms of trade.

We found evidence that the key to success lay in gaining experience. What mattered was not experience of the overseas market gained by the exporting vineyard; the important thing was the distributor's acquisition of experience of the wine maker. Chilean vineyards have broken into the export market by first matching with a subset of distributors: those that have a relative advantage in discovering new, unknown wineries and pioneering their sales in the Western market. This is a high cost activity, so the 'pioneer' distributors have relatively high marketing costs. At the outset, therefore, the distributor buys the wine of the new label at a relatively low price.

Box 2.4. The value of a bottle of wine

Who gains in the wine trade? According to data supplied by Wines of Chile, a typical bottle of Chilean wine retails in international markets for \$8.54 per litre. This sum is passed down the value chain as follows:



Source: Wines of Chile at <http://http:winesofchile.org> (accessed on 1 July 2014).

In our study we focus on the wine price at the port of exit, sometimes called the price FOB ('free on board' the ship). The price of wine FOB in the Wines of Chile data is \$2.35 per litre.

How is value distributed? The fact that the poor-country producer receives only a fraction, in this case less than one third, of the final retail price in rich-country markets is sometimes considered to be an issue of international distributive justice. To us, this approach is oversimplified. Chilean wine is valuable mainly because Western consumers value it and can afford to pay for it. (The same is true of the Kenyan roses and specialty coffees also considered in our chapter.) They value it so much that intermediaries find

it worth their while to bear the considerable costs of searching for it, identifying it, buying it, and shipping it across the world; they also have to pay wages to expensive European workers to distribute it and rent costly European city-centre premises to market it. This explains the other two thirds of the retail price of a bottle of Chilean wine.

How will the distribution of value change? Three things might change this pattern. As global distribution technologies improve, the resources eaten up by intermediaries will fall. And, as the Chilean economy becomes richer and more diversified, Chilean land rents will rise and vineyard workers will become more expensive. Because of these trends, a rising share of the value chain is likely to flow to Chilean wine producers. However, as the world becomes more efficient at producing and distributing Chilean wines it is also possible that the retail price per bottle will fall. This will not benefit Chilean wine producers, but it will benefit the much larger number of Chilean wine consumers.

The loss the vineyard makes initially by selling at a low price is, in effect, an investment in the relationship with the distributor for the sake of future business. Over time, as the distributor learns that the vineyard is a reliable partner, the vineyard's price increases. More than that, as time passes the vineyard can exploit its improving reputation to end its agreement with the pioneer distributor and shift up to other distributors that deal with established labels, have lower costs, and will pay a better price. As a result the vineyard can further improve its terms of trade (see Box 2.5).

Unpredictable fluctuations in exchange rates in the world market also suggest a kind of natural experiment. How much was the price received by the exporting vineyard affected by external shocks such as exchange rate fluctuations? We find that the effect was smaller, the longer the vineyard had been in a relationship with its distributor.

Of course, one can imagine alternative explanations of these patterns. Changes in the vineyard's selling price could also be explained by obvious confounding factors such as changing wine production costs and qualities.

There could also be other, more subtle mechanisms at work: for example the vineyard might improve its bargaining power by acquiring experience in selling a given wine. But our data are rich enough that we can rule these other explanations out.

Box 2.5. Chilean wine: becoming known

Eduardo Guilisasti, CEO of Concha y Toro, a leading Chilean wine exporter.

Q: 'What are your greatest strengths?'

A: 'First, we produce quality at very different price levels. People all over the world recognise that fact. Second, we have developed long-term, solid relations to our distributors. Third, we have been investing a lot in building our brands'. (Source: Interview for Meininger's Wine Business International by Anamaria Barahona and Jürgen Mathäß on 10 April 2007, available at <http://goo.gl/tdhekA>, accessed 1 November 2014.)

Finally, the effects are large. As a result of gaining reputation, the price paid for the same bottle of Chilean wine at the point of export increases relatively by 2 to 3 per cent a year over the course of a relationship with their distributor.

Kenyan roses

Globalisation has not only brought developing-country wines to European homes, it has also brought their flowers and vegetables. With its location on the equator, perpetual sunshine and variations of altitude, Kenya is endowed with many of the natural conditions necessary for growing flowers. Its farmers have succeeded in growing roses to be cut and flown to Europe where consumers buy them to give to each other, especially on Valentine's Day and Mothers' Day. In slightly more than a decade, the country has become one of the world's largest flower exporters, overtaking such traditional leaders as Israel, Colombia, and Ecuador. The flower industry now ranks alongside tourism and tea as one of Kenya's largest foreign currency earners, worth nearly half a billion US dollars a year, which represents five-

fold growth over the end of the 1990s.¹⁴

The industry is labour-intensive and mostly employs less-educated women in rural areas. Flowers are fragile and highly perishable, so that care is a key determinant of quality. Workers receive significant training in harvesting, handling, grading and packing, and this makes them hard to replace quickly.

There are two channels for the export trade in Kenya's roses. Through one channel, intermediaries work the Kenyan flower market in the same way as wine distributors in Chile. In this channel, rose growers and distributors form long-term relationships. Why should we expect to find that durable relationships matter in the market for flowers? For flowers, as with wines, quality matters. Suppose a farmer sends a consignment to a buyer: it is all too easy for the buyer to refuse to pay on the grounds that the flowers were dead when they arrived. Equally, it is all too easy for the farmer to send dead flowers and deny it. The evidence will have withered by the time the case might go to court. It is advantageous, therefore, to have a reputation for reliability based on past experience.

In the market for Kenyan roses, nonetheless, there is also another channel based in Netherlands, where farmers sell directly to buyers in a descending price ('Dutch') auction (Box 2.1 above). In the auction channel there is no long-term relationship, only an immediate connection that dissolves as soon as flowers and money have changed hands. Importantly for our study, nearly all Kenyan flower exporters maintain accounts at the Dutch auction, even if they rarely use it, and it is inexpensive to do so. Thus, the option of sending flowers to auction is always available.

Again, we collected data on 189 relationships between farmers and flower distributors between the summers of 2004 and 2008. The importance of this period is that it includes a period of intense and widespread violence in January 2008, arising from the contested outcome of a presidential election held in December 2007. In its wake, an estimated 1,200 people were killed and more than 300,000 others were displaced. This was a human tragedy; added to the human cost are the economic losses, put at £145 million, or 1 per cent of GDP.

Some features of the violence allow it to be seen as the trigger for a natural experiment (Box 2.2 above). First, the violence was unforeseen, so no one was able to prepare for it or insure against it; not one of the 74 growers we interviewed claimed to have foreseen the turn of events and prepared for it. Second, the violence came just before the peak of European demand for roses associated with Valentine's Day (14 February). Third, in the places where violence was concentrated it seriously affected the activity of rose growing and harvesting because workers failed to report for work: farms located in the affected regions reported an average of 50 per cent of their employees missing in that period. Finally, the violence was focused on tribal boundaries and, as a result, localised: not all farms were affected to the same degree, and some were unaffected.

A difficulty facing empirical research in such a situation is to provide a valid assessment of what would have happened to affected firms if the violence had not taken place. By accident rather than design, the geography of the Kenyan violence pointed the way. In fact, in two weeks of particularly intense violence, export volumes and revenues of firms in affected regions dropped by 38 per cent relative to comparable firms in regions not affected.

At this time Kenya's rose farmers were faced with exceptionally hard choices. If they were menaced by violence, they faced losing production unless they went to special lengths to guarantee the safety of farm workers; for example, they would have to hire extra security, and provide temporary accommodation for workers so that the workers could live safely on site. These efforts would be costly. Also, with roses suddenly in short supply, farmers had to choose which buyers to prioritise. If the farmers' efforts paid off, so that they had roses available despite the troubles, they could choose between satisfying their regular buyers and letting them down by sending their crop to the Dutch auctions to take advantage of high prices.

In our 'model' of the buyer-seller relationship, it is important for the poor-country seller to invest in a relationship with the rich-country buyer over time by working to build up a reputation for reliable delivery. If this is the right model, then we would expect that some sellers would make more efforts than others to maintain that reputation by prioritising their regular buyers and delivering roses to them at all costs.

At any given moment, such as in January 2008, we should find relationships in existence at several different stages of development. Some would be new, some old, and some in between. We should expect sellers in new relationships not to try so hard to maintain deliveries; they would not have had much time to build a reputation, and so would have little to lose by falling short. We should expect sellers in old relationships also not to try so hard, because their reputation would be well established and their reliability in normal times is proven; they could expect their regular buyers to cut them some slack. It is the sellers in the middle who ought to try harder, because they have most to lose: a reputation that is partly established but still fragile.

We test these ideas against the data, which allow us to calculate the value of costs and opportunities foregone in order to maintain deliveries to regular buyers. Sales by farms in the affected regions fell sharply in the crisis, compared with farms that were unaffected. We show first that not all affected firms responded in the same way. As predicted, sales fell most short where firms were in very new or very established buyer relationships. Next, during the crisis Dutch auction prices were substantially above prices in most direct relationships. We show that, despite the profits on offer at the auctions, affected farmers cut back the volume of auction sales by around half, which is much more than the 16 per cent cutback in sales to their regular buyers. Thus, farmers prioritised buyers with whom they had more valuable long-term relationships, rather than taking a quick profit where prices were higher. Additionally we find that the same firms, that is, those with most at risk in stable contractual relationships with buyers, went to special lengths to protect their reputations. Measures to safeguard their workers and crops put up their operating costs, on average, by 16 per cent.

These findings all point in the same direction: rose farmers, who make up one of Kenya's most important export industries, have also cultivated a valuable asset, their reputation for reliability with Western buyers. This asset has enabled their industry to grow, create jobs, and raise incomes.

At the end we reached an encouraging conclusion: the jobs created by flower firms are not only valuable in themselves, but seemingly discouraged participation in the violence. Kenya is an ethnically fragmented country, and the violence in the wake of the elections pitted members of some

tribes against others. Most flower firms have ethnically diverse workforces, composed of labourers from tribes that were in conflict with one another. Yet no violence was directed against flower firms, and no episode of violence was recorded on these firms' premises.

The export-oriented nature of the industry further contributed to stabilising the situation, because firms sought to find ways to fulfil contractual obligations with foreign buyers. As a result, policies directed at upgrading agricultural products towards commercial exports might have beneficial side effects in mitigating the risks and consequences of political instability.

Specialty coffees

Our research for this case study is based on the records of an international lender that provides working capital loans to coffee washing stations. The data cover all 756 loans disbursed by the lender between 2000 and 2012 to 197 coffee washing stations in eighteen countries, mainly in Peru, Mexico, Nicaragua, Rwanda, and Guatemala.¹⁵

Washing is a stage in the production of high-grade, high-value specialty coffee beans. Coffee washing stations are medium enterprises; the average firm in our study turned over nearly \$2½ million a year, although 85 per cent of this was the cost of goods sold. The average firm had 135 workers, mainly seasonal employees. So, by the developing-country standards illustrated by Figure 2.1, these would be in the top fraction of a percentage of firms by size.

Credit in this business can be viewed from the standpoint of both borrower and lender. The borrower's problem is that credit is valuable and hard to get. Credit is valuable because coffee-washing firms can use it to buy additional coffee from farmers; in this way, like the micro-enterprises studied in the early part of this chapter, they can make profitable use of additional capital. But credit is hard to get because of the lender's problem. Lenders would like to extend credit on terms that benefit both sides – the borrower can make a profitable investment and the lender can receive a return. But lenders do not fully trust borrowers to repay loans and, if borrowers turn out to be unwilling, lenders have few weapons to enforce repayment.

The main way that the lender secures repayment from coffee washing firms is as follows. The coffee washer makes a contract for a future sale of washed coffee to a buyer, whom the lender knows. The lender then makes a loan to the coffee washer based on a share of the contract. When the coffee is sold on, the buyer remits the share of the sale to the lender to pay off the washer's loan.

At first sight the lender's system is fail-safe. It breaks down, however, if the coffee washer breaks the contract with the buyer. Moreover, sometimes the washer can profit by doing so. This is because the market price of washed coffee can rise unpredictably between the date the contract price was fixed and the date the washed coffee is available for delivery to the buyer. Moreover, if the coffee washer sells the product to an outside buyer different from the one contracted, there is no obvious way for the lender to recover the loan.

Bad borrowers come in two varieties, corresponding to the economic concepts of adverse selection and moral hazard. Moral hazard means that, having obtained a loan, the borrower is tempted to divert the money outside the debt contract. Adverse selection means that in the first place less good borrowers will be more attracted to the loan that is offered. Either way, there is the possibility of a bad outcome for the lender: the loan will not be repaid.

If legal remedies do not suffice, the only way around this problem is for the lender to form a relationship with the borrower in order to learn about the coffee washing business. This takes time. Over time, the lender can learn whether the coffee washer can fulfil contracts and repay debts. Here, again, is the value of relationships, which filters right down to the individual growers (Box 2.6).

Our data allow us to study the influence of market price fluctuations on debt repayment. A particular feature of the coffee market makes for a natural experiment. The market for washed coffee is global, so coffee washers in all countries see the same variation in washed coffee prices. But coffee harvests are gathered, and contract prices are set, in different months in different countries. This means that although a period of rising market

prices would seem to create a temptation for all coffee washers to break sale contracts and default on debts, only some can act on it: those that happen at that moment both to be locked in to an unfavourable contract price and have washed coffee ready to deliver.

Box 2.6. Rwandan coffee: investing in relationships

Bertha Nzabanita, a Rwandan coffee grower and one of 1,800 members of the Dukundekawa coffee cooperative:

'The cooperative invests in us. You could sell another buyer ten sacks of coffee, but you'll lose him. You may never meet again. But the cooperative invests in us, and it makes a difference ... Today, I have four fields, and I have paid school fees for my child. Now he is finishing studies at the university this August.' (Source: Root Capital, 'Building better futures for women in Rwanda', available at <http://www.rootcapital.org/portfolio/stories/building-better-futures-women-rwanda>, accessed 1 November 2014.)

On this basis, we find that a 10 per cent increase in the market price of washed coffee above expectations written into contracts is associated with an increase in the probability of debt default by around 5 percentage points.

At the same time, not all coffee washers break contracts and default on debts. Why not? Because it is profitable for some of them to stick to the agreements they have made. In other words, these suppliers gain more in the long run from maintaining a good relationship with the lender than by foregoing it for a quick profit made by becoming a bad borrower. Our data allow us to work out that the good borrowers tend to be the coffee washers with well established relationships to lenders. These are the firms that have invested in a reputation for reliability and stand to lose most if they let the lender down. In contrast, the lack of a prior relationship with the lender raises the probability of a default by 7.5 percentage points.

Our data also allow us to estimate the value of the coffee washer's relationship with the lender. We find this separately for the compliant

lenders that meet contracts and pay off debts, and for the defaulters. When borrowers are compliant, we find the gain amounts to 54 per cent of the nominal value of the sale contract. In other words, borrowers forego monetary gains worth half the sale contract to preserve a good relationship with the buyer and the lender. Conversely, the additional gain from going outside the contract must be worth at least 20 per cent of the sale contract to trigger a default.

One more time, we find that being able to form a long-term relationship with a rich-country client is a source of substantial benefit for poor-country suppliers.

A generalisation

A coherent picture emerges from our three studies. For the poor-country exporters we have studied, relationships are valuable: they are worth at least 15 per cent of Chilean wine sales, 15 per cent of Kenyan flower sales, and a still higher proportion of specialty coffee sales. There are two kinds of implications for understanding what works in promoting sustainable economic development.

One implication is the importance of time. It takes time to build a relationship. Relationships are valuable precisely because learning about an exporter's reliability takes time. In this setting, there are no quick results. Progress is inevitably slow at first, and its further advance depends very much on the quality of the early pioneers: the first Kenyan flower growers or Rwandan coffee washers to enter the external market. Early disappointments can shape negative perceptions, stopping many valuable relationships from forming.

This leads directly to another implication: the large returns to long term engagement with Western buyers and lenders are not available in the open market. They are restricted to specific firms that persevere in building up specific relationships with specific buyers or lenders over time. The facts are that the returns are large and are not available to all; these are direct evidence of the market inefficiency of the developing economy. It shows that many profitable opportunities cannot be realised because something is missing.

What is the missing factor? Superficially, it is the relationships we have analysed. But these relationships are only necessary because of the context, which is one of incomplete information, low trust, and poor contract enforcement. In fact, Western buyers entering poor-country markets for flowers, wine, and coffee are like Western tourists entering the bazaar in Sefrou, Morocco that Clifford Geertz described (Box 2.1 above): their first problem is 'not balancing options but finding out what they are'.

The options available to Western buyers are framed by their legal setting. Will legal processes be transparent, will judgements be independent, and will courts provide low-cost enforcement of contracts? If Western buyers could be confident in the legal setting, they would be willing to take more risks and offer sellers higher prices today, not after years of trial, error, and relationship building.

IMPLICATIONS FOR POLICY MAKERS

In poor countries, most people's experience of work is through self-employment or family-based micro-enterprise. Relatively few people work in large firms. If poor countries are to become rich, the number of jobs with high productivity and high wages must rise dramatically. Who will create these jobs? Will the entrepreneurs come from the millions of self-employed, or from the relatively few larger firms that already exist? Our research shows that capital invested in micro-enterprise often brings high returns. Despite this most micro-enterprises do not grow. Female family entrepreneurs appear to be systemically disadvantaged when male family members have access to their business.

In poor countries, only small minorities are employed in larger businesses that are formally incorporated. Although that sector is relatively small, it is the most likely source of sustainable growth in the number of highly productive jobs. For the mass of people in low-income self-employment, in other words, hope for the future lies in becoming wage workers in larger organisations that someone else has created.

In that context, our research turns to factors that have hindered the growth of larger firms. In some developing countries an obstacle is the lack of a

developed legal framework. When contracts are poorly enforced, firms that receive contracts or trade credit from Western buyers may fail to stick to agreements. Because buyers are uncertain that contracts will be enforced, they are reluctant to make contracts with sellers or lend to them. Our evidence of this comes from the lengths to which rich-country buyers go in order to identify which buyer-seller relationships will be profitable – and the lengths to which poor-country sellers go to protect their relationship with rich-country buyers, once they have formed. Some of this evidence is produced by responses in Kenya to an unexpected community conflict – just the situation in which growth can experience a permanent setback.

This leads us to identify two channels for the promotion of larger exporting enterprises in poor countries. One channel is provided by rich-country buyers. Firms that buy poor-country exports and distribute them in rich-country markets are playing a developmental role by providing trade credit, by enabling sellers to learn about the requirements of rich-country markets, and by encouraging them to improve quality standards and business practices.

Every relationship is different in the sources of value and relative amounts that they yield. Given that ‘the devil is in the detail’, what general lessons can help the making of policy? We divide our recommendations into implications for micro-enterprises and for larger exporting businesses.

- For micro-enterprises, an implication is that their role in generating sustained growth may be limited. There is evidence from several countries that a small minority of micro-entrepreneurs has the capacity to grow the business, and that many or most larger businesses start large. Because micro-entrepreneurs face high risks, they would be helped by equity-based micro-finance, which would share risks between the borrower and the lender. For the mass of micro-businesses, traditional micro-finance may still have a role to play but it is to combat poverty, not to spark sustainable growth.
- When we turn to larger businesses, most episodes of rapid growth are driven by exporting firms. Our research has implications for exporters, particularly in markets where quality matters. There, buyer-

seller networks are valuable – but their value arises mainly because something else is missing. Such networks would form and re-form more easily, and could become wider, more fluid, and more open, if buyer-seller contracts and debt contracts were more readily enforceable. Thus, a complementary channel for the improvement of poor-country exporters' business capacity is the legal and information systems that support cheap and transparent contract enforcement and arbitration. This is not only a general requirement of sustainable development; it will also specifically improve export performance by raising rates of formation of profitable buyer-seller relationships.

- Government policies to promote exports are not just a matter of advertising one's national brands in foreign markets or subsidising export credits. An essential element is to improve the domestic 'infrastructure' of business governance, including contract enforcement and dispute resolution. In the same spirit, contract enforcement is more than just a matter of cheap and timely access to the legal system. In addition, industry boards and associations can disseminate information on contract breaches and also deliver transparent, low-cost arbitration. ICAFÉ is an example of a government agency that helps to organise Costa Rica's coffee market in this way.
- One implication of our research that is highly problematic concerns competition. Markets in which relationships matter are not fully competitive. In a competitive market it does not matter who you know and buyers can switch smoothly to the cheapest seller. This does not allow relationships to form. There has to be profit in who you know to allow both sides to invest in a relationship. Once a relationship has formed, it has to be more profitable to stay with the partner you know than to leave them, and this weakens competition. As far as rich countries are concerned there is ample evidence that product-market regulation impedes competition and that deregulation promotes economic growth. The same evidence finds a benefit for poor countries but identifies the size of the benefit as smaller.¹⁶ In the cases we have considered, the rich-country market for poor-country products would not exist or would be severely restricted without long-term relationships that weaken competition. If so, enforcing

competition without making good the legal deficit around contract enforcement would destroy the market along with the relationships. In other words, remedying the legal deficit must come first.

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ENDNOTES TO CHAPTER 2

This chapter sums up field research listed in the references under Blouin and Macchiavello (2014), Cotler and Woodruff (2008); De Mel, McKenzie, and Woodruff (2008, 2009, 2010, 2012, 2013, 2014a, b); Fafchamps and Woodruff (2014); Fafchamps, McKenzie, Quinn, and Woodruff (2014); Macchiavello (2010), Macchiavello and Morjaria (2013); and McKenzie and Woodruff (2008). Two of the researchers, Rocco Macchiavello and Christopher Woodruff, are also authors of this policy report. The authors thank Nicolás Lillo Bustos for research assistance.

1. An optimistic view: de Soto (1992); a more pessimistic interpretation: Tokman (2007).
2. A large cross-section: Cotler and Woodruff (2008); a smaller sample: Mckenzie and Woodruff (2008).
3. A study of enterprises in Sri Lanka: de Mel, McKenzie, and Woodruff (2008).
4. A follow-up study: de Mel et al. (2012).
5. More research on female owners in Sri Lanka: de Mel et al. (2009).
6. Related research in Ghana: Fafchamps et al. (2014).
7. The United States: Davis et al (2007).
8. We ask this question: de Mel et al. (2010).
9. Another project based in Sri Lanka: De Mel et al. (2013).
10. This project studied 1,525 enterprises: De Mel et al. (2014b).
11. Micro-businesses in Ghana: Fafchamps and Woodruff (2014).
12. Grace periods on loans: Field, Pande, Papp, and Rigol (2013).
13. The Chilean wine trade: this section is based on Macchiavello (2010). Nicolás Lillo Bustos collected supplementary data on the value and volume of Chilean wine exports and employment in wineries from the United Nations Statistics Division at <http://unstats.un.org/> and the United Nations Commodity Trade Statistics Database at <http://comtrade.un.org/> (both accessed 17 October 2014). Recorded employment in Chilean wineries appears uncertain and is highly variable; some of the variation may be sampling error but the Chilean economy is also subject to real volatility from changes in the price of copper, its major export.
14. One of Kenya's largest foreign currency earners: this section is based on Macchiavello and Morjaria (2013). Nicolás Lillo Bustos collected supplementary data on the value and volume of Kenyan exports from the United Nations Commodity Trade Statistics Database at <http://comtrade.un.org/> (accessed 17 October 2014).
15. The research for this case study: Blouin and Macchiavello (2014).
16. As far as rich countries are concerned: Crafts (2012); Frontier Economics (2012). Less benefit for poor countries: Schiantarelli (2010).