GLOBALIZATION AND INFORMAL JOBS IN DEVELOPING COUNTRIES

A joint study of the International Labour Office
and the Secretariat of the World Trade Organization

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Acknowledgements

Foreword

This study is a product of the collaborative research programme of the International Institute for Labour Studies at the International Labour Organization (ILO) and the Secretariat of the World Trade Organization (WTO). Following up on the joint review of the literature on Trade and Employment, published in 2007, it focuses on the linkages between globalization and informal employment in developing countries: a topic which has been much discussed but about which relatively little is known.

In many developing countries, a majority of workers are employed in the informal economy with low incomes, limited job security and no social protection. Globalization and particularly trade has the potential to raise global welfare and to improve employment outcomes. In recent years, however, while world trade and growth has expanded significantly, the share of workers in the informal economy has either grown or remained constant. Even in the formal economy, a growing proportion of workers is undeclared or works under precarious conditions. These outcomes are likely to worsen as a result of the global financial crisis. This study provides a comprehensive analysis of how trade and the informal economy interact and how well designed trade and decent work policies can contribute to more favourable employment outcomes.

We consider this study a useful and timely initiative that will promote a better understanding of the complex linkages between trade and employment in developing countries. We hope that it will assist governments in making decisions in a complex and fast-changing environment. Combining the expertise of the ILO and WTO Secretariats, this study examines the role of trade and social policies for achieving a more balanced growth path in developing countries.

We are therefore pleased to present this study as an outcome of the ongoing collaboration between the two Secretariats on issues of common interest.

Pascal Lamy
WTO Director-General

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EXECUTIVE SUMMARY

Globalization has had a limited effect in reducing labour market vulnerabilities in many developing economies...

Over the past decade, world trade has expanded significantly. By 2007, global trade had reached more than 60 per cent of world GDP, compared with less than 30 per cent in the mid-1980s. Few would contest that increased trade has contributed to global growth and job creation. However, strong growth in the global economy has not, so far, led to a corresponding improvement in working conditions and living standards for many. Absolute poverty has declined, thanks to the economic dynamism of recent years, the efforts of private companies, migrant workers and their remittances and the international development community. Nevertheless, in many instances, labour market conditions and the quality of employment growth have not improved to the same degree. In many developing economies job creation has mainly taken place in the informal economy, where around 60 per cent of workers find income opportunities. However, the informal economy is characterized by less job security, lower incomes, an absence of access to a range of social benefits and fewer possibilities to participate in formal education and training programmes – in short, the absence of key ingredients of decent work opportunities.

These persistent labour market vulnerabilities have prevented developing countries from fully benefiting from the dynamics of globalization. Despite the fact that the informal economy is typically characterized by strong economic dynamism, rapid entry and exit and flexible adjustment to change in demand, informality limits the potential for developing countries to benefit fully from their integration into the world economy. In particular, large informal economies prevent countries from developing a sizeable, diversified export base, as the capacity of companies to grow is constrained. Notwithstanding the well-known difficulties of securing reliable data on informality (as explained in this study), the work reported here suggests that countries with larger informal economies experience lower export diversification – an increase in the incidence of informality by 10 percentage points is equivalent to a reduction in export diversification of 10 per cent. Informal employment makes it difficult for workers to acquire formal generic skills that can be used productively in a variety of occupations.

Similarly, firms operating in the informal economy are often small and face barriers to growth, preventing them from offering high-quality goods and services. And when economies are opening up, the informal economy often acts as an adjustment buffer for workers who lose their jobs, further depressing decent working standards in a manner that would not occur if alternative employment opportunities were available in the formal economy. In a nutshell, informal sector firms lack the capacity to generate sufficient profits to reward innovation and risk-taking – two essential ingredients for long-term economic success. Estimates suggest that countries analysed in this study lose up to 2 percentage points of average economic growth due to their informal labour markets.

Finally, globalization has added new sources of external economic shocks. For instance, global production chains can transmit macroeconomic and trade shocks through several countries at lightning speed, as observed in the current economic crisis. Moreover, in such circumstances developing countries run the risk of entering a vicious circle of higher rates of informality and rising vulnerability. Countries with larger informal economies experience worse outcomes following adverse shocks. Indeed, estimates suggest that countries with above-average sized informal economies are more than three times as likely to incur the adverse effects of a crisis as those with lower rates of informality. Addressing informality is, therefore, not only a matter of concern in terms of social equity. It also helps to improve a country's dynamic efficiency, as the informal economy constitutes a drag on the capacity to foster high value-added production and compete in the world economy. Encouraging formalization of both workers and firms will also help countries to raise more fiscal revenue, improving their ability to stabilize their economies and mitigate the adverse consequences of external shocks. As the current crisis has demonstrated, countries already characterized by vulnerable labour markets are also the most poorly placed to respond to deteriorating economic conditions. Reducing the size of the informal economy is therefore a key policy objective from a developmental perspective.

This study argues that it is possible to address these challenges and lower informality rates in developing countries, despite the additional pressure that heightened globalization can impose on labour markets. Indeed, trade reforms have the potential to yield long-term labour market benefits with the right opening strategy – including the timing of reforms and the enhancement of support policies such as "Aid for Trade" – combined with an appropriate mix of domestic policies. A successful policy approach requires an adequate understanding of the transmission channels through which labour markets are affected by trade reforms. The challenges arising from the existence of informal economies need also to be identified in terms of how they

hamper fuller participation in international trade, lower export diversification and weaken resilience to economic shocks.

...as economic dynamism has not reduced high informality rates.

Determining the size of informal economies and documenting trends in informal employment is no easy task. On the basis of a broad-based definition of informality that covers different "varieties of informality", this study documents substantial cross-country variations and persistent informality rates among a selection of countries in Africa, Asia and Latin America. Indeed, informality rates can reach up to 90 per cent in specific cases or be as low as 30 per cent in others. In addition, large differences exist in the incidence of informality, depending on a person's skill level. In Latin America, high-skilled workers are estimated to be five times less likely to find themselves in the informal economy than low-skilled workers. In addition, occupational choice strongly influences the risk of informality. Self-employment appears to be associated with informality in more than 50 per cent of all cases, whereas working for small enterprises with less than five employees decreases this risk to around 30 per cent. More importantly, however, informality rates can be shown to be highly persistent over time, responding only weakly to accelerations in economic growth or trade openness. Indeed, only a few countries show a persistent decline in informality following trade opening. This calls into question some of the earlier claims on the benefits of stronger growth and trade integration for employment creation (in the formal sector). It suggests that policies – the regulatory stance on the labour market, coordination with trade reforms and trade support policies – play a crucial role in determining the capacity of countries to benefit from international trade integration and stronger growth in terms of employment.

In some instances trade reforms have increased labour market vulnerabilities in the short term...

Economic theory offers little in terms of strong predictions regarding the effect of trade opening on informality. Theoretical models have focused predominantly on cases where trade opening leads to an increase in informal employment, discussing the conditions under which informal wages will rise or fall. The fact that available models embody many differences makes it difficult to compare results and isolate the role of specific modelling assumptions. Nevertheless, theoretical results point to a number of essential elements that need to be considered for a better understanding of the linkages between globalization and the informal economy. If capital is mobile across sectors, the informal economy can benefit from increased demand for its goods and

services and informal wages could rise. Informal labour markets could benefit even more from trade reforms if their products were tradable directly on international markets – a precondition that seems unlikely to be met in many countries, as shown later in this study. On the other hand, to the extent that vertical, complementary relationships exist between the formal and the informal economy (such as interlinked production chains), structural adjustment in the formal economy following trade reforms may adversely affect the informal economy – at least in the short run.

Notwithstanding the plausibility in theory of these transmission channels, trade reforms have been shown in many instances to result in labour market reactions which differ from those posited by these *a priori* linkages. For instance, globalization and trade integration may be expected to lead labour-abundant countries to specialize in labour-intensive, low-skilled industries. It was hoped that this would result in an increase in wages for low-skilled labour or improved working conditions, including by means of an increase in the number of formal sector jobs for low-skilled workers. Evidence suggests, however, that the skill premium has increased both in developed and in emerging economies, making low-skilled workers (relatively) worse off. This has been partly explained by the fact that international investment is complementary to the demand for high-skilled labour. Large multinationals need to hire qualified personnel in emerging countries to be able to organize their international production chains effectively, which explains that skill premia have also increased in those countries. Alternatively, it has been suggested that skill-biased technology change may be linked to the observed increase in skill premia. As technology diffuses at a global level, countries will experience an increase in high-skilled labour demand, regardless of an abundant supply of low-skilled labour. Moreover, skill-biased technology may be increasingly linked to greater trade openness. Indeed, empirical evidence shows that trade opening has led to the development and diffusion of skilled-biased technologies.

The limited amount of evidence available does not allow us to draw any general conclusions regarding the effect of trade opening on informal employment. Evidence from Latin American countries suggests that these effects strongly depend on country-specific circumstances. Cross-country differences in the (short-term) reaction of informal labour markets to trade reforms also seem to be driven by differences in the sectoral reallocation of both capital and labour, partly as a reaction to differences in policy implementation.

…and seem to bring benefits to employment and wages only over the longer term.

Ultimately, the difficulties encountered in empirical studies attempting to identify clearly the effects of trade openness on the informal economy seem partly related to the fact that a distinction has to be made between short- and long-run effects. The estimates presented in this study point to the possibility that, over the near term, trade opening causes informal labour markets to grow, requiring protected companies in the formal sector to adjust and to reallocate jobs and workers. Over the longer term, however, the improved economic dynamism that can be expected from more intensive trade has the potential to strengthen formal sector employment growth. This result can partly reconcile differences in interpretation among the individual analyses reviewed in this study. It is also in line with more recent cross-country studies that show the potential of trade reforms to increase output in the informal sector, whereas informal employment declines, pointing to an increase in productivity of the informal economy that can be observed after trade reforms. The empirical analysis in this study also offers evidence that domestic policies play a key role in explaining the success that countries have experienced following trade reforms.

Informal labour markets have weakened export performance in developing countries...

Informality is not only influenced by international trade, it will also have an impact on the capacity of a country to engage in trade and to grow. However, the available empirical literature documenting possible causal effects running from informality to trade is not well-developed. Much of the work in this area relies on indirect inferences and is highly aggregated. Little is known about the microeconomics of informality and job dynamics, firm creation and growth. On the basis of existing evidence and original empirical analysis, the study nevertheless identifies four potential channels through which informal labour markets can affect trade and macroeconomic performance: (a) large informal economies may narrow the degree of export diversification; (b) they may limit firm size and hence productivity growth; (c) they may act as a poverty trap preventing successful reallocation of jobs within the formal economy; and (d) on the positive side, they may provide cheap intermediate goods and services that boost the competitiveness of formal firms in international markets.

Export diversification has long been seen as a precondition of successful growth and development, with the possible exception of very advanced (small) countries that can fully reap the benefits from international trade by specializing in niche markets. In

failing to diversify exports – in particular by moving up from income-inelastic, price-sensitive commodity exports to semi-final and final goods – countries run the risk of being locked into a specialization pattern with little potential for innovation and value creation. Such unfavourable specialization dynamics may be linked, in part, to regulatory failures or lack of trade reforms. In addition, however, the study argues that a large informal economy relative to the formal economy is an additional determinant of low export diversification. This effect is shown to be unrelated to the actual trade openness of a country and exists over and above other factors that might influence export diversification, such as country size.

Informality may also inhibit trade success because informal firms often lack the necessary size to fully exploit economies of scale. However, firm size, productivity growth and export opportunities are closely linked. Not only can large firms benefit from scale economies, they also have easier access to high-skilled labour and bank (including trade) credit. They tend to be more reliable in fulfilling sales contracts on time when compared to smaller firms, which is a valuable asset when establishing long-term client relationships. In this regard, the lack of access to appropriate managerial staff and the fact that small firms are locked into local trading networks seem to be the most pervasive mechanisms. Experiences in individual countries seem to confirm this general picture. Faced with a sudden decline in the average firm size, countries typically lose international market shares and start to trade less. This effect is reinforced by the tendency of smaller firms to serve mainly the local market, thereby losing touch with international customers (e.g. in responding to their preferences) and access to international distribution channels.

Informality can also act as a barrier to economic restructuring. It is estimated that around 10 per cent of all jobs are being destroyed every year in many countries, regardless of their particular economic and institutional conditions, and many of those losing their jobs are faced with the choice between unemployment and informal employment. However, in countries lacking even the most basic social protection systems, unemployment may not be an option. Hence, entry into informal employment is high; but so is exit from it, and levels of churning in the informal economy are similar to those observed in the formal economy. Even though this makes informal segments of the economy appear dynamic, many workers stay in the informal economy for prolonged periods and exit from informal employment is often towards ever-lower ends of the labour market, including joblessness and withdrawal from the market. Moreover, it is much more difficult for informal employees to return to the formal labour market, especially in the lower-tier segments of the market. For those countries where empirical analysis is available, the study documents that, once in the informal labour market, the likelihood of becoming unemployed in a given year

is twice as likely as a return to formal employment. In addition, it is more than twice as likely that such workers will remain informally employed. The same evidence shows that, although job reallocation is important for successful structural adjustment, the informal economy may prevent necessary transition between different segments of the formal economy, partly as the result of a loss of human and social capital for those who remain in the informal economy for protracted periods. This can mean that labour shortages arise in those sectors which prosper following trade reforms, with the result that companies in these sectors tend to shed capital and opt for smaller plant size, lowering their export opportunities and preventing countries from benefiting more fully from trade opening.

Finally, informal economies have been considered essential in order for formal firms in vertical supply chains to compete successfully on international markets. Similarly, it has been argued that the existence of a large informal economy is important for the success of export processing zones (EPZs). However, available empirical evidence leads to ambiguous conclusions in this regard. Firms that have recourse to inputs from the informal economy may themselves be in a weak position on global markets and struggle to survive. These firms would tend to use inputs from the informal economy as a last resort, in order to cope with increased global competition. This cannot be considered a winning strategy to gain market shares. Moreover, available evidence suggests that the ability of the informal economy to support otherwise unprofitable formal firms is potentially harmful for future economic development and growth. In particular, gains in price-competitiveness through the use of intermediates from the informal economy can be shown to come at the cost of smaller average firm size, lower potential growth and reduced productivity increases. This constitutes a drag on long-term economic performance and success in international trade.

...and created poverty traps for countries with vulnerable labour markets.

Informality is associated with increased vulnerability of countries to economic shocks. Moreover, informality raises the likelihood of being affected by such shocks. The combination of these two tendencies can create a vicious circle, weakening the long-term performance of a country, lowering the potential benefits it can derive from trade and reducing economic well-being. Volatility in growth performance and the frequency of extreme economic events (such as rapid growth spurts and sudden growth reversals) tend to rise with the size of the informal economy. Countries with above average sized informal economies are almost twice as likely to experience extreme economic events, compared to countries with less informal employment. Empirical evidence in the literature tends to confirm this adverse association between

informality and business cycle volatility – informality both acts as a direct cause for higher business cycle volatility and represents a symptom for other institutional deficiencies that render a country less resilient to shocks, such as the absence of automatic stabilizers or the presence of regulatory distortions.

The study shows that high rates of informality drive countries towards the lower, more vulnerable end of global production chains. Economies with larger informal sectors may attract particular types of capital flows related to the existence of a large low-wage labour pool. Specifically, some emerging economies and developing countries seem to have tried in the past to use the size of their informal economy as an argument for international investors to take advantage of low labour costs. For instance it is sometimes argued that EPZs may lower labour costs compared to the rest of the economy through the selective or partial application of labour laws and regulations. On the other hand, governments may set up zones in areas and sectors most affected by high informality rates, with the objective of improving working conditions there. Empirical evidence suggests that this objective has not always been met. This is partly related to the fact that informal labour markets or EPZs often occupy the weakest place in the global production chain, which prevents firms operating in this area from appropriating a large enough share of international value added to grow and innovate. While local working conditions may improve to a certain extent in such circumstances – at least in comparison to the situation prevailing before trade and investment opening – these arrangements are unlikely to offer countries the opportunity to establish benefits from international integration. In the end, countries may be left with labour market conditions that are little better than those existing before economic opening. At the same time, the economy may have been rendered more vulnerable to international shocks.

Policies play a decisive role in raising benefits from globalization in developing countries...

A major conclusion of this joint ILO–WTO study is that no simple or linear relationship exists between trade opening and the evolution of informal employment. Initial increases in the size of the informal economy may later be reversed when the formal sector grows faster as a result of increased trade openness. Countries differ in their reaction to trade reforms. Some countries experience substantial increases in informality rates, others may sustain none at all, or even benefit at the outset from growth in the formal economy. This wide variety of results is reflected in the different conclusions reached by the studies summarized here. The core point, however, is that policies matter.

…by enabling formalization processes…

This study considers three ways of achieving greater complementarities between the trade and decent work agendas. In the first instance, it focuses on the importance of enabling conditions for formalization, regardless of the degree to which a country is integrated into the world economy. It must be recognized that strategies aimed at formalization cannot offer a quick fix to labour market problems in developing countries. However, with around 60 per cent of employees in developing countries working in the informal economy, large parts of society are deprived of adequate income and career opportunities. At the same time, high informality rates limit the availability of government resources that could be used productively, depress aggregate demand growth and hamper a country's successful integration into the world economy. Policies to create conditions to support informal firms and workers – with the aim of bringing them into the formal economy over the long term – could, therefore, not only help to improve working conditions but also contribute to a significant engine of growth.

A distinction needs to be made between policies that foster the formalization of firms and those aimed at workers. For the former, incentives can be strengthened by lowering costs of formalization and raising benefits. Often, this can be achieved through regulatory and administrative changes that bear no budgetary costs for policy-makers. For instance, reducing red tape, lowering the burden of taxation (in particular for start-ups and small companies) and supporting firms in tapping into (local) capital markets are examples of strategies that countries can implement. Such measures may involve limited budgetary costs, but generate potentially large benefits over the longer term. In addition, public procurement can be used to stimulate demand from the formal economy, thereby enticing informal firms to enter the formal economy.

Regarding the improvement of enabling conditions for informal employees, policies should focus on providing: (a) support for employees to transit out of informality; (b) investment in infrastructure so as to promote productivity of informal firms and facilitate formalization; and (c) a basic network of social protection for those who continue to be employed informally. In this regard, a strong emphasis should be placed on training facilities and programmes for informal employees, given the strong (negative) relationship identified in this study between the level of education and the incidence of informality. Where possible, such policies could rely on existing training infrastructure within the informal economy, making such policies less burdensome in budgetary terms and improving their efficiency. In addition, in order to reach informal employees in the upper-tier segment, modifications in the tax schedule and, possibly,

the introduction of a greatly simplified tax code could help to strengthen compliance with tax and labour regulation, increase labour supply in the formal economy and boost tax revenues. Increased revenues could be used to improve job creation in the formal economy more directly by introducing targeted hiring or appropriate wage subsidies. In combination with adequate training opportunities, such policies have the potential to improve the labour market dynamics of the formal economy substantially.

Not all informal employees can be reached by these policies. Building up support systems for those who remain in the informal economy is, therefore, crucial. Providing at least basic social protection can help to limit vulnerabilities in this market and improve the functioning of the informal labour market. However, the fear of the potentially high fiscal burden that such policies may entail, especially in countries with large informal economies, has prevented a more widespread application of this approach. In this regard, available evidence suggests that a minimum social floor can be provided at an affordable cost without jeopardizing fiscal sustainability. Moreover, in countries where some self-organization of the informal economy has occurred – for instance, through workers' associations – governments could support such self-help insurance mechanisms by providing the necessary collateral, without actually running the insurance schemes themselves. More generally, local communities and initiatives should be used as multipliers to help implementing policies in the informal economy, thereby improving their efficiency. Social dialogue between employers and workers, including at the national level, is crucial to the success of formalization strategies.

…implementing trade reforms with an eye on job creation…

Second, trade reforms can be implemented in an employment-friendly way, making the reallocation of jobs more conducive to further employment growth. Even though little is known about the microeconomic aspects of the transformation dynamics following trade reforms, some general principles have proved in the past to constitute a set of robust policies with the potential to make trade reforms more labour-market friendly. To begin with, a gradual process may be necessary to help policy-makers, workers and firms adjust to the new environment. As noted in the study, reducing trade barriers is likely to raise labour market vulnerabilities in the short run, despite the potential promise of benefits over the longer term. Policy-makers need to take this trade-off into account when striking the balance between different reform options. In this regard, the flexibilities extended to developing countries in WTO trade negotiations and embedded in the WTO rules should help mitigate potential short run adjustment costs. Nevertheless, the opening process should be free of distortions as far as possible. Opening only parts of the economy and keeping certain

sectors or firms protected from foreign competition is likely to worsen distortions in the economy without necessarily bringing any macroeconomic benefits. Also, trade opening should not only be limited to import competition – the development of an export-oriented sector is crucial to lowering adjustment costs associated with trade reforms and helping workers to switch from import-competing sectors to the export-oriented ones. In this context, the Aid for Trade initiative can play an important role. Both regional and multilateral trade-opening can prove useful in diversifying the economy. Finally, the study argues that trade reforms should be announced credibly. Adjustment will take place more rapidly if workers and firms are convinced that moves towards more open trade will not be reversed. Implementing the ILO's Decent Work Agenda is needed in this respect.

…and exploiting complementarities between trade and labour market reforms.

Third, the study stresses the importance of coherence between trade and labour market policies. Earlier approaches have tended to rely on the belief that benefits from trade would automatically "trickle down" towards employment creation and wage growth. These approaches do not appear to have yielded satisfactory results and should be complemented with a more forceful recognition of interactions between trade and decent work. One approach has been to seek the integration of a number of labour standards into international trade agreements, in particular the core labour standards as defined by the ILO Declaration of 1998 – such as the freedom of association and the effective recognition of the right to collective bargaining; the elimination of all forms of forced or compulsory labour; the effective abolition of child labour; and the elimination of discrimination in respect of employment and occupation. While this approach has not met with consensus in the WTO, where, as stated in the Singapore Ministerial Declaration, Members recognized the ILO's responsibility to "set and deal with" labour standards, some bilateral trade agreements contain such provisions. Little, however, is known about the degree to which workers in the countries concerned have actually benefited from such provisions. It would appear that substantial spillovers may exist from formal sector labour market standards to working conditions in the informal economy. Carefully designed increases in legal minimum wages, for instance, may also raise the remuneration of informally employed workers and may even – as indicated in this study – increase incentives for formal sector job creation.

Another instrument to help countries adjust to trade opening is the wider deployment of active labour market policies. If properly designed, such policies have proven in

the past to be cost-effective tools for dealing with job reallocation, even in times of structural adjustment (which typically takes place after trade opening). Such policies require, however, the development of public employment services, which can gather the relevant labour market information (for instance, on firm restructuring, bankruptcy, job vacancies and local training needs of firms). In addition, further funds are needed to provide resources for necessary (re-)training and job-search support services for unemployed and informally employed workers. It is vital that such arrangements are adequately funded and staffed in order for them to appear credible to informal employees and the unemployed. Long waiting times and low-quality job counselling and training services can frustrate those seeking to use these services and limit their interest in accessing them. Existing evidence suggests that effective active labour market policies rarely cost more than 1.5 per cent of GDP. In many transition economies in Eastern Europe, not more than 1 per cent of GDP is spent, a sum that could be provided partly by official development aid in those countries that lack the fiscal capacity to implement such a system.

More fundamentally, trade and labour market policies need to be implemented in a coordinated way. The supply side needs to be strengthened in line with trade opening to allow long-term benefits of international integration to emerge quickly. It may be sufficient in the first instance to reduce impediments to firm growth and employment creation, such as administrative burdens or the lack of clearly identified property rights or appropriate policy mix, as discussed above. The process of trade opening may uncover some of the most binding constraints on firm growth and employment creation. Policy-makers can, therefore, also use trade opening as a discovery device. Finally, close collaboration between ministries can foster further information exchange and be used to establish, and subsequently refine, a broad reform agenda. To the furthest extent possible, international organizations should provide coherent support for policy reform, as well as technical assistance in designing, implementing and coordinating these welfare-enhancing reforms.

CHAPTER 1: Globalization and informality in times of crisis

A. Labour markets in open developing economies

The integration of the world economy has reached unprecedented levels. In 2007, according to the World Development Indicators, the volume of world trade represented more than 61 per cent of world GDP. The financial crisis has further demonstrated the importance of world trade as an engine of global growth and revealed the extent of the international spillover of shocks. Moreover, around one out of five jobs is trade-related – even in large economies such as the United States (International Trade Administration, 2006) – because they are either in exporting firms or are with producers of essential services for trade-related activities. The expansion of world trade – in particular as several large countries representing more than half of the world population opened up during the 1990s – has sustained economic growth around the globe and led to a rapid expansion of employment opportunities. The International Labour Organization has estimated that between 1995 and 2005, thanks to this global expansion, 40 million additional jobs have been created every year in its member countries.

Despite this dynamism within the labour market, decent working conditions have not improved at the same rate. Job creation has gone hand in hand with the proliferation of non-standard work contracts in developed economies – temporary work, part-time employment – and a persistently large informal economy in developing countries (International Institute for Labour Studies (IILS), 2008). Workers joining the labour market often find it easier to obtain casual employment, in home production or without a proper contract or access to social security (such as pensions, health care, occupational accident insurance and unemployment benefits). Those already on the labour market – even when formally employed – may be motivated to drop out of the formal sector, in the hope of increasing their net disposable income. Either way, informally employed workers are less protected, remain more vulnerable to sudden changes in market conditions, have to accept severe cuts in their wages when fortunes change and are less likely to take part in (formal) education and training

programmes financed by public authorities (Kucera and Roncolato, 2008). At the same time, large informal economies limit the potential for developing countries to benefit fully from their integration into the world economy, make them vulnerable to sudden shifts in fortune and prevent them from developing a large, diversified export base. In consequence, high informality rates depress a potentially much higher growth rate of income and productivity (Lopez and Servén, 2009; Perry et al., 2007).

The failure of economic growth and trade opening to bring full benefits to all layers of society has caused concern regarding the current pattern of globalization. Some have attributed the observed increase in informal employment to globalization. Others have argued that, at the very least, international trade has not helped informally employed workers to find better working conditions. Common to both viewpoints is the belief that employees have limited control over their employment conditions and that the heightened competition which arises from international commerce is a key factor in shaping the dynamics of jobs and job quality. This report shows that the picture is more complex and that a distinction needs to be made between short-term costs and long-term gains from trade openness. It demonstrates that some countries have successfully managed to combine rising international integration and a reduction in the size of the informal economy. It also shows that it may take some time for trade integration (and carefully designed trade reforms) to yield benefits that are apparent on the labour market. Most importantly, this study stresses the role of domestic labour and - to a lesser extent - product market policies in achieving such benefits.

The report draws a multifaceted picture of the informal economy. Traditionally, persistent informality can be found in developing and emerging economies. As such, informal employment dynamics can be observed both historically and across countries in all economies at a certain stage in their development. In addition, new forms of informal employment arise as a reaction to countries' tax and regulation systems, pushing some on the sidelines to try to avoid the adverse consequences of those systems. These new forms of informal employment pose important challenges to policy-makers, as they demonstrate that growth and modernization policies may not be sufficient to eliminate or even reduce informal employment. In particular, our study shows that the earlier hope, that the effects of growth and international integration would trickle down and automatically eliminate informal employment, is not warranted. Instead, certain types of informal employment arise in reaction to a failure on the part of public authorities to provide proper social security and to bring taxes down to levels compatible with strong work incentives and formal job creation. Finally, certain forms of informality can be, and have been, seen as a reaction on the part of formal firms to difficulties in integrating or surviving in world markets. In these

cases, informality allows internationally engaged firms to limit the impact of certain shocks (for instance, on their terms of trade) by having recourse to cheaper, more flexible inputs and labour services from the informal sector.

As the study shows, however, these forms of informality constitute brakes on stronger growth and increased trade competitiveness, at least in the long run. Only in certain areas – often related to global production chains – have informal sectors allowed export-oriented firms to survive on international markets, albeit without gaining much market share. At the microeconomic level, informal employment goes hand in hand with insufficient information on profitable business opportunities, failure to acquire formal skills and a lack of insurance against adverse events. At the aggregate level, these build up to create unstable social and macroeconomic conditions with the potential for spillovers at the regional level. Moreover, informality increases inequality and lowers efficiency (and hence GDP growth). Informality also hampers the emergence of dynamic comparative advantage in moving up the value-chain and creating a diversified base for exports. Finally, to the extent that informality is a symptom of wider inefficiencies related to over-regulation or distortive taxation, informality will be associated with the reduction of a country's potential for catch-up and a resulting limited potential for growth.

As mentioned, this study also argues that the existence of large informal economies is one of the main reasons why developing countries do not benefit fully from their integration into the world economy. In this respect, successful formalization would not only improve the working conditions of large segments of the labour market in those countries, it would also constitute a significant engine of further growth, fuelling the economic dynamics of both the individual country and the world economy. Some 60 per cent of all employees globally are not formally employed, depriving them of proper income and career chances, limiting government resources that could be used productively and limiting the growth of aggregate demand. At the same time, the integration of a country into the world economy – if properly managed – offers one of the best opportunities for informal workers to improve their living standards and for governments to implement decent working conditions.

The current economic crisis, however, threatens to jeopardize the gains that have been achieved over the past decades in terms of employment creation and trade openness, and also risks severely increasing inequality and poverty – the reduction of which is one of the main UN Millennium Development Goals (MDGs). Despite international calls to maintain trade openness, governments remain tempted to respond to the crisis by reducing foreign competition. Both developed and emerging countries

have raised some of their trade barriers in response to the crisis. They may also be reluctant to defend labour standards and worker rights in the hope of saving more jobs. Compliance with existing regulations may be relaxed and enforcement applied less strictly. Also, voluntary approaches such as Corporate Social Responsibility codes may be pursued with less enthusiasm. In a recent communication to the Working Commission on the Social Dimension of Globalization, it has been argued that both approaches – trade protectionism and weakening labour standards – rely on fallacies, with severe consequences for growth and inequality (World Commission on the Social Dimension of Globalization, 2004).

The report argues that countries need to integrate into the world economy if they wish to enjoy higher growth levels. Serious efforts have to be made to adjust policies to tackle informal employment and establish decent working conditions in order to gain the full benefit of trade reforms. Both integration into world markets and tackling informal employment should be considered complementary. However, such policies cannot overcome persistent problems overnight. Often, they must be implemented with an eye towards the neediest and most vulnerable in society. The report also argues that additional room for manoeuvre, arising from higher potential growth, needs to be targeted towards an improvement of conditions in those labour market segments that voluntarily drop out of formal employment, improving incentives to remain formal or return to the formal economy. Finally, the report argues that, wherever possible, the expansion of the formal sector should be employment-intensive in order to absorb informal workers quickly. Public authorities should offer the right incentives to formal firms in this respect. They should also help informal workers reach the formal sector, both through properly formulated activation strategies and investment in job-search infrastructure that is often not available, even to qualified individuals.

This study combines an overview of the literature on informality and globalization with an analysis of the relationship between informal employment dynamics and trade integration. It brings together original empirical material with an in-depth study of various mechanisms and transmission channels through which informal employment may be expected to interact with trade openness and growth. It suggests several avenues through which countries can adjust their policies in order to benefit fully from trade openness, while at the same time reducing the size of their informal economy. Moreover, it explores new empirical material to assess linkages between trade openness, trade reforms and informal economy dynamics. The study also discusses policy options for both trade reforms and labour market policies and explores the complementarities between the two policy domains.

The study is organized as follows. After a short summary of the key facts pertaining to the informal economy and its relation to globalization, Chapter 2 provides an overview of concepts of informality and measurement of the informal economy. Chapter 3 explores the linkages between globalization and the rise of the informal sector. In Chapter 4, the study reviews the literature on the impact of informality on trade performance and growth. The impact of informal employment on the resilience to shocks is discussed in Chapter 5 and evidence is presented that high informality rates can contribute to stronger fluctuations and more volatile capital flows. Chapter 6 analyses the various issues raised in the report on the basis of new empirical material and presents original evidence on the linkages between trade reforms, de facto trade openness and informal employment. Chapter 6 also presents evidence on the adverse association between large informal economies and low GDP growth rates, high levels of inequality and low degrees of export diversification. Chapter 7 summarizes the policy implications arising from the study.

B. Key facts on globalization, trade and informal employment in developing countries

Most economies around the world have increased their links with the global economy over the past two decades or so. The share of trade in GDP has tended to grow, as has the incidence of foreign direct investment (FDI). An earlier ILO-WTO study considered the impact of increased international trade and investment on employment and wages (International Labour Office and World Trade Organization, 2007). The study found that, in general, globalization holds the promise of faster economic growth, as well as higher employment and incomes. However, the study did not primarily focus on the effects of trade and investment on the quality of jobs or the incidence of informal employment. This is a key issue in developing countries and emerging economies, where there is concern about the fact that the incidence of informal employment has remained stubbornly high, or has even increased, despite more robust economic and employment growth.

1. Stylized facts on informal employment and the shadow economy

Obtaining a true picture of the size and dynamics of the informal economy has proven to be a daunting task. As will be discussed in Chapter 2, definitions, concepts and measurement differ from one author to the next, depending in part on whether

precision or country-comparability is sought. Despite more than three decades of research, no consensus has been reached in the literature and authors typically content themselves with indicating the multifaceted nature of the phenomenon. This study will be no exception. Looking at the MDG indicator, for instance, which measures the incidence of own-account and contributing family workers, informal employment seems to have stabilized (or even slightly decreased) worldwide, albeit at a high level (see Figure 1.1). The chart also indicates substantial regional variation, not only between developed and developing regions, but also within the group of developing and emerging economies.

Figure 1.1 Own-account and contributing family workers (relative to total employment, in per cent)

Percentage of total employment

Region	1997	2007 (preliminary data)
Northern Africa	35.2	32.9
Sub-Saharan Africa	76.1	71.2
Latin America and the Caribbean	31.4	33.0
Eastern Asia	63.2	55.7
Southern Asia	79.2	75.8
South-Eastern Asia	63.4	59.3
Western Asia	37.1	29.1
Oceania	62.3	68.5
Developing Regions	64.4	59.9
Developed Regions	11.4	9.5
World	52.8	49.9

■ 1997   ■ 2007 (preliminary data)
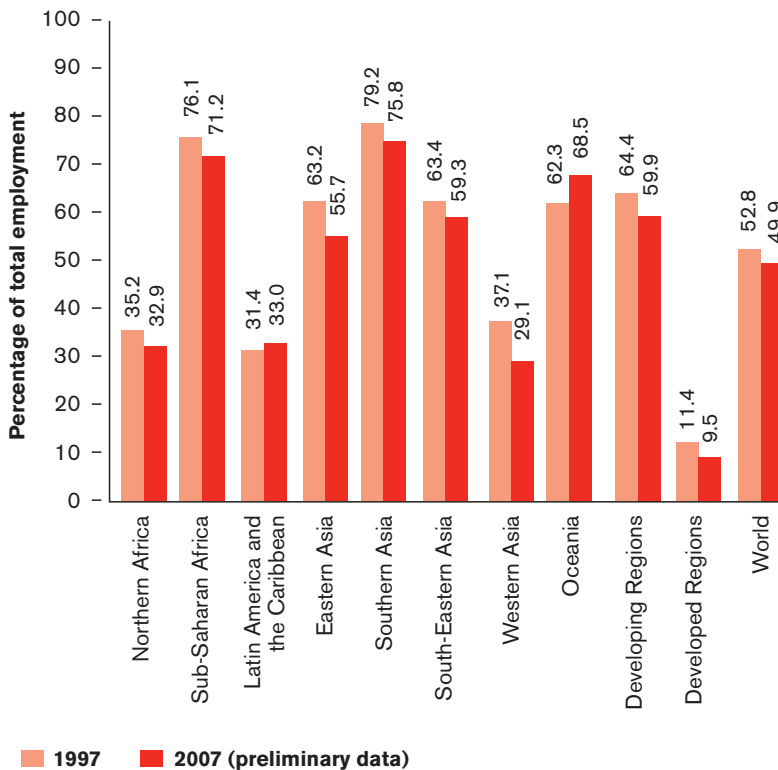
Source: MDG indicators available at: http://mdgs.un.org.

However, this MDG indicator only covers part of the full reality of the informal economy as it includes only own-account and contributing family workers. Other job categories that would typically be included in the informal economy are omitted from this indicator. For the purpose of this study, more encompassing data have been collected that include a wide range of forms of informality, as identified in the following chapters (see Box 1.1 for a short description of the data used in this study). These data show that, at the very least, there is substantial heterogeneity in terms of the dynamics of informality across world regions (see Figure 1.2). In African countries, the informality rate seemed to have slightly decreased (in urban areas), whereas it increased – slightly – in Latin American countries. Asian countries had initially reduced their informality rates somewhat starting from a very high level, but saw them rising again after the Asian crisis.

Figure 1.2 Informality around the world
(relative to total employment, in per cent)
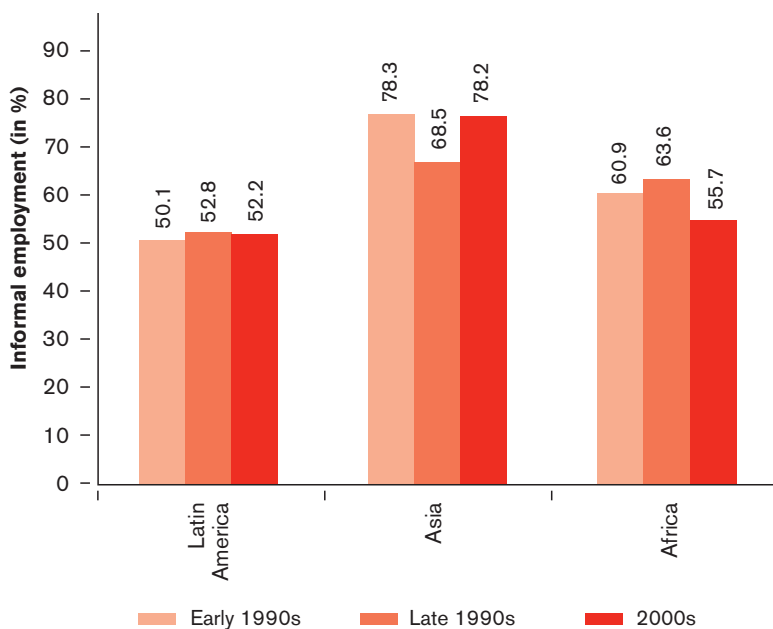
	Early 1990s	Late 1990s	2000s
Latin America	50.1	52.8	52.2
Asia	78.3	68.5	78.2
Africa	60.9	63.6	55.7

Note: Country groupings: (i) Latin America: Argentina, Chile, Colombia, Costa Rica, Ecuador, Mexico, Panama, Uruguay, Venezuela, (ii) Asia: China, India, Indonesia, Pakistan, Sri Lanka, Thailand, (iii) Africa: Botswana, Cameroon, Egypt, Ethiopia, Ghana, Kenya, Malawi, South Africa, Tanzania, Zambia, Zimbabwe.

Source: IILS estimates based on the IILS Informality Database.

Box 1.1: Informality measures used in this study

■   Countries measure informality using different definitions and periodicity. However, in order to generate a broader picture of informality around the world, this study uses country-specific estimates, when available and suitable, and individual estimates provided by researchers.

■   Most of the informality measures used are representative at the national level. Nevertheless, some estimates only cover urban areas, which may give a different perspective on the informal economy, depending on the country. For example, in Ethiopia informality in 2005 was 38.5 per cent of the working population of selected urban sectors but only 14.2 per cent of the population living in urban areas.

■   Comparability across countries is possible only in some cases, given the different definitions and coverage.

■   The data ensure comparability over time for each country individually. This is important because most countries have seen changes in their surveys which affect observed trends. Where this is the case, estimates are used that have been calibrated to provide consistent time series for the country (for example, Argentina). Nevertheless, when such studies were not available, data refer only to those years that were comparable. For specific sources see Annex 1.

■   In general, Latin American countries are well covered, allowing the use of cross-country comparable indicators for some of them. For others (e.g. Argentina, Colombia) data from reliable studies are used that provide comparable series over time.

■   For Asia and Africa, the information comes from country-specific studies, the KILM database and national statistical information.

■   In order to have a broader view of the issues, indirect measures pertaining to the shadow economy are also included.

These regional averages obscure the country-specific dynamics in each region (Figure 1.3). For Latin America, for instance, the slight decline of informality in the region as a whole is mainly driven by positive developments in Brazil and Chile over the 1990s. In all other countries, informal employment has remained either constant (and high) or has even increased over the same period. For sub-Saharan Africa, on the other hand, the sample is too small and time coverage too limited to draw any reliable conclusions from the data for the region as a whole. The (apparently) favourable results for informality are driven mainly by a rapid decrease in Ethiopia, whereas in the other countries in the sample informality has remained stable or increased. In addition, the small sample size biases the regional average downwards as many countries for which only one observation is available have much higher informality rates.

Figure 1.3 Within-region variation of informality rates (relative to total employment, in per cent)
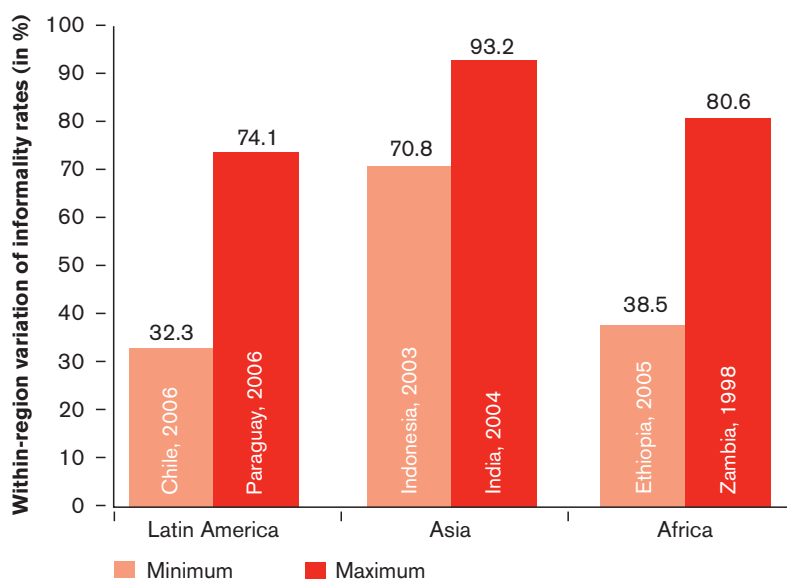
Source: IILS estimates based on the IILS Informality Database.

Other measures of the informal economy give a different picture. Informality measures based on production, rather than on employment, indicate a different ranking among regions (see Figure 1.4). When measured on the basis of informal activities as a

share of GDP, indicators now show that the incidence of informality is highest in sub-Saharan Africa, irrespective of whether agriculture is included or not. African countries are followed by Latin American and Asian countries. A similar picture arises when informality is measured indirectly, on the basis of shadow economy measures (Schneider and Enste, 2000). These indicators make use of proxy measures that are expected to be related to non-declared economic activities (see Figure 1.5 and also the discussion in Chapter 2), with the advantage of being available for a larger country sample (albeit not necessarily over long time periods). For either measure – the incidence of informality in production or the shadow economy indicator – the informal economy appears to be much smaller than when measured on the basis of employment. This gives a first indication as to the low overall productivity in the informal economy, a major obstacle to the successful integration of developing countries into the world economy.

Figure 1.4 Informal economy (relative to GDP, in per cent)

Informal sector (excluding agriculture) in % of non agricultural GDP
Informal sector (excluding agriculture) in % of total GDP
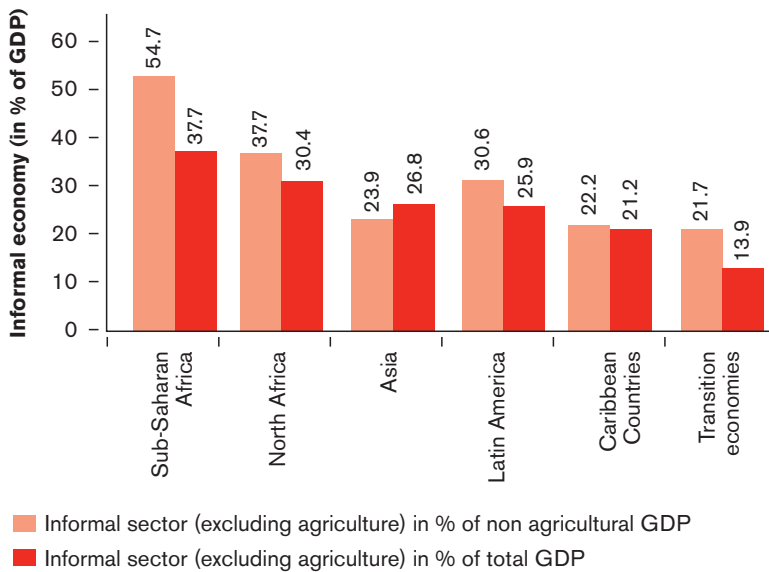
Source: Charmes (2006)

Figure 1.5 Shadow economy (relative to GDP, in per cent)
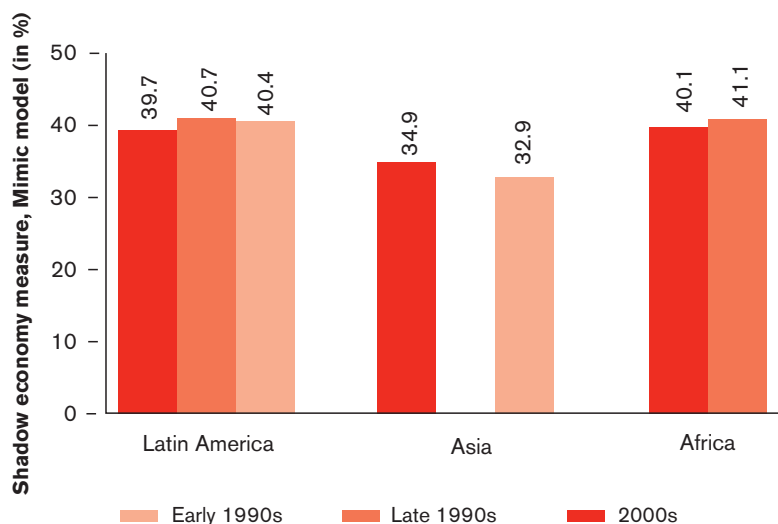
Shadow economy measure, Mimic model (in %)

Latin America	Asia	Africa
39.7 40.7 40.4	34.9 32.9	40.1 41.1

Early 1990s   Late 1990s   2000s

Note: Country groupings: (i) Latin America: Argentina, Chile, Colombia, Costa Rica, Ecuador, Mexico, Panama, Uruguay, Venezuela (ii) Asia: China, India, Indonesia, Pakistan, Sri Lanka, Thailand, (iii) Africa: Botswana, Cameroon, Egypt, Ethiopia, Ghana, Kenya, Malawi, South Africa, Tanzania, Zambia, Zimbabwe.

Source: Schneider and Enste (2000)

The probability of working in an informal job is highly correlated with the skill level of the individual. Figure 1.6 presents regional averages of informality rates by level of education, calculated at three different points in time over the past ten years for Latin American countries. As the figure demonstrates, informality rates for high-skilled people (post-secondary education degree) have remained low and stable. The incidence of informality increases significantly at lower educational levels and has displayed a significant upward trend over the past ten years, despite high (employment) growth in the region, even for people with an intermediate level of education. These skill-related differences in informality rates are likely to be of importance regarding the skill-biased nature of international trade and may be at the heart of some of the observed linkages between trade openness and increased informality (see, for instance, Goldberg and Pavcnik (2007)). Indeed, it has been argued that international

trade has been skill-biased, even in labour-rich countries (and very much in contrast to standard predictions of the Heckscher-Ohlin-Samuelson model), which has been seen as one source of falling labour demand for low-skilled labour among developing countries. In the absence of proper social protection mechanisms or labour market policies that allow retraining and up-skilling of these workers, an increase in the rate at which they face informal employment can be observed.

Figure 1.6 Incidence of informality by skill level (relative to total employment, in per cent)

Note: The figure displays the share of informally employed workers as a percentage of total employment by skill level. Informality covers salaried workers in small firms, non-professional self-employed and zero-income workers. Countries included: Argentina, Brazil, Chile, Costa Rica, Ecuador, Mexico, Panama, Paraguay, Uruguay and Venezuela.

Source: IILS estimates based on the IILS Informality Database, Economic Commission for Latin America and the Caribbean (ECLAC).

As discussed in Chapter 2, a large variety of different methodologies and concepts still persists in respect of the informal economy. Certain definitions have been used for their convenience of measurement (e.g. including enterprises with less than five employees), others reflect the ease of cross-country comparability (own-account workers or self-employment). Depending on which methodology is used, however, measured rates of informality can vary widely, both within and between countries. As Figure 1.7 shows for Latin American countries, own-account employment represents between 40 and 60 per cent of total informal employment, followed by employment in enterprises with less than five workers. Contributing family and domestic workers, on the other hand, represent only a relatively small share of, at most, 20 per cent. The composition of employment status in the informal economy plays an important role in determining household disposable income as wage levels vary substantially between these four types of employment. Own-account work or self-employment typically is among the best remunerated informal jobs and paid at similar levels to those in the formal economy. On the other hand, contributing family workers – mainly women – often receive either no, or only very limited, remuneration (Chen et al., 2005).

**Figure 1.7 Status in informal employment in Latin America (2006)
(relative to total informal employment, in per cent)**
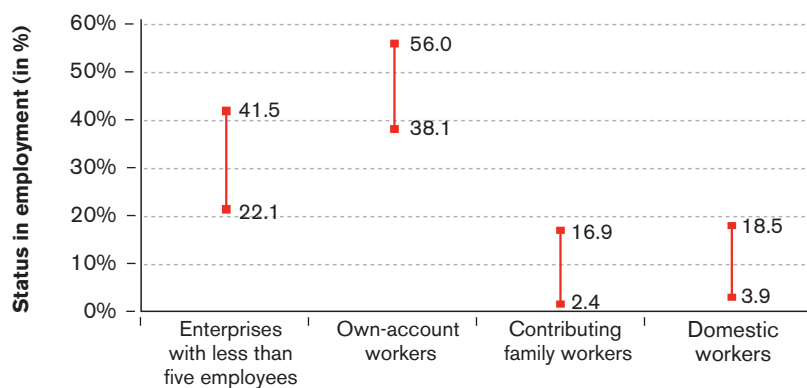
Note: Range of percentage of own-account workers, contributing family workers, domestic workers and workers in enterprises with less than five workers. Values are for 2006. Countries included: Argentina, Brazil, Costa Rica, Ecuador, Honduras, Mexico, Panama, Paraguay, Venezuela.

Source: IILS estimates based on the IILS Informality Database.

2. Informality, economic development and globalization

The substantial differences between informality rates as measured on the basis of employment versus production are intimately linked to variations in economic development across countries. In particular, the large regional differences in informality and the linkages of informality with skill levels can be related to differences in countries' abilities to generate growth and successfully participate in the global economy. The preceding figures also indicate that differences in labour productivity in the informal economy across countries may constitute an additional driver of international variations in economic development. In Asia, relatively low rates of informality based on production, compared with relatively higher rates of informality based on employment measures, rank this region at the bottom of informal sector labour productivity rates. Figure 1.8 shows that high rates of informality are associated with low levels of GDP per capita. This correlation suggests that factors which help to lower the size of the informal economy could also contribute to an improvement in living conditions and disposable incomes in developing economies.

Figure 1.8 Informality and economic development
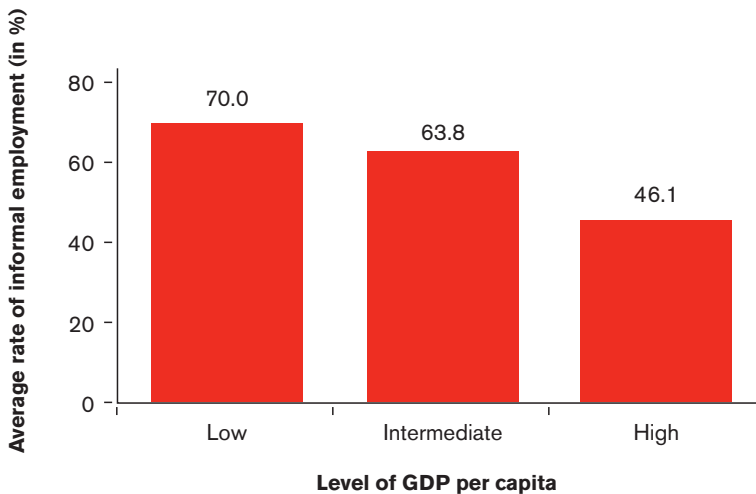
Note: The graph plots deciles of GDP per capita levels (in PPP) against the average size of the informal sector in the informal employment database used for this report.

Source: IILS estimates based on the IILS Informality Database.

Regarding the linkages between trade openness and informality, the picture that emerges from the data in this study is more ambiguous. Using a standard trade-based measure for economic openness (i.e. the sum of exports and imports relative to GDP), Figure 1.9 presents data on the relationship between openness and informality. In particular, it shows that an increase in a country's openness can be related to a reduction in the incidence of its informal employment. However, the evidence presented here is highly region-specific. Similar calculations for other regions do not confirm this negative correlation, an indication that other factors – including country-specific labour market policies – might play an important role in shaping the interaction between trade openness and the size of the informal economy. In the empirical analysis presented in Chapter 4, our study shows that different aspects of trade openness have to be considered in order to obtain a more complete picture. In particular, a distinction shall be made between *de facto* trade openness, as measured by trade flows, and *de jure* trade openness measured by the level of trade barriers. Once such a distinction is made – and some additional control variables are included – the negative correlation between trade openness and informal employment is confirmed also for a larger country sample, including countries from other regions.

Figure 1.9 Trade openness and informality in Asia
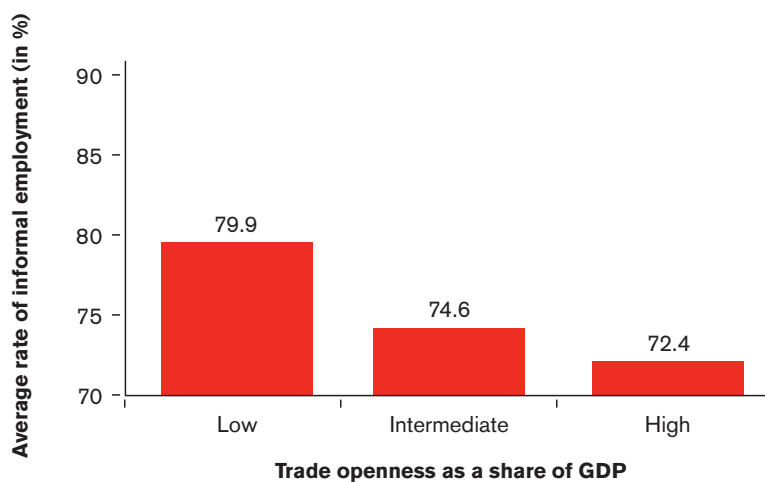
Note: The graph plots deciles of trade openness (i.e. the sum of exports and imports as a share of GDP) against the incidence of informal employment for Asian countries (average between 2000 and 2004 for China, India, Indonesia, Sri Lanka and Thailand).

Source: IILS estimates based on the IILS Informality Database.

Similar to trade openness, a negative relationship between stocks of (inward) foreign direct investment and informality can be detected in our data for Latin American countries (see Figure 1.10). As with trade openness, however, the relationship is region-specific. In addition, sector-specificities in the investment process need to be taken into account. When investment is taking place within an EPZ, informality rates need not decrease as typically auxiliary (informal) services develop around the zone. On the other hand, heavy investment in extracting industries is likely to reduce measured informality rates, which tend to be lower in this industry than in other sectors (for evidence for Indonesia see, for instance, Cuevas et al. (2009)). Finally, the depth and scope of global production networks play a role in determining the interaction between foreign investment and informality rates: where these networks rely predominantly on outsourcing, informality rates are likely to increase. On the other hand, where greenfield investment is taking place, working conditions and formality rates can be expected to improve. Again, in Chapter 6, there will be a more thorough discussion of the relationship that emerges from the data which qualifies somewhat the relationship depicted in the following chart.

Figure 1.10 Foreign direct investment and informality in Latin America
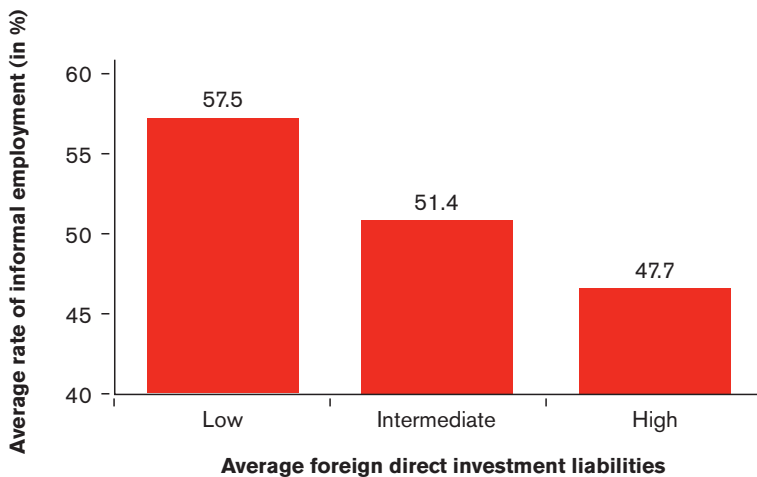
Note: The graph plots deciles of FDI liabilities against the incidence of informal employment for 12 Latin American countries (average between 2000 and 2004).

Source: IILS estimates based on the IILS Informality Database.

C. Improving social equity and efficiency by battling informality

The key facts summarized in Box 1.2 provide the empirical background of this study. The objective of the following chapters will be to present the available literature and develop an analysis to corroborate more firmly the linkages between the degree of economic openness in developing countries and the vulnerability of their labour markets. This study seeks to help policy-makers to identify the essential characteristics of an economic environment that enables employees and workers across the world to access decent working conditions. In particular, a country's openness should constitute an opportunity for the most vulnerable on the labour market to access better jobs with improved working conditions and stable employment prospects. Our study demonstrates that there is no consistent evidence of increasing informality rates as economies open up. Rather, successful cases can be identified and compared with those where appropriate policies to guarantee a transition to better labour market conditions were not put in place.

Battling informality, however, is not only a priority of policy-makers who seek to achieve social equity; it will also help to improve a country's efficiency, as the informal economy constitutes a drag on a country's capacity to achieve high value-added production and to compete successfully in the world economy with more diversified exports. Vulnerable employment leaves workers with little to invest in their future and few opportunities to improve their value to society. Similarly, firms operating in the informal economy have little to offer in terms of value-added quality or service. When economies are opening up, these firms and jobs are the first to come under pressure. Improving the livelihood of informal workers and trying to reduce the incidence of informal employment are therefore not only priorities for equity reasons: they are essential tools for stimulating economic efficiency and helping vulnerable countries to integrate successfully into the world economy.

Finally, as this study argues, informality, trade and growth are intimately linked. The informal economy is a symptom of a country's low resilience to shocks and the vulnerability of its labour market. Insurance against shocks is, therefore, less well-developed, leaving households with little to fall back on in times of crisis. In addition, informal employment may induce particular forms of trade and capital flows that further weaken a country's economy. In this respect, encouraging formalization of both workers and firms will strengthen real disposable income growth and help countries to gain more fiscal space, providing them with the necessary means to stabilize their economies and mitigate adverse consequences from reversals of fortune. As these current times of crisis powerfully demonstrate, those countries that are already

characterized by vulnerable labour markets are also the weakest when it comes to managing the consequences of economic downturn (International Labour Office, 2009). Reducing the size of the informal economy is therefore the best defence against vulnerabilities in the face of shocks. At the same time, those policies that aid the formalization process can be shown to support countries in adjusting more rapidly and at lower economic and social costs during times of economic turbulence.

Box 1.2: Key facts on informality and globalization

■   More than half of the employment in developing regions is characterized by own-account and contributing family workers. Regional variation is important, with informality rates reaching more than 80 per cent in certain sub-Saharan African and South Asian countries.

■   Employment informality has increased in several countries, in particular in Asia. In Indonesia, between 1997 and 2003 the labour market was characterized by a reduction in the formal sector and an increase in the informal sector as a result of increases in the number of self-employed and unpaid family workers.

■   In contrast, the majority of Latin American countries have experienced a slight decrease in informal employment. Nevertheless, the incidence of informal employment has remained high during the past 15 years, representing between 30 and 75 per cent of total employment.

■   Differences in measured informality rates are also due to composition effects regarding employment status in the informal economy. Cross-country differences in Latin America, for instance, can be traced back to differences in the incidence of self-employment.

■   Informality in most countries is associated with low levels of education. This has consequences for productivity, upgrading and the capacity to absorb new knowledge and technologies. For example, in Colombia, on average, formal workers have four more years of education than informal workers. In terms of disposable income, workers in certain segments of the informal economy received only half the income of a formal worker, even when controlling for job and worker characteristics.

■   High informality rates are associated with less trade. The average firm size is small in the informal economy, dragging down productivity and the capacity to export. Developing regions have less than 50 per cent of their human capital available to compete in international markets.

CHAPTER 2: Varieties of informality

The distinction between formal and informal employment is somewhat fuzzy. Instead of a single, universally accepted concept there are many different and often competing views which are reflected in a multiplicity of definitions. These, in turn, are linked to the plurality of methodologies that are used to quantify informal activities. This chapter presents existing views and definitions, as well as an integrated approach which is currently emerging based on the idea of multi-segmented labour markets. Key findings of this chapter are summarized in Box 2.1.

A. Three views of the informal economy

In the 1950s and 1960s, it was largely assumed that with the right mix of policies and resources, poor traditional economies could be transformed into modern economies (Chen, 2005). As part of this process, the traditional sector of those economies, comprised of petty traders, small producers and a range of casual jobs, would be absorbed into the modern economy. By the early 1970s, however, it became increasingly clear that this view was too simplistic and concerns arose regarding the persistence of widespread underemployment in developing countries. In this context, the International Labour Organization (ILO) decided to launch a series of large multidisciplinary "employment missions" to various developing countries (Bangasser, 2000). The first of these was the 1972 ILO Employment Mission in Kenya. The Kenya mission observed that the traditional sector – instead of shrinking as expected – had actually expanded to include small-scale profitable but unregistered enterprises. To describe this evolution of the traditional sector, the authors of the mission report decided to use the term "informal sector", introduced earlier by Keith Hart (1973).

Hart's distinction between formal and informal job opportunities was based on the differentiation between wage earning and self-employment. In his view, the key variable was the degree of rationalization of work, i.e. whether or not labour is recruited on a permanent and regular basis for fixed rewards. The ILO Employment Mission in Kenya used this term in its official report to describe all small-scale and

unregistered economic activities (International Labour Office, 1972). Since then, the distinction between formal and informal employment has figured prominently in the development discourse. This, however, does not mean that there is a common view on informality consistently underlying the whole range of theoretical, empirical and policy analyses. In fact, instead of a single, universally accepted concept there is a multiplicity of different and often competing views. Guha-Khasnobis et al. (2006) go as far as noting that "formal and informal are better thought of as metaphors that conjure up a mental picture of whatever the user has in mind at that particular time".

The vagueness and plurality of views of informality referring to very different economic and social realities, including illegal activities, are largely acknowledged in the literature (Maloney, 2004; Schneider and Enste, 2000). As pointed out by Sindzingre (2006), the fuzziness of the concept was already highlighted in the 1970s. Over time, the tendency to use many different characterizations has persisted

Box 2.1: Key findings

■ Over the past decades, the tendency to use many different characterizations of informality has persisted and the concept has come to refer to increasingly heterogeneous phenomena. Part of the problem of achieving a consensus approach on the concept of informal economy lies with the different views that researchers hold regarding the origins and causes of informality.

■ Until recently, diverging views could conveniently be categorized into three main schools of thought: the dualist school, the structuralist school and the legalist school. Dualists view the informal sector as the inferior segment of a dual labour market, with no direct link to the formal economy, while structuralists see it as comprising small firms and unregistered workers, subordinated to large capitalist firms. Legalists consider the informal sector to comprise micro-entrepreneurs who prefer to operate informally to avoid the costs associated with registration.

■ Empirical work suggests that none of these three approaches can fully encapsulate the dynamics of the informal economy. Regional differences exist in this respect but, more importantly, all three approaches can claim – to different degrees – validity in explaining parts of observed informality.

■ An integrated approach is currently emerging, based on the idea of multi-segmented labour markets. This unifying approach combines elements from the dualist, legalist and structuralist views, using the most appropriate elements to explain different segments of informal employment.

■ The heterogeneity of views on the informal economy is mirrored in the variety of definitions that are put forward to render the concept operational. Informality can be defined at the level of economic units or at the level of workers. It can use different criteria, such as the status of activities (registered or unregistered), access to social coverage or the size of economic units.

■ Over time, definitions have tended to broaden. Under the latest ILO definition, informal employment is understood to include all remunerative work – both self-employment and wage employment – that is not recognized, regulated or protected by existing legal or regulatory frameworks and non-remunerative work undertaken in an income-producing enterprise.

■ Measuring the size of the informal economy and the incidence of informal employment has proven to be difficult. Different methodologies have been used, ranging from direct measures, such as specific surveys, to indirect measures, such as electricity consumption.

■ So far, the multifaceted nature of informality has prevented the emergence of a broad consensus regarding the appropriate concepts, definitions and measures. Research, however, increasingly acknowledges that such a convergence is unlikely to arise and tries to take the heterogeneity of types of informal employment explicitly into account.

and the concept has come to refer to increasingly heterogeneous phenomena (Guha-Khasnobis et al., 2006). The definitional problem is both the cause and the consequence of the plurality of methodologies that different authors use to quantify informal activities and is linked to the continuity between economic activities and the difficulty of assigning phenomena to either the formal or the informal category. It is also related to the influence of policy and operational objectives. Reviews have come to the conclusion that there are competing perspectives rather than a single dichotomy between the formal and the informal economy (Guha-Khasnobis et al., 2006).

Part of the problem of reaching a consensus approach to conceptualizing the informal economy lies with the different views that researchers hold regarding the origins and causes of informality. Since its introduction in the early 1970s, the concept of informality has given rise to intense debates in this respect. Opinions diverge not only regarding the causes and the nature of the informal sector, but also concerning its links to the formal sector. Until the mid-1990s, diverging views could conveniently be categorized into three main schools of thought: the dualist school, the structuralist school and the legalist school (Chen, 2005). The terminology, however, is not standardized. Different authors give different names to the main approaches. For instance, Cimoli et al. (2005) use the term "structuralist" to describe what, in this report, is called the dualist approach and use the term "institutional" for what is designated as the structuralist approach here.

The dualist school of thought, which was dominant in the 1960s and 1970s, has its intellectual roots in the work of Lewis (1954) and Harris and Todaro (1970). Dualists view the informal sector as the inferior segment of a dual-labour market with no direct link with the formal economy. It is a residual sector that arises from the transformation process in a developing economy and exists because the formal economy is not able to offer employment opportunities to a portion of the labour force. With economic growth and transformation, the informal economy is ultimately expected to be fully absorbed by the formal sector.

In comparison, the structuralist school of thought emphasizes productive decentralization and the connections and interdependence between the formal and the informal sectors (Moser, 1978; Portes et al., 1989). Structuralists see the informal sector as comprised of small firms and unregistered workers subordinated to large capitalist firms. The former supply cheap labour and inputs to the latter, thereby improving their competitiveness. In the structuralist view, growth is unlikely to eliminate informal production relationships, which are intrinsically associated with capitalist development. In this view, modern enterprises react to globalization by introducing more flexible productive systems and by outsourcing, which allows them to cut their costs. Setting up such global production networks results in a steady demand for flexibility that only the informal economy is assumed to be able to supply.

Finally, the legalist or orthodox school, epitomized by Hernando de Soto in the 1980s and 1990s, views the informal sector as comprised of micro-entrepreneurs, who prefer to operate informally to avoid the costs associated with registration. As long as the costs of registration and other government procedures exceed the benefits of being

in the formal sector, micro-entrepreneurs will choose to operate informally. As such, they constitute a large reservoir for future increases in growth and living standards if only regulatory reforms and reductions in the tax burden could be introduced. In sharp contrast to both the dualist and the structuralist schools, this view points to the potentially voluntary nature of informality as workers and firms opt out of the formal economy following a cost-benefit analysis (Fiess et al., 2008; Maloney, 1998, 2004; Packard, 2007).

In the past 10 to 15 years, the debate has become increasingly polarized. On the one side, supporters of the dualist approach focus on informal wage employment and point to the low wages and poor working conditions compared to the formal sector. On the other side, those who favour a legalist approach stress the informal "sector's dynamism and the likely voluntary nature of much of the entry into informal self employment" (Fiess et al., 2008). In the Latin American case, Maloney (2004) argues that "we should think of the informal sector as the unregulated, developing country analogue of the voluntary entrepreneurial small firm sector found in advanced countries, rather than a residual comprised of disadvantaged workers rationed out of good jobs".

B. A unifying model: multi-segmented labour markets

1. Social networks and informal employment

Instead of trying to conceptualize labour market informality from the perspective of the motives of different actors (i.e. queuing for formal jobs, evasion of tax and social security contributions, outsourcing to cheap informal subcontractors), certain researchers have attempted to understand informal employment in terms of the inherent characteristics that differentiate an informal from a formal job. Ethnologists, in particular, have insisted on the reciprocal nature of informal employment that ties together different members of more or less extended social networks. Such networks constitute a rudimentary form of economic safety net, a "nexus of social glue" (Gaughan and Ferman, 1987). This nexus not only helps those without ties to the formal labour market to find gainful employment, but it also integrates basic – mostly kinship-based – redistribution systems and information sharing. In the absence of relevant state interventions, these are often the only institutions to which market participants have access in developing countries. Taking part in social networks is therefore not only essential for the mere survival of their members but it also helps

to mitigate the challenges that arise for some of them from taking part in the formal economy.

The network aspect has been further developed by Fafchamps (2004), emphasizing the huge information asymmetries that contracting partners typically face in countries with badly designed or underdeveloped property rights systems. Market transactions are contracts that imply mutual obligations (Fafchamps, Forthcoming). To guarantee that these obligations are respected and, hence, that the transaction takes place, networks allow information sharing and reputation mechanisms to tie different market participants together and help them to reach a mutually beneficial agreement by limiting the risk of opportunistic behaviour. Transaction costs are, for instance, related to the fact that employers might not be able to precisely assess the skill level of different candidates, their professional credentials or their reliability in carrying out their jobs. Such costs can be lowered substantially when job transitions and labour market matching only happens within particular networks. For merchandise or labour services to be traded successfully, however, networks need to be tight or set up by market makers. In such a context, a limited number of personal contacts, a small social network and cultural barriers can constitute insurmountable obstacles to successful market development. Informal workers thus remain restricted to their narrow geographical and social base when seeking employment.

In such a model, different segments arise endogenously in the labour market. Their number and strength of interaction depend on the intensity of the ties between these segments as much as on the size of barriers to market entry and job transition. When networks are weakly developed and transitions between segments prevented by significant barriers, many mutually beneficial transaction opportunities are lost, reinforcing the difficulties facing the networks' development – a typical characteristic of a poverty trap. Certain initial conditions within a country may help it to overcome this kind of a poverty trap, such as proper access to international trading routes or well-developed infrastructure for the exchange of goods and services (e.g. roads, telephone lines, Internet facilities). Equally important will be an understanding of the processes that organize the exchange between community associations and help to build up social capital in a wider network or establish mechanisms by which trust and reputation can be developed even between distant and weakly-related members of a network. Segments in such a model are not fixed entities between which workers would have to choose when entering the labour market. Rather, they themselves evolve under the influence of market dynamics, often in an unpredictable and complex way. Before analysing these dynamics further, however, we devote a few lines to discussing some of the characteristics of the different segments and the determinants of transitions between them.

2. Integrating different segments of the labour market

In parallel with the development of the social network model of informality, empirical work on the informal economy has also made clear that none of the three approaches discussed above can fully encapsulate its dynamics. Regional differences exist in this respect but, more importantly, all three approaches can claim – to different degrees – validity in explaining parts of observed informality. Partly, this is related to the fact that, even though all three views of the informal economy lead to mutually exclusive – and hence testable – hypotheses, available data only allow these relationships to be tested directly in certain, exceptional circumstances.

In response to the ambiguous empirical material and in order to establish a consensus view within a polarized debate, an integrated approach is currently arising based on the idea of multi-segmented labour markets (Chen, 2005; Fields, 2005), differentiating between an upper-tier and a lower-tier segment. This alternative school of thought combines elements from the dualist, legalist and structuralist views, using the most appropriate elements to explain different segments of informal employment. The key idea in this approach is that the informal economy is comprised of different segments that are populated by different types of agents: a lower-tier segment dominated by households engaging in survival activities with few links to the formal economy, as dualists suggest; an upper-tier segment with micro-entrepreneurs who choose to avoid taxes and regulations, as the legalists suggest; and an intermediate segment with micro-firms and workers subordinated to larger firms, along the lines suggested by structuralists. Moreover, as suggested in the previous discussion, the different segments may, themselves, be further segmented into various social networks with only limited osmotic transitions among them. Depending on the regions or countries, the relative importance of each of the segments may vary, making one or other of the three views more relevant. As a consequence of this unifying view, the debate has now shifted towards an assessment of the relative size of the different segments and the factors that influence them (Kucera and Roncolato, 2008). A common theme of these approaches is that workers have access only to certain segments of the labour market depending on the size of their social network and their related bargaining power. The latter arises from their particular assets, such as human and social capital (education, social networks, etc.) as well as life-cycle considerations (Gagnon, 2008) (see Figure 2.1 below).

A characteristic of multi-segmented labour markets is that none of the different flows between segments is precluded *a priori.* Even transitions among different lower-tier segments, i.e. switches between social networks, are possible, in contrast to what

dual-labour market theories would predict. Transition probabilities, however, may be vastly different, not only among the different types of transitions under consideration but also across countries for the same type of transition. Typically, the probability of switching from one segment to another depends on characteristics of the individual worker or jobseeker (education level and skills, professional experience, age, gender) and country specificities (the quality of the legal environment, importance of social capital, the macroeconomic environment). In addition, the transition among segments may differ, both with respect to the type of motivation (economic, social, psychological) and with respect to the decision-making level at which the transition is initiated (individual, community, collective). For instance, whereas a transition between formal employment and the upper-tier informal labour market may be mostly related to individual motives for tax-evasion purposes, switches between networks in the lower-tier segment of the informal labour market may be related principally to collective decisions or arrangements at the community level.

The main aspect of this approach, however, lies in the recognition that apart from exceptional circumstances, labour market relations cannot be considered to constitute long-term contractual relationships. Instead, regular churning and entry of jobs as much as transition of workers between different jobs and segments of the labour market is the reality for most of them, whether they are formally employed or working under informal conditions. The dynamics of job creation in the different segments of the labour market and of the flows between the formal and the informal economy, in turn, depend on several factors, such as:

■ institutional characteristics (taxes, labour law, business regulation, labour relations, social networks);

■ individual characteristics (human capital, social relationships, preferences);

■ firm-specific characteristics (location, size, sector of activity, production networks);

■ market conditions (dynamics of domestic demand, macroeconomic policies, trade openness, exchange rate developments);

■ life-cycle considerations whereby workers transit between different labour market segments to trade-off flexible working conditions against stable wage growth depending on their age and age-related preferences.

Figure 2.1. Multi-segmented labour markets
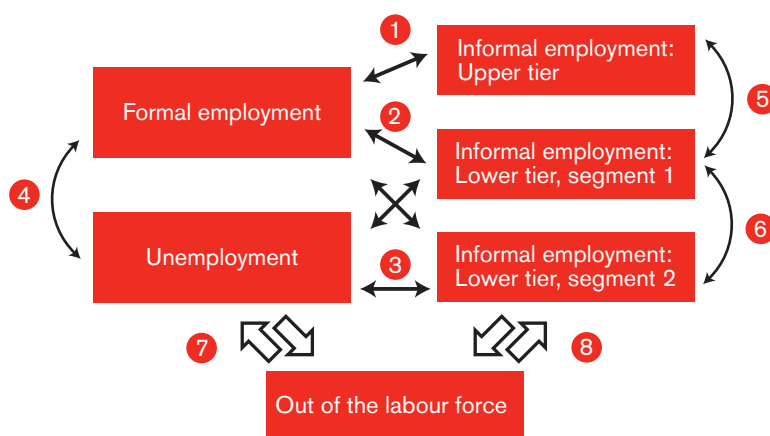
Note: The chart presents the different labour market flows in the presence of multiple informal economy segments. The following flows are represented: (1) transition between formal and upper-tier informal employment to avoid taxes and regulation; (2) transition between formal and lower-tier informal employment; (3) transition between lower-tier informal employment and unemployment to queue for formal jobs; (4) transition between formal employment and unemployment where appropriate benefit systems are in place; (5) transition between upper- and lower-tier informal employment, for instance due to upskilling; (6) transition between different lower-tier informal economy segments due to a switch in networks; (7) transition between inactivity and the formal labour market; (8) transition between inactivity and the informal economy.

Source: Adapted from Gagnon (2008).

Under this approach, the individual characteristics will determine which of the different labour market segments a worker has access to, i.e. the barriers of entry to individual segments. The institutional characteristics will determine the flow dynamics between the different segments, i.e. both the direction of the flows and their relative importance. Finally, market conditions and firm characteristics will determine labour demand for workers in each of the segments (either through firms or as self-employed workers) and will – in a typical general equilibrium fashion – create the conditions for further growth in output and employment.

In the remainder of this study, this unifying approach will underlie the discussion of various results regarding the interaction between the informal economy and trade openness as well as the policy recommendations in Chapter 7. Different studies typically stress only certain aspects of the transmission mechanisms discussed so far. The unifying view presented here will be shown to be an effective way of making cross-country differences intelligible by stressing the country-specific importance of the individual segments that constitute this generalized view.

3. Market dynamics, labour reallocation and job transitions

The model of a multi-segmented labour market can be naturally extended to integrate questions related to international trade and its interaction with employment opportunities in both the formal and the informal economy. Indeed, the multi-segmented labour market theory emphasizes job and worker flows among different segments as well as the endogenous size of these segments. This makes the theory a natural starting point for understanding the adjustment processes triggered by changes in the macroeconomic environment, such as trade reforms.

Since its inception, the trade literature has insisted on the importance of sectoral reallocation of resources for successful exploitation of comparative advantage. In addition, the more recent literature has stressed that reallocation also needs to take place among firms within the same sector. Trade opening induces a reallocation of capital and labour resources from activities where the country is at a comparative disadvantage towards activities where it has a comparative advantage. It is only with such reallocation that the gains from trade can be fully exploited once *de jure* trade barriers have been reduced. Adjustment costs following trade opening can be high. Estimates for the United States show that it can take up to 42 weeks before unemployed workers find new employment opportunities, often at a much lower salary level (Bacchetta and Jansen, 2003). The presence of multiple labour market segments with different transition probabilities and mechanisms is likely to render the issue of structural adjustment even more complex.

An initial difficulty arises from the fact that displaced workers in developing countries often start transiting to the informal labour market, and lose their ties with the formal market, once import competition stiffens. In part, this is related to the fact that many of them may not have access to properly developed unemployment benefit systems or may consider informal employment a complementary source of revenue,

in addition to any benefit or severance pay they have received. Moreover, activation programmes and retraining facilities that are typically offered to unemployed people in more advanced economies are often not available in less developed countries. In order for gains from trade to materialize, however, these people would need to find employment in new opportunities in the tradable sector. In the absence of well-functioning activation mechanisms, such alternative jobs might be out of reach for those that have switched to the informal economy. In addition, the multi-segmented labour market implies that job-search is not random but directed. Informal workers do not have the same opportunities as formal workers in terms of the job openings of which they are made aware. Their ties to specific labour market networks also mean that certain job vacancies – even if known – are not accessible to the specific informal worker, irrespective of the degree to which his or her particular individual characteristics match the job.

More generally, workers in the informal economy – even in the upper-tier of the informal labour market – face several entry barriers that limit the choice of opportunities from the formal economy that may be open to them. Such entry barriers are likely to make the successful adjustment process after trade openness more drawn out or even impossible. In particular:

■ Workers in the informal economy may lack sufficient information regarding available job opportunities in other firms, sectors or geographical areas. They may not be well-informed about wages, required skills and professional expertise. Public or private infrastructure to support their job-search may not be available.

■ Workers may lack (portable) skills. Skills gained in apprenticeship systems in the informal economy may only be accepted by a limited number of firms within a restricted geographical area. Even if skills are portable, professional experience gained in the informal economy may not be recognized by prospective future employers.

■ Workers may lack the necessary financial and physical capital to move to the upper-tier informal economy (e.g. self-employed), the segment from which transition back into formal employment is easiest and where earning conditions are similar (or even better) than in the formal economy.

■ Job-search is costly. In countries where no proper unemployment benefit system is in place, displaced workers from the formal segment may not be able to afford an extended search for alternative opportunities, but may rather switch to any immediately available vacant job, even in the informal economy.

■ Displaced workers may lack the proper social capital and networking resources to access jobs with similar characteristics elsewhere. Transition from one network to another may be out of their reach, depending on community-level activities and political decisions. Even within their particular networks, they may be restricted in terms of the activities and job opportunities they can take up, depending on their own position within the network or their relationship with others.

A second challenge associated with trade reforms in developing countries arises from the fact that, for the reallocation of resources to take place and the gains from trade to materialize, countries opening up to trade must have the capacity to exploit the available comparative advantage. In this regard, the labour market theory presented here suggests that low wage costs are not necessarily sufficient to constitute a source of comparative advantage for countries opening up to trade. In the presence of sunk costs of entry into international markets, only the more productive firms can become exporters (Lopez, 2005). Additional competencies, such as market familiarity, client contacts and access to appropriate distribution networks abroad, may be necessary for a successful integration into the world economy (Fafchamps et al., 2008). If firms cannot make the investments necessary to start exporting, countries will not be in a position to exploit trade opportunities. Moreover, firms in these countries will not be able to gain pricing power and build up (quasi-) rents, a precondition for successful innovation that could help them to increase their domestic value-added and the capacity to expand into other sectors (Aghion and Griffith, 2005). This will hamper the country's future capacity for economic development, as broadening the export base can be considered the most effective way for export-led growth to benefit a country (Dutt et al., 2008). Social capital available in the informal economy, in this regard, may prove insufficient to build up stable trading networks abroad, with the result that informality drags down a country's export success.

In order to gain the necessary skills and competence to succeed on international markets, firms must ensure that they can remain in the market for an extended period of time, with repeated interactions within a community of (international) traders (Bigsten et al., 2004b; Fafchamps, 2004). Building up such (new) networks may take time and requires the country to engage its own resources in supporting its domestic enterprises. The presence of foreign chambers of commerce in developing economies gives some indication of the means and resources deployed by advanced countries to promote the success of their firms abroad. Accordingly, and bearing in mind the fact that companies need time and support to adjust to foreign competition, countries may aim to establish openness with others in similar conditions, building up

their comparative advantages before further, more substantial reforms. On the other hand, regional integration runs the risk of lock-in effects and may hamper a country seeking additional advantages through trade with more developed economies. We will return to the relative advantages of multilateral versus regional trade agreements in Chapter 7.

Not all of the literature presented in the subsequent chapters follows this multi-segmented labour market approach. Some authors explicitly favour one type of informality over the others in assessing and evaluating labour markets in developing countries. It is useful, however, to bear in mind such a theoretical benchmark model in order to understand the heterogeneity of results produced by different empirical studies. Chapter 6 presents the opportunity to run the data through our own model and assess its effectiveness in clarifying the dynamics of informality. Before discussing the material available in the literature, we will first present an overview of the different definitions that arise out of the various concepts of informality and introduce our own preferred measure for the empirical study in the second half of this report.

C. Definitions: making informality concepts operational

The diversity of views on the informal economy is mirrored in the variety of definitions that are put forward to render the concept operational. Informality can be defined at the level of production units or firms, or at the level of workers, and it can be based on various criteria. The main criteria used to define informal sector enterprises are their size and their registration status. A commonly used definition, based on the latter criterion, amalgamates "all economic activities that contribute to the officially calculated (or observed) gross national product but are currently unregistered" (Schneider and Enste, 2000) as informal. Other approaches, however, favour indicators such as location of the activity (e.g. home-based, street-based), level of organization (i.e. low level of organization) or income- and employment-enhancing potential of firms or workers.

In 1993, the 15th International Conference of Labour Statisticians (ICLS) adopted a statistical definition of the informal sector in terms of economic/production units.[1] According to the ICLS definition, informal enterprises are:

> "units engaged in the production of goods and services with the primary objective of generating employment and incomes to the persons concerned. These units typically operate at a low level of organization,

with little or no division between labour and capital as factors of production and on a small scale. Labour relations – where they exist – are based mostly on casual employment, kinship or personal and social relations rather than contractual arrangements with formal guarantees (International Labour Organization, 1993)."

Under this definition, all individuals who work in small unregistered enterprises, both employers and employees, as well as self-employed persons who work in their own or family businesses, belong to the informal sector. However, the definition does not specify the threshold size below which an enterprise is classified as informal; and it leaves to each country's discretion, whether or not to include the agricultural sector and domestic workers (Flodman Becker, 2004).

In order to harmonize and facilitate comparisons between countries, the International Expert Group on Informal Sector Statistics (Delhi Group) introduced a more precise definition of the informal sector in 1997. According to the Delhi Group definition, the informal sector includes:

"private unincorporated enterprises (quasi unincorporated), which produce at least some of their goods and services for sale or barter, have less than 5 paid employees, are not registered, and are engaged in non-agricultural activities (International Labour Office, 2002)."

As mentioned above, informality can also be defined at the worker level, based on employment relations. From this perspective, informal workers are those who do not benefit from any social or labour security, i.e. regulation on hiring and firing, minimum wage, protection against arbitrary dismissal and health and social insurance. Informal employment can include various categories of workers: (a) the self-employed, i.e. own account workers, heads of family businesses and unpaid family workers; (b) wage workers, i.e. employees of informal enterprises, casual workers without a fixed employer, home workers, paid domestic workers, temporary and part-time workers and unregistered workers; and (c) employers, i.e. owners and owner operators of informal enterprises (see also Chapter 2.D where this issue will be discussed further).

Beyond the most commonly used definitions, at least two more can be distinguished (Flodman Becker, 2004). One is based on the location of informal economy actors; the other is based on the income- and employment-enhancing potential of firms or workers. When the location is considered, several categories of workers can be identified, such as dependent and independent home-based workers, street traders

and vendors, itinerant, seasonal or temporary job workers on building sites or roadworks. From the standpoint of income- and employment-enhancing potential, three segments can be distinguished:

- enterprises with the potential to become a significant contributor to the national economy;

- enterprises or households which take up informal activities for survival purposes;

- individuals who divide their time between informal and formal activities.

More recently, some policy-makers, activists and researchers have moved towards a broader, more encompassing definition of informality. The ILO report on "Decent Work and the Informal Economy" (International Labour Organization, 2002), prepared for the 90th International Labour Conference, expanded the 1993 statistical definition of the informal sector by including households and informal workers employed in the formal sector. According to this definition, the informal sector – now called the informal economy – is composed of (International Labour Office, 2002):

- informal employment in informal enterprises (small unregistered or unincorporated) including employers, employees, own-account operators and unpaid family workers;

- informal employment outside informal enterprises, i.e. in formal enterprises, for households or with no fixed employer; this type of employment includes domestic workers, casual or day labourers, temporary or part-time workers, industrial outworkers (including home-workers) and unregistered or undeclared workers.

Under this definition, "informal employment" is understood to include all remunerative work – both self-employment and wage employment – that is not recognized, regulated or protected by existing legal or regulatory frameworks and non-remunerative work undertaken in an income-producing enterprise.[2] This corresponds to similar general definitions proposed by academic researchers. For instance, Flodman Becker (2004) defines the informal economy as "the unregulated non-formal portion of the market economy that produces goods and services for sale or for other forms of remuneration".

In their discussion of the expanded informality concept, the authors of the ILO report "Women and men in the informal economy" (International Labour Office, 2002)

also list what is not the informal economy. First, the informal economy is defined in opposition to the formal economy. Second, the informal economy should not be confused with the criminal economy. Production and employment arrangements in the informal economy may be semi-legal or illegal, but the informal economy produces or distributes legal goods and services. Third, the reproductive or care economy is not part of the informal economy because it is not part of the market economy.

D. The crux of measurement

As with establishing a consensus definition of informality, measuring the size of the informal economy and the incidence of informal employment has proven to be difficult. Different methodologies have been applied, ranging from direct measures, like specific surveys, to indirect measures, such as monitoring electricity consumption. This section will briefly review the different methodologies used to measure informal employment, and will describe their relative strengths and limitations.

A first approach is to estimate the size of the informal sector on the basis of information from enterprise surveys. These firm-level surveys include household enterprises, such as informal own-account enterprises and enterprises of informal employers. The informal own-account enterprises are defined by the 15th ICLS, as those owned by households and operated by own-account workers, which may employ contributing family workers and employees on an occasional basis, but do not employ workers on a continuous basis. On the other hand, informal enterprises are owned and operated by employers which employ one or more employees on a continuous basis but which fall below a specified level of employment (e.g. firms with less than five employees) and/or are unregistered (either the enterprise or its employees).

Even though this approach provides insightful information, it has some significant drawbacks. Primarily, in some countries it may not include individuals engaged in very small-scale activities (because they may not be covered by statistical surveys). Forms of precarious informal employment, such as casual or seasonal work, may typically not be included. Moreover, Charmes (2006) argues that it may be difficult to classify certain types of workers, such as domestic workers and street vendors, as enterprises, as they are likely to fall through the classification based on the 1993 ICLS definition of the informal sector. Also, as discussed above, unpaid work and the unpaid care economy are excluded from this specific measure of informality. Another drawback is that this measure focuses primarily on firm size and ignores the scope of activities in which the firm is engaged (Daza, 2005). Firms which undertake several

activities might well be engaged in both the formal and the informal economy, a factor which will not be taken into account if only the size of the firm is relevant when measuring informality.

As mentioned in Chapter 2.C, instead of using firm characteristics, job characteristics may be utilized to classify different employment opportunities, according to whether they belong to the informal or the formal sector. For example, the definition of the informal economy introduced in a 2002 ILO document (see Chapter 2.C) and adopted by the ICLS in 2003 comprises several categories, irrespective of whether they are found in formal enterprises, informal enterprises or households. These categories are: own-account workers and employers employed in their own informal enterprises; contributing family workers; members of informal producers' cooperatives; employees holding informal jobs and own-account workers engaged in the production of goods exclusively for own final use by their household. In common with the drawbacks of measurement based on firm characteristics, certain types of jobs are difficult to classify and classification schemes may be highly country-specific. For instance, some countries use self-employment as a proxy for informal employment. As mentioned by Charmes, this can only be regarded as providing a rough approximation of informality since it comprises some categories of workers which are clearly not informal, such as professionals. Similarly, other countries, such as Indonesia, measure informality as including self-employed and unpaid family workers.

Additional information on the incidence of informal employment can be drawn from labour force surveys that include questions concerning self-assessment on the labour market situation or regarding coverage by social security systems. Certain countries, such as South Africa, have started to include these types of questions in their surveys. The assessment of social protection coverage, in particular, helps to characterize the qualitative aspects related to decent working conditions in the informal economy. The method is not without its own weaknesses for example if respondents are unsure about the distinction between formal and informal work, or if they do not have appropriate information regarding the registration status of the enterprise in which they work. Moreover, many emerging economies lack well-developed social security systems. In some countries, even formal workers often have access only to a selected part of the social security system or are covered by a rudimentary (pension) scheme, limiting the information content of this type of survey question.

Given the limitations of survey-based estimates, alternative measures can be implemented to assess the size and scope of informality in an economy. One of

these measures is the share of the informal economy in total gross value added (GDP) derived from national accounts, which corresponds to non-agricultural informal household sector value added as a share of GDP (Charmes, 2000). This estimate is typically based on household budget-consumption surveys, household living-standard surveys or a regular mixed household survey of the informal sector. As mentioned by Charmes (2006), however, time-variant methodologies and country-specific assumptions regarding the set-up of national accounts make cross-country and historical comparisons difficult.

Instead of assessing the size of the informal economy directly via surveys or on the basis of official statistics, some authors have preferred indirect measures based on cash circulation, use of electricity, imputed values from a theoretical model (the so-called "dynamic multiple-indicators multiple-causes" model) or opinion polls. It should be noted, however, that none of these measures allow an appropriate assessment of the incidence of informal employment:

■   Cash circulation can be used to assess the importance of the informal economy on the grounds that informal firms and workers typically do not use formal financial transactions. Demand for money and (nominal) GDP should therefore grow at different rates, allowing researchers to isolate the missing link (i.e. the informal sector).[3] This approach, however, is likely to underestimate the true size of the informal economy as the velocity of money is also likely to be higher in the informal sector (Schneider, 2005).

■   Alternatively, electricity consumption can be used to provide an approximate measure of the informal sector (the physical input method). This approach assumes a stable relationship between electricity consumption and production. By analysing the extent to which the growth rate of electric power consumption is larger than the (measured) GDP growth rate, an inference can be drawn as to the change in the size of the informal economy. However, this technique captures only part of the informal economy because it omits other activities that consume little electricity or utilize other energy sources.

■   A further approach consists of estimating the size of the informal sector using different factors as proxy causes (the dynamic multiple-indicators multiple-causes model (DYMIMIC)). Typical factors that can be entered into these models are, for instance, tax and social security contributions, intensity of regulations, public sector services and favourable public opinions regarding the informal sector. However, estimated coefficients are unstable and subject to large changes when the underlying

model is modified or the sample period of the data adjusted (Savasan and Schneider, 2006; Schneider and Savasan, 2007).

■ Finally, the World Economic Forum conducts regular Executive Opinion Surveys designed to assess the opinions of business leaders on the most important issues affecting their working environment. One of the questions explicitly targets the (subjectively evaluated) size of the informal economy.

To summarize, the multifaceted nature of informality has, thus far, prevented the emergence of a broad consensus regarding the appropriate concepts, definitions and measures. Several competing hypotheses have been used over the past two decades, but no single measure has come to dominate the discussion. Research in this area increasingly acknowledges that such a convergence is unlikely to be achieved and, instead, tries to take the heterogeneity of informal employment types explicitly into account. As mentioned above, the informality data presented in Chapter 1, which are also used for the empirical analysis in Chapter 6 are based on a broad definition of informality and are drawn from a multitude of sources. As far as possible, primary sources for measures of informality have been prioritized and complemented by available information provided by the Statistical Department of the International Labour Organization.[4]

Endnotes

1. This definition was formulated at the level of production units rather than at the level of workers in order to be compatible with the System of National Accounts.

2. In 2003, this definition was adopted by the International Conference of Labour Statisticians (ICLS) during its 17th Conference.

3. This is also called the Currency Demand Approach, originally proposed by Cagan (1958) and further developed by Tanzi (1983).

4. The International Labour Organization (ILO) provides statistics on informality in its Key Indicators of the Labour Market (KILM). These were designed with two primary objectives in mind: (a) to present a core set of labour market indicators and analysis; and (b) to improve the availability of the indicators to monitor new employment trends. Among the "key" indicators of the labour market is the indicator that measures employment in the informal economy. Even though this represents an important attempt to collect official information on informality, the data presents problems when utilized for comparability over time and across countries. One of the drawbacks is that indicators may have multiple sources, making comparability over time impossible. Moreover, definitions, survey questions or the way informality is measured may vary over time. Many African countries, for instance, are at an experimental stage in terms of measuring informality and are not yet able to provide a consistent periodical survey of this issue (e.g. South Africa that uses self-assessment questions).

CHAPTER 3: Openness to trade and informality

Globalization and the opening of markets in developing economies to trade is believed to have affected informal employment in these countries. This chapter summarizes the theoretical arguments for such a link and presents the relevant empirical evidence. In particular, it asks the questions: What roles do trade reforms and trade expansion play in explaining changes in the share of informal employment? How does trade opening affect the relative wage of informal, compared to formal, workers? While the long-term allocative effects of trade opening have been extensively studied by trade economists since at least the eighteenth century, the short- and medium-term impact of trade reforms on the composition of employment, the wage structure and unemployment only started to attract the attention of researchers in the early 1990s (Agénor, 1995). This chapter contains two parts. First, a summary of theoretical approaches concerning the impact of trade on informality is provided. Second, empirical studies aimed at validating different theoretical hypotheses are discussed. Box 3.1 summarizes the key findings of this chapter.

A. How does trade opening affect informal employment and wages?

A traditional trade theory framework does not greatly assist in understanding the effects of trade opening on the informal economy. Its main foundations rest on the distinction of various labour inputs based on skill differences. This correlates only partly with a worker's status on the labour market, in particular when certain forms of informality can be considered as voluntary.[1] However, even if a lack of skills could be equated to informality, the standard Heckscher-Ohlin approach would not reveal much about the effect of trade opening on informal employment as factor endowments are given in the model, although it would be helpful in understanding the effect on informal wages. The Heckscher-Ohlin theory predicts that, since developing countries have a large pool of low-skill labour, opening up to trade will involve them exporting goods and services that are relatively more low-skill labour intensive and importing goods and services that are relatively more intensive in high-skill labour. This process depends on the fact that trade liberalization will raise the relative price

Box 3.1: Key findings

■ The specificities of different models are crucial in determining positive and negative impacts of trade opening on informal employment. Much of, the literature has focused on models where trade opening increases informality.

■ Theoretical models are based on a variety of assumptions regarding the linkages between the informal and the formal sectors, the mobility of capital among sectors, wage-setting in the various sectors and the tradability of informal output.

■ These models identify a number of mechanisms through which trade opening can raise informal employment, as well as the conditions under which it raises informal wages.

■ The early literature concludes that the opening of the import-competing formal sector typically pushes workers towards the informal sector and, depending on capital mobility and production linkages, prompts an increase or decrease in informal wages.

■ More recent contributions typically model firms' decisions to use formal or informal labour. In one case, trade opening increases incentives for formal workers to perform below their optimum effort level because of a heightened risk of redundancy regardless of effort. This forces firms to raise formal (efficiency) wages, which in turn increases the marginal cost of hiring formal workers and leads to a decline in the optimal share of the formal sector. In another case, trade opening reduces the bribes that firms need to pay if they are caught using informal workers, encouraging a reallocation of production towards the informal sector.

■ Whether trade opening raises or reduces informal employment and informal wages is, ultimately, an empirical question. Unfortunately, relevant empirical evidence is only available for a small group of mainly Latin American countries.

■ This evidence suggests that both the direction and extent of the effect of trade opening on informal variables are highly dependent on country-specific circumstances. Trade opening increased informality in Colombia, reduced it in Mexico and had no measurable effect on informality in Brazil.

of low-skill labour intensive goods and services which, in turn, increases the demand for low-skill labour. The Stolper-Samuelson theory takes the analysis further to prove that, in such a scenario, low-skill workers will see a more than proportional increase in their wages. Hence, trade reforms are expected to lead to a decrease in the wage differential between high-skill and low-skill workers in developing countries.[2]

1. Trade opening and informality in dual-economy models

Only in the 1980s did economists begin to develop theoretical models of the informal sector. Most of those models were based on the Harris-Todaro (1970) dual-economy model of rural–urban migration. The Harris-Todaro model explains that the decision to migrate from rural to urban areas is based on expected income differentials between the two areas, not only on wage differentials. Given a state of equilibrium, the expected wage in urban areas, adjusted for the unemployment rate, is equal to the marginal product of an agricultural worker. With perfect competition and no unemployment in the rural agricultural sector, the agricultural rural wage is equal to the agricultural marginal productivity. The informal sector is introduced in the Harris-Todaro framework by dividing the urban labour market into a formal and an informal segment.[3] The wage in the formal sector is assumed to be fixed institutionally and workers migrating from the rural sector to the urban one are absorbed either into the urban formal sector or the urban informal sector.

A subset of these early studies discusses the effect of trade policies on the informal sector. They consider different specifications of the informal sector as well as of the technological structure within which it is embedded. For instance, models differ with regard to the assumptions made regarding types of production linkages. First, in some cases, the informal sector is assumed to produce a final good, while in others it is assumed to produce an intermediate product, good or service (Gupta, 1993). Second, models of open economies have considered both tradable and non-tradable output of the informal economy.[4] Third, in some cases, credit market segmentation is added to the model, with credit provision in the informal sector either excluded or assumed to be very costly.[5] Fourth, some models also allow for the existence of urban unemployment, such as Gupta (1993). To a certain extent, results regarding the linkages between the formal and the informal sector depend on these assumptions. Overall it appears, however, that most studies have focused on cases where trade opening raises informal employment. On the other hand, the studies differ in their interpretation of the effect of trade opening on informal wages, which depends on the precise specification of the informal sector, on the degree of specificity and

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mobility of capital across sectors, as well as on the nature of opening (e.g. whether trade reforms promote exports or increase import penetration).

Even though no consensus was found in these early studies regarding the impact of trade opening on informal employment and wages, several key assumptions were identified as drivers of the different results:

■ First, results depended on the degree of capital mobility between the formal and the informal economy. When capital is mobile between the two, opening of the formal manufacturing sector raises the real wage in the informal sector. In contrast, when capital markets are segmented, trade opening lowers the informal unskilled wage (Marjit and Acharyya, 2003).[6]

■ Second, the tradability of goods and services produced by the informal sector was also crucial. When informal output is traded, a decline in tariffs raises both employment and wages in the informal sector (Chandra and Khan, 1993; Marjit and Beladi, 2005). The rise in the informal wage results from the fact that, as capital leaves the formal sector and as the return to capital in the informal sector falls, capital to labour ratios in each sector increase, driving up the informal wage. In addition, displaced workers from the formal sector are either absorbed into the informal sector or move into unemployment, but the higher informal wage also attracts more agricultural workers to the informal sector, thereby raising overall employment. As a consequence, informal employment increases as well.

■ Finally, the production linkages between formal and informal sectors were relevant, as stipulated by the structuralist view of informality. When informal goods and services are used as intermediate inputs in the formal sector, trade opening may lead to a decrease in informal employment, to the extent that it also reduces activity in the formal sector (Beladi and Yabuuchi, 2001). This effect, however, may be mitigated if formal firms try to maintain competitiveness by subcontracting more production to the informal sector while keeping up with core, high-skilled activities. Moreover, the incidence of informal employment may increase in cases where the informal sector also produces a final, tradable good. Hence, the change in composition is *a priori* ambiguous and depends on the net effect of the direct and indirect impact of trade opening on the informal economy.

2. Trade models with differentiated wages

Models based on a dual-economy approach assume that wages in the urban and the rural sector must balance the internal migration flows. Labour can move freely between different sectors in the economy and the main reason why the urban formal labour market does not clear is related to high minimum wages, wage bargaining and other administrative burdens. Overall, however, the wage in the informal sector has to be lower than that in the rural sector because the weighted average of formal and informal wages has to be equal to the rural wage. Newer approaches have rejected this idea, arguing that poor labourers move freely between rural and informal urban areas and that the informal wage rate should therefore be equal to the rural wage rate. Accordingly, models have been built on the assumption that, on average, wages are higher in urban than in rural activities.

Such alternative approaches to understanding formal–informal wage differentials stress constraints on labour mobility between the urban formal and informal labour market. Lack of capital or sluggish supply responses, however, restrict the number of workers that can be employed in the formal sector. Hence, those workers that cannot find a formal sector job are forced either to work in the informal sector or to return to the rural sector. In such a setting, a cut in the formal output tariff increases the size of the informal sector but it may not be welfare-improving, despite potential increases in informal and rural wages (Kar and Marjit, 2001).

As indicated earlier, the assumptions regarding capital mobility between different sectors are crucial in analysing the dynamics of wages and welfare. Trade opening in these models may raise both informal employment and informal wages when capital is sufficiently mobile (Marjit and Maiti, 2005). With the opening of trade, the rate of return on capital in the formal sector falls, since this sector is assumed to produce an import-competing good and therefore face more competition. Output consequently falls and this leads to downsizing, since the wage to rental rate ratio rises as wages in the formal sector are fixed. When capital is completely immobile between the two sectors, informal employment increases while informal wages fall due to the reallocation of labour. On the other hand, when capital is freely mobile then the capital to output ratio increases in the informal sector, leading to a simultaneous increase in employment and wages in the informal sector (Kar et al., 2003). Hence, a tariff reduction is likely to trigger an increase in informal sector output and the more mobile capital is between the formal and informal manufacturing sectors, the more likely it becomes that wages will rise in the urban and the rural agricultural informal

sectors of the economy. Even with completely immobile capital, however, the informal sector may benefit from higher wages, while increasing its share of total employment when part of the sector is capital-intensive. In particular, if the contraction of the formal sector following a trade reform adversely affects the capital intensive sub-segment of the informal sector, informal capital flows to the labour-intensive sub-segment, increasing the capital to labour ratio and, hence, raising the informal wage (Marjit, 2003).

Recent developments have aimed at generating wage differentiation between the urban and the rural sector on the basis of efficiency–wage considerations. Informational asymmetries between employers and workers lead to a higher wage in the formal compared to the informal sector – which, in these set-ups, equals the wage in the rural sector – despite similar characteristics of the worker. In common with the results in the dual-economy approaches discussed above, the effects of trade opening depend on the assumption made regarding capital mobility between different sectors. However, the mechanism by which the adjustment following trade reforms takes place is now different.

In one interpretation, trade opening increases the risk of formal sector workers being dismissed irrespective of their performance. Effort can only be observed with some imprecision and the imprecise nature of the effort signal is expected to increase with foreign competition. Such an increase in the variability of observed effort will, however, lead formal sector workers to face a higher risk of job loss, lowering their optimal effort level. Hence, employers are forced to pay higher wages, with adverse consequences for the level of formal employment (Goldberg and Pavcnik, 2003a). Moreover, the reallocation from formal to informal employment in such a model is magnified in the presence of strict employment protection legislation.[7]

An alternative interpretation emphasizes the fall in the rate of return on capital following increased trade openness (Chaudhuri and Mukherjee, 2002). In such a model, reallocation of capital and labour occurs between the formal, the informal urban and the rural labour market. In addition to the decline in the rental rate of capital, efficiency wages will rise, leading to a reallocation of capital in favour of the informal urban economy. This restructuring of the economy not only leads to a rise in the informal economy, but the relative increase in capital in the urban segment of the informal economy also leads to a rise in internal migration away from rural areas. The effect of trade reforms on wages in such a model is ambiguous, as informal sector wages increase following the reallocation of capital while the total wage bill in the formal sector declines (but not wages per employee).

3. Further linkages in models with subcontracting and/or exports

A number of recent studies have focused on different mechanisms through which trade opening may affect informal employment and wages. Marjit et al. (2007b) for example, model import-competing firms' decisions to allocate production between the formal and the informal segment and the corruption that is associated with the use of informal workers. The setting is as follows: (a) the use of informal workers is illegal since it involves the violation of labour laws; (b) governments monitor firms; (c) firms that are apprehended for operating an informal segment face a penalty, such as losing the licence to produce an import-competing product and thus the benefit associated with tariff protection; (d) firms that are apprehended can escape the penalty by paying a bribe. The authors develop an explicit bargaining structure to determine the equilibrium bribe. Key to the result that tariff reductions boost informal employment is the fact that equilibrium bribes are positively correlated with the level of the tariff. Initially, firms take advantage of the wage differential between the formal and the informal sector and thus pay a bribe to the monitoring authority. A decline in the tariff reduces the bribe, and thus the cost of informal workers, and encourages a reallocation of production to the informal sector.

Maiti and Marjit (2008) link the growth of informal activities to an improvement in export opportunities using a model where informal employment is generated through delegation/subcontracting of certain tasks through informal contracts. At the core of their explanation is the idea that firms face a trade-off between marketing to exploit new export opportunities and production, in the sense that greater efforts invested in marketing result in less attention being paid to production. With the opening up of trade and higher prices in world markets, formal producers see increased profit opportunities in exports. Realizing these profits, however, requires exporters to intensify their efforts in information gathering and learning about export markets. Given the above-mentioned trade-off, the higher relative return on marketing will be an incentive for the producer to reallocate resources to marketing activities and subcontract production to producers in the informal sector.

Finally, Cimoli et al. (2005) discuss the argument that the rise of informality in Latin America following trade reforms results from productivity gains arising from the adoption of new, labour-saving technologies in exporting companies, which have not spilled over to the rest of the economy. Productivity improvements in export-oriented sectors would, therefore, have accelerated the dualism in the production

structure and inhibited employment growth in the formal sector. As a consequence of this process, the pattern of international specialization would have shifted the bulk of employment in Latin America towards less productive activities, including the informal ones (Cimoli et al., 2005).[8]

As argued by Cimoli et al. (2005), such a mechanism builds on the existence of externally constrained growth, where productivity gains in the formal economy do not lead to expenditure-switching in favour of increased domestic absorption. Hence, with output growth externally constrained, a rise in the potential rate of productivity growth will not increase formal employment.[9] Such a situation can arise as a consequence of an adverse pattern of international trade, where exporting companies survive solely through labour-saving productivity increases (and not through the introduction of new products). The reduction in formal employment results in an increase in the number of unemployed people who survive by entering the informal economy, leading to a widening wage gap. Informal output and employment increase because of the dynamics of the informal sector. Taking this argument to its logical conclusion, if productivity is lower in the informal sector than in the formal one, the economy will become predominantly informal, with only a small share of employment and activity in the formal economy.

Hence, an export-promoting strategy is not, per se, problematic. Rather, it is the type of international specialization, the structure of the domestic formal economy and other structural characteristics, such as the degree of local integration between the different domestic economic sectors, as well as the capacity of the domestic economy to integrate new technologies and knowledge, which prevent the overall economy from benefiting from the dynamic gains offered by trade. Thus, these structural weaknesses make it significantly more difficult for growth in the formal economy to absorb the informal economy. Different structural features may trigger an export-led growth process, the positive effects of which would be transmitted progressively to the rest of the economy and absorb the informal economy.

4. Summary of the theoretical literature

This overview illustrates the existence of a rich theoretical literature based on a variety of approaches and assumptions regarding the functioning of the labour market and the informal economy. The fact that models differ in many respects sometimes makes it difficult to compare results and isolate the role of specific modelling assumptions. Nevertheless, even though the models differ in terms of fundamental assumptions about the informal economy, the literature has predominantly focused on those

transmission mechanisms by which trade opening leads to an increase in informal employment. In contrast, the models differ widely in the predictions they make about informal sector wages and, hence, about welfare implications. Moreover, theoretical results point to a number of interesting mechanisms and to a number of factors that need to be considered to obtain a better understanding of the linkages between globalization and the informal economy:

▪ For informal sector wages to rise following trade opening, capital needs to flow freely between the two sectors. Financial sector reforms and access to capital are therefore essential for informal sector firms to benefit from trade reforms. In contrast, when capital cannot move between the formal and the informal sector following the opening of the formal sector, the rental rate of capital will fall and workers will move to the informal sector while capital will remain stuck in the formal sector, which induces a fall in informal sector wages (Kar et al., 2003; Marjit and Maiti, 2005; Marjit and Beladi, 2005).

▪ In the presence of vertical linkages between the formal and the informal economy, the reaction of informal sector wages to trade reforms depends on the adjustments made by firms in the formal sector. Indeed, globalization may transform production modes and labour organization, as formal firms embrace cost-efficient strategies by engaging in subcontracting or outsourcing relations with agents in the informal economy, with a positive impact on informal sector wages.

▪ Finally, the informal sector may be completely disconnected from the formal economy, constituting a residual, subsistence economy that helps workers to survive while they queue for better jobs in the formal sector. In these dual-economy models, wages remain relatively unaffected by trade reforms in the formal sector.

B. What does the evidence tell us ?

The preceding overview of the theoretical literature has identified a number of mechanisms through which trade opening can affect informal employment and informal wages. In most cases, trade reforms increase the incidence of informal employment, but their impact on informal sector wages is ambiguous and depends on circumstances and country specificities. This forms the background to the following discussion of empirical studies which have investigated the linkages between trade opening and the informal sector. For presentational reasons, the studies are split into *ex-ante* numerical simulations, *ex-post* empirical studies and anecdotal essays.

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1. *Ex-ante* approaches

Ex-ante approaches use numerical simulations to investigate the impact of policy reforms on macroeconomic variables. Depending on the computational capacity, any level of detail can be taken into account – such as the number of sectors and labour market segments, types of households and firms, varieties of goods and services, labour and product market imperfections. On the basis of estimated input–output linkages and price and supply elasticities, an indication of the quantitative outcomes of certain types of policies can be computed. This is particularly convenient in the case of tariff reforms that can be introduced in a straightforward manner in these approaches, and which have been used extensively in the trade literature. Most studies in this area, however, are not geared towards an analysis of the informal sector.

One exception concerns a study of India presented by Sinha and Adam (2006) who investigate the effects of the trade reforms of the early 1990s in India on the informal sector. Informality is identified with particular sectors, some of which do not engage in international trade (i.e. construction and subsistence agriculture). More specifically, the model includes four key aspects of informality. First, there is product differentiation between formal and informal product varieties. Second, the formal and informal sectors used different technologies. The technology used by the informal sector is typically more labour-intensive. Third, formal and informal factors of production are distinct. The formal wage, in particular, is assumed to be rigid. Finally, the informal sector does not pay direct taxes on factor incomes. The model identifies ten production sectors, of which two are informal only and do not engage in international trade (construction and basic agriculture), two are formal only (government services and capital goods) and three are both formal and informal (agro-processing, manufacturing and other services). Both the formal and the informal sub-sectors export and both use informal factors. Total capital available is fixed by sectors.

Trade reforms in such a set-up are therefore expected to lead to sectoral adjustments and labour reallocation across sectors. Two versions of the model are compared. The first assumes full employment and perfect competition in the labour markets. The second version allows for wage rigidity among regular labour employed only in the formal sub-sector, while maintaining the assumption that wages are fully flexible in the informal labour market. Unemployed formal sector workers are assumed to join the informal sector. The simulations quantify the employment effects of two types of trade reforms: a revenue-neutral 60 per cent tariff reduction across the board and a corresponding reduction of quantitative restrictions where they exist. The reforms leads to an inter-sectoral rebalancing of production in the domestic economy, away

from the formal sector and towards the informal sector on average. The formal sector is faced with strong competition and it reacts by outsourcing to the informal sub-sector and retrenching formal workers to replace them by informal workers. Under flexible labour markets, informal workers benefit from the combined reduction of tariffs and quantitative restrictions, while employers (capital owners) lose. With real wage rigidity in the formal sector, casual workers lose while the urban self-employed gain.

2. *Ex-post* approaches

(a) Globalization, skills and inequality

As already mentioned, when economists examine the effects of trade on the labour market, they traditionally focus on skill differences and typically examine the so-called skill premium, i.e. the difference between the wage rate of high-skill workers and that of low-skill workers. In recent years, researchers have devoted considerable attention to the linkages between globalization and the skill premium, relying increasingly on new and better data sources.[10] Evidence from a few Asian and South American countries showed that, during the 1980s and 1990s, rising globalization following substantial trade opening coincided with an increase in the skill premium.[11] This positive correlation between inequality and exposure to globalization in developing countries contradicted the predictions of traditional trade theory (see above) and triggered new research aimed at solving the puzzle. This section, which draws on the recent and comprehensive overview of the literature on the distributional effects of globalization in developing countries by Goldberg and Pavcnik (2007), summarizes the results from this new research which sheds some light on the linkages between globalization and informality.

For several decades, economists' understanding of the distributional effects of trade openness has been based on the Heckscher-Ohlin model and the Stolper-Samuelson theorem, which links changes in product prices to changes in factor returns. The Heckscher-Ohlin theorem predicts that countries with an abundance of low-skill labour will specialize in the production of low-skill labour intensive products. The Stolper-Samuelson theorem predicts that if the price of the low-skill labour intensive product increases as a result of trade opening, demand for low-skill labour will increase, raising the low-skill wage relative to the high-skill wage, thus reducing the skill premium. Clearly, these predictions seem inconsistent with the observed widening wage gap in many developing countries. Further predictions of

the traditional model also seem inconsistent with patterns documented in developing countries. First, while the Heckscher-Ohlin model predicts that resources will be reallocated between sectors following trade opening, a large number of studies find little evidence of inter-sectoral reallocation of labour (Goldberg and Pavcnik, 2007). Second, the traditional model predicts that the share of low-skill labour will increase in all sectors if the price of the low-skill labour product increases following trade opening. Empirical studies of developing countries, however, find that the share of skilled labour has increased in most industries in the past decades.[12]

Various extensions of the traditional trade model that could, in principle, reconcile the theory with the evidence have been considered. However, most of them either lack supportive empirical evidence or are, in fact, contradicted by available evidence. First, if, instead of considering only two factors of production (low-skill labour and high-skill labour) a third factor, such as land, is added, assuming that it is a complement to high-skill labour, the model would predict that trade opening will raise the skill premium in land-abundant countries. The problem with this argument is that there is no evidence to suggest that the production of land-intensive goods requires a higher ratio of high-skill to low-skill labour, and there is a corresponding lack of evidence on inter-sectoral reallocation of resources following trade opening. Second, several studies have noted that the low-skill labour intensive sectors were the most protected prior to opening and those most severely impacted by tariff cuts. In this case, the Stolper-Samuelson theorem would predict that trade opening will increase the skill premium. As with the previous argument, however, the absence of evidence on inter-sectoral reallocation is a problem. Third, the entry of China and other low-income countries could have shifted the comparative advantage of middle-income countries. This would, indeed, explain why trade opening raised the skill premium in some Latin American countries. However, to date, the implications of this explanation have not been investigated empirically.

Alternative explanations of the apparent contradiction between the predictions of the standard trade model and the observed increase in the skill premium assume that other mechanisms than those suggested by the Heckscher-Ohlin model were at work. Feenstra and Hanson (1996; 1997; 1999; 2003) argue that the rapid expansion in "global production sharing" increased the demand for skilled labour in both developing and developed countries. The production stages that were outsourced to developing countries, while low-skill labour intensive in developed countries, were high-skill labour intensive in developing countries. Outsourcing, therefore, resulted in an increase in the average skill intensity in both the developed and developing countries, and a corresponding increase in the skill premium. So far, evidence supporting this

argument is available for only two developing countries: Mexico and Hong-Kong, China.[13] Another line of research focuses on firm heterogeneity and within-industry reallocation of resources induced by trade opening. For instance, if trade opening induces a shift of resources from non-exporting to exporting firms within industries and if the production of exports is more skill-intensive than production for the domestic market, then trade opening will increase both demand for skilled labour and the skill premium. Goldberg and Pavcnik (2007) review the available empirical evidence on how heterogeneity-based mechanisms affect the skill premium and conclude that it is still scant and mostly indirect.

Other explanations see capital inflows or technological change as the cause of the higher skill premium. If, for example, more capital is flowing into developing countries as a result of globalization and if skilled labour is a complement to capital, the inflow of capital will raise the demand for skilled labour and the skill premium. As for skill-biased technological change, its role in explaining the increase in the skill premium has been extensively debated. Skill-biased technological change was initially considered to be an alternative cause of the higher skill premium. Now, the dominant view seems to be that, while technological change may have played a greater role than trade policy in explaining the increase in the skill premium, it was itself a response to greater openness. Goldberg and Pavcnik (2007), however, survey the empirical evidence on the role of particular mechanisms through which trade opening and skill-biased technological change interact to increase skilled labour demand and conclude that it is mixed and inconclusive.

(b) Trade reforms and the incidence of informal employment

Despite the often-expressed view regarding the adverse effects that trade reforms may have in terms of the replacement of good formal jobs with bad informal occupations, the acquisition of empirical evidence to address this question has only recently attracted increasing interest (Goldberg and Pavcnik, 2003b; 2004). This increase in research developed in tandem with a general increase in interest in the assessment of the impact of trade and other structural reforms on the labour market of developing countries, which led economists to examine more closely the effects of such trade reforms on the composition of employment and informal labour markets.[14] Most studies in this field are micro-level and country-specific, examining particular episodes of trade reforms and their effects on labour market dynamics. Such studies typically make it very difficult to derive strong, policy-relevant conclusions beyond the specific country concerned. Only recently have some studies tried to address the

question in a comparative manner, considerably increasing the policy relevance of this strand of the literature.

One of the first country-specific studies was by Currie and Harrison (1997), which used micro-level data on individual enterprises to investigate manufacturing employment effects of a significant trade reform programme in the mid-1980s in Morocco. The study demonstrated the existence of labour reallocation across sectors, depending on whether or not firms were facing increased competition following the trade reform. While, on average, firms were unaffected by the tariff reductions and the elimination of quotas, exporters and other firms highly affected by the reforms reduced employment in response to opening. In contrast, firms with some public ownership increased employment, mostly by hiring low-paid temporary workers.

Early work on the effect of trade opening on the informal sector also includes Maloney (1998). The author uses a data set from Mexico to examine the dynamics among the various sub-sectors of the labour market between 1987 and 1993, a period that encompasses a far-reaching trade reform and the pursuit of regional trade integration through the North American Free Trade Area (NAFTA).[15] The study finds evidence for the structuralist view that increased global competition leads to increased outsourcing in order to reduce labour costs. In particular, a secular decline in the contribution of formal salaried work is observed, which is partly offset by a rise in the share of contract workers and the informal salaried, while the rate of transition into contract work from formal sector work exceeds the rate of reverse transition. These changes appear to be correlated with a restructuring of the manufacturing sector that is very probably related to increased external competition.

Similar effects are documented for Egypt, following the economic reform and structural adjustment programme initiated in 1991 (Wahba and Moktar, 2000).[16] According to this study, the proportion of non-agricultural workers engaged in informal jobs increased by 5–6 percentage points during the 1990s. The share of informal wage workers among non-agricultural workers increased, while the share of employers and self-employed workers declined. The authors also found that, among workers aged 41 to 64, more workers moved from the public sector to informal jobs than the other way round, supporting their hypothesis that reforms have contributed to pushing workers from public into informal employment.

Goldberg and Pavcnik (2003b) were the first to exploit micro-level data to investigate econometrically the relation between trade opening and informal employment.[17] The study takes a close look at the trade opening experiences of Brazil and Colombia, two countries that are characterized by the presence of a large and – during the

1990s – increasing informal sector. Their study takes advantage of the cross-industry and time variations in the protection structure in Brazil and Colombia to test whether trade opening had raised informal employment. Focusing on Brazil and Colombia presented another major advantage. Despite the fact that both countries experienced a series of other reforms – in particular in the area of market labour regulations – during the late 1980s and 1990s, the nature of the trade reforms was such that the effects of trade policy changes on informality could be identified using the cross-sectional variation of trade policy changes.[18]

The micro-level nature of the data used for this study allows differentiation between industries and sectors according to the characteristics of their workers, such as gender, age and education. In line with the dualistic view, informal workers are more likely to be older, less educated and without dependent family members. Informal workers are also likely to have less training, higher flexibility in job arrangements, higher uncertainty about employment duration and are less likely to receive benefits. Also, informality is confined to particular sectors, which are, however, not the same in Brazil and Colombia (e.g. clothing, manufacture of wood and wood products and oil extraction in Brazil, and manufacture of wood and wood products, agriculture, restaurants and hotels, and household services in Colombia). Finally, job mobility and job-to-job transition are highly concentrated within sectors: very few transitions take place across sectors.[19]

The authors used these stylized facts to control for industry- and sector-specific effects arising from trade reforms.[20] Differences in industry informality over time are then traced back and assessed through the lens of the trade reforms that were implemented over the period under consideration.[21] The results indicate significant cross-country differences:

■   For Brazil, the results do not show a relationship between trade policy and the incidence of informal employment and this remains unchanged with the inclusion of additional control variables and across different estimated specifications. The coefficient of the tariff variable is continuously small and statistically insignificant. Import penetration and export orientation in Brazil also remain largely insignificant.

■   In contrast, trade variables are, on average, significant for Colombia. Decreases in tariffs are associated with a higher incidence of informality (though this association is not robust). Over the whole sample period, a decrease of 1 per cent in the tariff rate of a given industry resulted in a 0.1 per cent increase in the probability of informal employment in that industry. This effect seems of relatively small magnitude.

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Delving further into differences in trade and structural reforms, the study identifies possible channels that could explain the contrasting reactions of the informal sector in the two countries. More specifically, Colombia introduced labour market reforms in 1990, which significantly reduced the cost of dismissing a worker, thereby increasing labour market turnover. Interacting tariffs with a variable of labour market reform shows negative coefficients on tariffs, and positive coefficients for the interaction variable.[22] These results suggest that while tariff cuts increase the average probability of informal employment in a given industry, this direct impact of tariff changes on informality is attenuated by the additional flexibility introduced by the Colombian labour market reform as it reduced the costs of firing formal workers. In other words, a tariff reduction in any particular industry increases the probability of informal employment within that industry only in the presence of labour market rigidities. In the light of their results, and of the fact that Colombia seems to be more regulated than Brazil, Goldberg and Pavcnik also attribute the differences in results between Brazil and Colombia mainly to Colombia's tighter labour market regulations.[23]

Bosch et al. (2007) revisit the analysis by Goldberg and Pavcnik for the Brazilian case, focusing their analysis on gross worker flows (instead of stocks) and find evidence of a statistically significant but quantitatively modest impact of trade reforms on informality.[24] Between 1995 and the early 2000s, the share of the Brazilian metropolitan area workforce unprotected by labour legislation increased by 10 percentage points, mainly as a result of a reduction in formal sector hiring.[25] The study also compares the importance of trade reforms relative to other labour market developments, such as the effect of increasing labour costs and reduced flexibility arising from the 1988 constitutional changes, changes in the strength of trade unions or variations in the number of legal weekly working hours. In this respect, simulations suggest that trade reforms played a relatively less important role in explaining movements in informality compared to changes in labour market legislation.

Using the same approach as Goldberg and Pavcnik (2003b) to examine the effect of trade opening on informality in Mexico in the 1990s, Aleman-Castilla (2006) finds results that contrast with those for Brazil and Colombia. Reductions in the Mexican tariff, including those related to NAFTA, are found to significantly reduce the likelihood of informality in the tradables sector. The benefits of trade opening, however, do not seem to extend to the labour force in the non-tradable sectors in a statistically significant sense. Further exploring the possibility that the effects may depend on the industry's exposure to trade, Aleman-Castilla finds that, for a given reduction in import tariffs, the reduction in informality is weaker in industries with high

levels of import penetration. The study also considers the effects of the reduction of the United States' import tariff and finds that it did not have a significant effect on informality in Mexico, which may not come as a surprise given its already low level during the pre-NAFTA period.

In contrast to these country-specific approaches, Fiess and Fugazza (2008) assess the relationship between trade opening and informality on the basis of internationally comparable data. Their results present a mixed picture. Results differ depending on the type of informality data used and on the econometric framework. Cross-sectional correlations support the view that trade opening reduces informality, whereas panel results do not. Time series analysis suggests that more openness to trade is associated with greater informal employment and output for the majority of countries. Lower trade restrictions, however, appear to generate lower informal employment and output in most cases. At the same time, aggregate data tend to generate results which are supportive of the view that trade opening raises informality, while micro-founded data do not.

Overall, the limited existing empirical evidence does not yield strong conclusions concerning the link between trade and informality. Estimated effects are, for the most part, quantitatively modest and rarely robust. Evidence from country-specific studies of Brazil, Colombia and Mexico suggest that differences exist between countries, even within the same region, in their reaction to trade reforms. These different reactions have been related to labour market regulation and institutions. In particular, where regulation gives significant power to insiders in the formal sector (segments), these segments managed to defend their jobs and forced the adjustment entirely onto the informal economy. In contrast, with more flexible employment arrangements, firms in the formal sector managed to reallocate workers across segments more easily with fewer spillovers to informal sector employment.

(c) Trade opening and informal sector wages

Most of the studies reviewed above have concentrated on the impact of trade reforms on the incidence of informal employment. From the point of view of the ILO's Decent Work Agenda, however, the impact of trade reforms on both formal and informal sector wage developments also merits attention. Evidence in this area is even more scarce. One influential study was undertaken by Veras (2005), who investigates the role of trade reforms in explaining the decline of the wage gap between registered and non-registered workers. The study also analyses the fall in the proportion of

registered workers during 1987–98 in the Brazilian manufacturing sector, and in the total economy.[26] The study provides some evidence that trade reforms that increased import competition have lessened rent-seeking behaviour in Brazilian manufacturing industries, with a subsequent reduction in the relatively higher wages enjoyed by registered workers before the opening of trade. His results concerning the proportion of registered workers in Brazil are similar to those of Goldberg and Pavcnik (2003b), who do not find any significant statistical effect of trade reforms on informal employment in Brazil.

Furthermore, the study identifies differences in *de facto* and *de jure* trade opening.[27] "*De facto* trade opening" or in other words "increases in import penetration" has proven detrimental to wages of registered workers. In contrast, de jure trade opening that reduced effective tariff rates has increased the share of registered workers, probably due to an increase in overall activity in the export-oriented sector. These findings are confirmed in alternative empirical set-ups presented in this study and when controlling for a large set of additional factors.

Aleman-Castilla (2006) examined the effect of Mexican trade opening on both informal employment and informal wages, and found results that contrast with those for Brazil. Mexican trade opening in the 1990s increased industry wage differentials and widened the formal–informal wage gap. Considering that the skill level in the informal sector is typically lower than in the formal sector, this result is in line with the finding of an increase in the skill premium in the literature on the distributional effects of trade reforms.

Kar et al. (2003) estimate a wage equation for the informal sector in India, focusing on the role of capital mobility between formal and informal sectors in determining the informal sector wage. They find that the informal real wage has grown between the pre-reform period (1984–85 to 1989–90) and the post reform period (1994–95 to 1999–2000). They also find that capital accumulation in the informal sector and an increase in the agricultural sector wage significantly contributed to the growth of the informal sector wage.[28] More specifically, the study presents evidence that the formal manufacturing sector outperformed its informal counterpart with regard to capital accumulation during the pre-reform period, while the reverse pattern could be observed during the transitional and post-reform eras. Since savings did not rise significantly over the period, Kar et al. conclude that capital has probably flowed from the formal to the informal manufacturing economy. Their analysis shows that a structural break affected wage developments over the reform period, with informal sector wages growing faster and responding significantly to capital accumulation,

something that had not been observed before the trade reform. Overall, these results tend to support the idea that trade liberalization delivers higher real wages in the Indian informal manufacturing sector via the channel of capital reallocation from formal to informal manufacturing activities.

In sum, available information on the impact of trade reforms on wages is more limited than that on the impact of such reforms on informal employment. In common with the empirical studies presented in the preceding section, researchers focusing on informal sector wage development could not reach a clear-cut consensus conclusion. There is some evidence that the reaction of wages depended partly on the degree of capital mobility (as already suggested by the theoretical results), and partly on the particular way in which trade openness affected incumbent formal sector firms. To the extent that these firms benefited from lower tariffs by increasing their activity level, wage growth has been stimulated, especially in the formal sector, widening the formal-informal wage gap.

3. Anecdotal evidence

In addition to these systematic analyses of the effects of trade reforms on informality, several studies have collected anecdotal statistical material on work and living conditions in the informal economy following trade reforms. These studies have the advantage of offering a more detailed picture of the individual circumstances or the geographical and regional pattern of change than can be achieved by more formalized and less disaggregated approaches.

For Madagascar, Glick and Roubaud (2004) present data on an investigation of the impact of the establishment of export-processing activities on earnings, employment and the gender composition of employment as well as gender specific wage differentiation from 1995 to 2002 in Antananarivo.[29] The authors identify a fall in female informal employment over the period 1995–2002, following the establishment of an EPZ. The fall concerned all categories of informal workers, including not only self-employed and private informal workers, but also informal sector firms, and was accompanied by a noticeable increase in female employment in the EPZ. At the same time, public employment (public administration and enterprises) shrank by 1 percentage point. Finally, the private formal sector outside the EPZ remained largely unaffected.[30]

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This study demonstrates that the establishment of an EPZ can, potentially, have favourable effects on formal employment as well as on real disposable income in the area. While take-home pay was somewhat lower than in the private formal sector (but significantly higher than in the informal sector), fringe benefits (e.g. paid leave, health care, training) compared favourably with the public sector and were higher than in similar positions in the private formal or informal sector. The downside of these higher earnings was that hourly wages remained low, since the average working time was significantly longer than in the private formal sector.[31]

For West Bengal (India), Marjit and Maiti (2005) present survey evidence investigating how, and to what extent, trade-opening policies and increasing market exposure have affected the degree of formality in the organization of production in the 1990s.[32] In the 1990s, the Indian Government decided to accelerate the reform of its economic policy. Barriers to trade of goods were lowered and constraints on financial transactions lessened. As different producers have different characteristics and different access to resources (financial and technological) and information on market conditions, the reforms should affect the organization of production. Firms with access to sufficient financial resources and good information about market prices and preferences should be able to reap the benefits of expanding domestic and export markets, and develop their activities. Other firms – generally of small or micro scales – have to rely on intermediaries to convey their products to the market-place either because they lack accurate information about demand (quality, prices, etc.) or because they do not possess the necessary marketing channels to promote their products. Also formal enterprises subcontract part of their activities to informal producers. In doing so, they gain some flexibility in the organization of production and avoid costs linked to the supervision of the production activity and to formalization (constraints of labour legislation, administrative costs, etc.). Hence, with domestic and foreign markets growing, rural informal producers should become increasingly tied to middlemen and formal enterprises.

Marjit and Maiti's survey results show significant organizational changes with respect to formal and informal production organizations. Figures show a decline in the share of independent units from 44.4 per cent of the 356 units in 1991 to 41.9 per cent in 2001, as well as a decline in cooperative units from 34.6 per cent in 1991 to 12.6 per cent of the total in 2001. During the same period, the share of tied units increased from 21.1 per cent to 45.5 per cent. The functioning of tied units is likened to a system of subcontracting by Marjit and Maiti, because these units of production execute one part of the whole task ordered on a contractual basis by master enterprises or merchant capitalists. Trade liberalization has brought with it an expansion of national

and export markets for rural artisans, who hitherto depended mainly on small rural markets. Through exporters, export and marketing agencies, hornware products are exported to Germany and Japan, hand-loom products to Japan and brassware to regional markets. Marjit and Maiti conclude that: "As export markets expand, the informal rural industries exhibit increasing dynamics of tying (sub-contracting, supply of inputs), technology adoption and growth".

In a series of papers, Carr and Chen (2002; 2004) present anecdotal evidence on globalization and employment in the informal economy. Their focus is on employment conditions of the working poor – and, in particular, women – rather than on informal wages or the size of informal employment. Carr and Chen (2002) discuss how the impact of globalization on informal workers and producers will differ depending on their location, the sector in which they are working and whether they are informal entrepreneurs, self-employed or informal employees. According to their study, globalization tends to lead to shifts from secure to insecure forms of employment and to more precarious forms of self-employment. Nevertheless, it can also lead to new opportunities for wage workers and the self-employed. Moreover, Carr et al. (2004) illustrate different mechanisms through which "global integration" seems to affect working conditions. Export-led growth, for instance, may help to increase participation of workers in the global economy, but on questionable or undesirable terms and with uncertain sustainability. In addition, barriers to entry prevent self-employed and own-account workers from taking advantage of new economic opportunities arising from opening. Finally, they stress that trade reforms may result in the destruction of domestic enterprises or paid jobs through the flooding of markets with cheap imports, with adverse consequences for the informal economy.

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Endnotes

1. Another problem is that informality is often linked to the non-tradable sector while simple models typically do not include non-tradables. The presence of a non-tradable sector, where unskilled labour is prevalent, does not affect the prediction that world prices of tradable products determine the relative wage (see, for instance, the survey of the labour market implications of international trade by Johnson and Stafford (1999) and the more recent discussion in Veras (2005)). However, the presence of a non-tradable sector, which employs mostly unskilled workers, would make diversification less likely and would make it more likely that a fall in the relative price of the unskilled labour intensive product, for instance following trade liberalization, would result in that industry closing down so that unskilled workers would all move to the non-tradable sector. In this case, the relative wage would be determined as in the case of a closed economy. As shown by Veras (2005), in this context, trade-related variables should not affect the ratio of skilled to unskilled wages.

2. Marjit et al. (2007a) introduce informal segments in a traditional Heckscher-Ohlin-Samuelson setting. They show that, even with vertical linkages and the issue of capital mobility ruled out, a tariff reduction in the formal sector can raise informal employment and informal wages. In this case, it is the standard Stolper-Samuelson property that explains the increase in informal wages following trade liberalization and the contraction of the formal sector. The model has two sectors which produce, respectively, an import-competing good and an export good. Each sector is subdivided into a formal and an informal segment. Workers in the formal sector receive a wage rate that is always higher than the informal wage rate, because labour laws allow various benefits to the formal workers which the informal workers do not enjoy. There is no unemployment in the model. Workers who cannot find a job in the formal sector move to the informal sector and find a job at a wage determined by the market. Capital is mobile between informal segments but not between the formal segments nor, and this is the crucial assumption, between the informal and the formal segments. In this context, a reduction of the tariff protecting the import-competing product will contract the formal segment and raise aggregate informal employment. The authors show that, even if there is a rise in aggregate informal employment, the informal wage will also increase if, and only if, the production of the informal import-competing good is capital-intensive relative to the production of the informal export good.

3. See, for instance, Stark (1982); Quibria (1988); Chaudhuri (1989); Grinols (1991); Gupta (1993). For the analysis of slow adjustment dynamics see Agénor and Aizenman (1999) who examine the impact of trade reform on the dynamics of wages and the composition of employment in the presence of labour market distortions. Agénor (1995) provides a short survey of the earlier literature, which excluded potential interactions between wage formation in different sectors and did not account for impediments to labour mobility in the short term.

4. As noted by Gupta (1997) : "[T]he idea of informal sector output being traded violates the *raison d'être* of informal production because it opens up all sorts of possibilities of taxation and subsidies which by definition do not apply to the informal sector".

5. Chaudhuri (1989) models capital costs for the informal sector as increasing with the amount of capital employed. He sees this increasing capital cost as the main reason why the informal units do not grow in size. Gupta (1997) incorporates two capital markets and focuses his attention on the modelling of the informal capital market.

6. Gupta (1997) focuses on the role of the informal credit market and the mobility of capital among the different sectors. He finds that, in the presence of segmented capital markets, an increase in the price of the urban formal output tends to raise the informal wage rate. In the basic model, capital is completely mobile between the urban informal sector and the rural sector, but the urban formal sector uses a different type of capital which is specific to that sector only. The three sectors produce three different final goods which are all internationally traded and the prices of which, in a small open economy, are exogenously given. In this setting, the author first demonstrates that the rate of interest in the informal credit market is higher than that in the formal credit market because of the lower wage rate and the inefficient production technology in the informal sector. He also finds that, if the rural sector is more capital-intensive than the urban informal sector, and if the informal sector expands following a reduction of the price of the output of the formal sector, then a reduction of this price will also reduce the wage rate in the informal sector. This means that a reduction of the tariff protecting the output of the formal sector would induce an expansion of the informal sector and a reduction of the informal wage. In the same paper, Gupta also discusses an extended model which differs from the first on two accounts. First, the rural sector is subdivided into an advanced and a backward sector. Second, a specific form of imperfect capital mobility is introduced. Capital is perfectly mobile between the urban informal sector and the backward agricultural sector and it is also perfectly mobile between the urban formal sector and the advanced rural sector. Under these assumptions, a reduction of the tariff on the product of the urban formal sector also raises the wage in the informal sector, but seems to have an indeterminate effect on the amount of capital supplied to the informal sector. A reduction in the price of the output of the advanced agricultural sector, however, is found to reduce the informal wage.

Gupta (1997) compares his results with those in other papers where different assumptions are made concerning capital mobility, among other matters. Grinols (1991) identifies two types of capital and assumes that the informal sector produces traded goods. Given these assumptions, he finds that the effect of a change in the price of the formal sector product on the informal wage is indeterminate. Chandra and Khan (1993) identify only one type of capital and they consider both the case where the output of the informal sector is traded and the case where it is not traded. They focus on the effect of foreign investment and show that, in the presence of a tariff and with full repatriation of their earnings, capital inflows are immiserizing if, and only if, the imported urban commodity belongs to the capital-intensive sector. With regard to a change in tariffs, in the presence of one single type of capital and when the output of the informal sector is traded, a reduction of the price of the product of the urban formal sector raises the wage in the informal sector. In the case where the informal output is an intermediate input that is not traded internationally, the effect of a change in the price of the formal output is indeterminate.

7. As noted by Goldberg and Pavcnik (2003), unlike most of the other contributions discussed in this section, their analysis ignores general equilibrium effects and focuses on changes

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at the level of a representative firm in a specific industry. General equilibrium effects could differ from those firm-level effects. Inter-industry reallocation following liberalization could, in principle, offset within-industry reallocation and either boost or reduce informal employment. The authors also note that the model abstracts from the effects of trade liberalization on total employment. As long as there is free entry into the informal sector, the model is not consistent with involuntary unemployment.

8. "[T]he export-led economy has become an unfortunate enclave-led economy, where productivity gains in the outward-oriented sector have inflated informality" (Cimoli et al., 2005).

9. The external constraint on output growth depends, negatively, on the income elasticity of imports and, positively, on export growth.

10. Because other important reforms typically take place during periods of external liberalization, Goldberg and Pavcnik (2007) warn against drawing conclusions regarding the link between globalization and inequality based on before-and-after comparisons. More recent studies use detailed data on tariffs and micro-surveys.

11. See the detailed discussion of the experience of Mexico, Colombia, China, Argentina, Brazil, Chile, India, Hong-Kong, China in Goldberg and Pavcnik (2007). The choice of time periods and countries is dictated by the timing of trade reforms and data constraints. The above countries all experienced substantial trade liberalization in the past two decades and they all collect micro-data that can be used to examine the skill premium.

12. See the references in Goldberg and Pavcnik (2007).

13. See Feenstra and Hanson (1997), Hsieh and Woo (2005).

14. See the overviews in ILO and WTO (2007) and Agénor (1995), and the references in Veras (2005).

15. The study considers informal owners and workers as those in firms with less than 16 employees who do not have social security or medical benefits and are therefore not protected. Four sectors of paid work are considered, including one formal and three informal: the self-employed, the informal salaried and the contract workers. Contract workers, who do not receive a regular wage or salary, but are paid on commission or fixed contract, may be affiliated with a larger firm that provides raw materials, but work independently, and are the most likely to be involved in subcontracting relations.

16. The authors use the labour mobility module survey of the 1998 Egypt labour market survey, which provides employment characteristics in 1990 and 1998 as well as information about the last and the penultimate change in all the employment characteristics. The definition of informality used in the paper is the 1993 ILO definition. The study does not attempt, however, to quantify the effects of reforms, let alone trade liberalization, on informal employment.

17. The definition of the informal sector used in the paper is based on non-compliance with labour market and social security regulation and encompasses workers employed by formal enterprises on a temporary or part-time contract and own-account workers, as well as small firms. Trade liberalization is captured primarily through tariff cuts across industries, but import penetration and export orientation are also used to check the robustness of results in Brazil, while exports and imports are used for Colombia.

18. For Colombia, labour data is derived from the National Household Surveys (NHS) conducted bi-annually by the Colombian National Statistical Agency (DANE), from 1986 to 1998. It covers 33 manufacturing and non-manufacturing industries at the two-digit International Standard Industrial Classification of all Economic Activities (ISIC) level, in urban areas. Information on whether the worker's employer pays social security taxes is used to classify workers as belonging to either the formal or the informal sectors. Tariffs, also at the two-digit ISIC level, cover 21 industries, nine of which are manufacturing, and are compiled by the Colombian National Planning Department. For Brazil, the authors use labour data from the Brazilian Statistical Bureau's Pesquisa Mensal de Emprego (PME). The PME covers 20 manufacturing industries in the six major urban areas each year from 1987 to 1998. Individuals – aged between 15 and 65, and working more than 25 hours per week – are classified as belonging to either the formal or the informal sector depending on whether or not their job contract is recorded on their work card. Tariff data is from Muendler (2002).

19. The data also show that the aggregate share of informal employment has not increased during the sample period. Given the cross-sectional variation of trade policy changes, however, aggregate data could potentially hide differences between industries. Regarding job mobility, intra-industry job shifts account for about 88 per cent of the variation in the share of informal workers in Brazil over the period 1986 to 1998. In Colombia, this percentage rises to almost 100 per cent over the same period.

20. The authors engage in a careful two-stage econometric analysis of the effects of trade reform measures on the probability of informal employment. For each individual and each year in the sample, they first carry out an analysis of variance of informal employment, based on the individual's characteristics (such as age, gender, education, etc.) and a vector of their industry affiliation. The estimated coefficients corresponding to the worker's industry affiliation, called "industry informality differentials", are then normalized and interpreted as the deviation in percentage points of the probability that a given worker will be an informal employee relative to an average worker, with the same observable characteristics in all industries.

21. A first attempt at explaining links between trade liberalization and the incidence of informality is through the computation of year-to-year correlations using informality differentials over time. Brazilian figures of above 0.9 on average suggest that trade policy changes are unlikely to be associated with changes in informal employment. Lower figures for Colombia, of between 0.6 and 0.9, however, suggest a possibility of trade policy having an effect on informal employment, at least in principle. In the second stage of estimation, the authors pool the industry informality differentials over time and regress them, using weighted least squares, over trade-related industry variables – tariffs, imports and exports – as well as a set of industry- and time-specific indicators. They include these indicators in order to control for selection bias stemming from individual and industry unobservable heterogeneities, as well as the impact of the overall macroeconomic state and labour market reforms.

22. The labour market reform variable is constructed using a dummy variable that takes on the value 1 after the 1990 labour market reform, and zero otherwise.

23. Marjit and Maiti (2005) propose a different explanation for the contrasted results for Brazil and Colombia. Using a simple theoretical model, they show that a tariff reduction and a drop in

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the interest rate have offsetting effects; they also demonstrate that interest rates have fallen between 1986 and 1998 in Brazil, but not in Colombia. In our view, to the extent that interest rate changes had similar effects across all industries, year indicators capture their effects.

24. Using data for the period 1983–2002, Goldberg and Pavcnik (2003b) confirm the result that most of the change between formal and informal segments takes place within sectors but the authors find that trade liberalization played a statistically significant, even if relatively minor, role in explaining industry informality differentials (it should be noted that the study is based on formality differentials rather than on informality differentials). Having extended the import penetration series used by Goldberg and Pavcnik, as well as the labour market data for the 18 industries backwards to 2003 and forwards to 2002 series, the authors estimate four specifications in which the dependent variable is either the creation rate of formal jobs, the destruction rate of formal jobs, the size of the formal sector or industry formality differentials. Import penetration enters significantly (and with the predicted negative sign) into all specifications with the exception of job destruction.

25. The authors use recently developed methods for the study of labour market dynamics over the business cycle to show that, even if the informal sector in Brazil absorbs more labour during downturns, it should not be characterized as the disadvantaged sector of a segmented market.

26. In this study, informal workers are defined as unregistered workers. Trade policy changes are measured using effective and nominal tariffs, the ratio of import penetration and the export orientation ratio for 17 industries (tariffs are from Kume et al. (2000), export orientation and import penetration are both from Haguenauer et al. (1998)). Employment and wage data are extracted from the annual households surveys (PNAD) for individuals working at least 20 hours a week with positive earnings. All trade variables and labour data have the same (two-digit) level of industry classification.

27. *De facto* trade liberalization is measured on the basis of import penetration, *de jure* liberalization by calculating effective (i.e. trade-weighted) tariff rates.

28. Data on the informal economy is from the Non-Directory Manufacturing Enterprises (NDME) provided by the National Sample Survey (NSS) through the Survey of the Unorganized Sector in India. As in the National Survey, informal enterprises are defined as those with five or less employees. Capital mobility between the formal and the informal sector is captured by comparing the growth rate of real fixed assets in the informal *vis-à-vis* the formal one.

29. The data are collected from urban labour force surveys conducted by the National Institute of Statistics (Institut National de la Statistique, INSTAT, Madagascar) every year in the 1-2-3 Surveys. These 1-2-3 Surveys were initiated through the MADIO, a joint-project of DIAL, INSTAT and ORSTOM.

30. From 1995 to 2001 and 2002, the patterns of (shares in total) female employment reveal a fall of informal employees and a clear rise in free zone workers as follows:

■ private informal workers fell from about 23.6 per cent in 1995 to 14.9 per cent in 2001 and 15.1 per cent in 2002, after political troubles;

- self-employment and family workers (independent and family enterprises) dropped from 46.9 per cent in 1995 to 44.8 per cent 2001, but dramatically increased to 55 per cent in 2002;

- Export processing employment increased from 5.5 per cent in 1995 to 14.7 per cent in 2001, before falling sharply to 6.1 per cent in 2002.

Over the same period, public employment (public administration and enterprises) evolved adversely and dropped to 7.7 per cent in 2001 from 8.7 per cent in 1995 even though it reached 8.2 per cent in 2002. The private formal sector outside the EPZ represented 12 per cent of female employment in 1995 and remained almost stable at 12.5 per cent in 2001 before falling to 10.6 per cent in 2002 (Glick and Roubaud, 2004, table 2)..

31. Income effects have been estimated on the basis of two Mincerian wages equations. In these estimations, hourly wage rates are explained by level of schooling, work experience, sector of occupation and year dummies. The second equation is an extension of this base equation with interaction variables (such as the interaction of sectoral and time duammy variables with those related to schooling and occupational experience). The result indicates that real hourly incomes are significantly higher in all formal sectors relative to informal wage employment from 1995 to 2001. Strikingly, employment in export-processing activities increases real hourly wages less than employment in other formal sectors regardless of gender (the informal wage workers being the comparative group). The comparison of non-wage characteristics (paid leave, health care, existence of a job contract, unionization, training, etc.) reveals that the EPZ performs almost as well as the public sector and better than non-EPZ private and informal private wage sectors. The other side of the coin is significant average longer working times in the zone.

32. From April 2001 to March 2002, Marjit and Maiti conducted an *ad hoc* fieldwork survey on rural small-scale and cottage industries in West Bengal in order to gather the data necessary to document the changes in the division of productive activities between informal and formal actors. It is a four-stage stratified random sample in the following order of selection: districts (stage 1), industries (stage 2), villages (stage 3) and units/artisans (stage 4). At each stage, the corresponding sample is drawn from the sample of the immediate preceding stage (industries are drawn from the sample of districts; villages are drawn from the sample of industries, and so on). The authors define informal activities as "non-criminal productive activities that employ unorganized workers at a market-determined wage with no restrictions on profitable retrenchment". The final sample contains 356 units or proprietor households, composed of 149 independent units, 162 tied units – in the sense that they rely on merchant capitalists for survival – and 45 cooperative units of production. West Bengal was chosen because, the authors argue, it has seen significant growth in rural industries and has a heritage of craftsmanship as well as a high population density.

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CHAPTER 4: Impact of informality on trade and growth

The effects of a large informal economy on a country's capacity to engage in international trade have not yet been the subject of extensive empirical research. Several case studies of experiences in individual countries show diverging results or, at the very least, allow a contradictory reading of the evidence. Nevertheless, the impact of informality on certain proximate causes for trade and growth has been analysed both theoretically and empirically. Key findings of this chapter are summarized in Box 4.1. Before embarking on a review of empirical studies of these relationships, the following discussion begins by presenting the theoretical transmission mechanisms.

A. How does informality shape macroeconomic performance?

1. Varieties of informality, trade and growth

On the basis of the three fundamental hypotheses regarding the origins and the characteristics of informality, which were discussed in Chapters 1 and 2, the informal economy can be related to the formal economy and to export competitiveness and growth in three different ways. These three conceptions differ in regard to the perceived linkages between the formal and the informal economy – with, potentially, strongly divergent consequences for policy advice. Nevertheless, they reach similar conclusions with regard to the impact of informality on trade and growth:

■ According to the dualistic view of informal employment, only the formal economy has sufficient resources to engage in international trade. The informal economy either lacks the necessary human capital or produces on too small a scale to generate internationally competitive products and services. Moreover, firms specialize in different markets and different goods and services, depending on whether they are formal or informal, effectively de-linking the two sectors. Whereas unofficial firms are inefficient, due to their lack of pricing power and restricted access to qualified managers and workers, formal enterprises are not constrained by these limitations

Box 4.1: Key findings

■   Informality is typically associated with lower trend growth and a less successful trade performance, when compared with a situation of full formalization.

■   The interaction between informality, growth and trade depends on the particular form of informality. In dual-labour markets, the supply constraint holds back stronger economic dynamism. In contrast, when vertical linkages are present between the formal and the informal economy, short-term gains in economic performance come at the cost of less dynamic gains from trade. Finally, informal labour markets may be the result of a high tax burden, red tape and regulatory obstacles and therefore represent a symptom of an overall failure of governance.

■   The empirical literature identifies three main linkages between informality and economic performance: higher informality rates increase income inequality, lower average GDP growth and reduce international trade.

■   These adverse effects of informality can be related to the absence of productivity gains, resulting from barriers to firm growth. Also, entrepreneurship and risk-taking is reduced when informality is high, due to high taxes and strict business regulation. Moreover, informality prevents countries from fully benefiting from their comparative advantage by holding back the necessary structural adjustments or creating poverty traps for workers in job transition.

■   Large informal economies have also been shown to limit governments' capacity to invest in public infrastructure, thereby restricting potential productivity growth in the private sector.

■   Linkages between the formal and the informal economy can temporarily help firms to gain price-competitiveness. Empirical evidence shows, however, that this often comes at the cost of lower dynamic gains from trade.

and have, therefore, a stronger growth potential. Hence, according to the dualistic view an (inefficient) allocation of talent and assets occurs between the two sectors that prevents a dynamic interaction between the two. As a consequence, the impact of the informal sector on per capita GDP levels and growth rates is principally linked to composition effects.

■   The legalistic view of the informal sector comes to a similar conclusion regarding the impact of the informal economy on trade and growth. In contrast to the dualistic view, however, it sees the origin of the informal sector in government activities and the size of the administrative burden. Taxes, bureaucratic regulation and administrative burden prevent informal firms from becoming formal, growing and developing their goods and services to compete successfully with foreign firms. However, as soon as these regulatory barriers are removed, firms start to grow, become formal and engage profitably in international trade. According to the legalistic view, informal firms are actually or potentially productive. Informal firms are seen as similar to official firms but their development is stifled by government policies.

■   The structuralist view has yet another interpretation of the role of informality in promoting trade and growth. According to this view, the informal sector is a rational response on the part of the formal economy to obstacles in economic development. Subcontracting firms in the informal economy can help firms in the formal economy to make up for shortfalls in competitiveness, providing the necessary flexibility and cheap labour to achieve price competitiveness and compete successfully on international markets. In a sense, the informal economy is subordinate to the formal one (Carr and Chen, 2002). Nevertheless, these are only static gains in price competitiveness. Dynamic gains from trade are difficult to achieve under these conditions as upskilling of the informal economy and developing sufficient industry-specific capital by informal workers and firms is hindered. Moreover, formal economy firms run the risk of becoming locked into specific patterns of comparative advantage, funnelling pressure from international competition into the informal economy instead of seeking to gain genuine advantages through export diversification and value creation.

To summarize, the theoretical concepts of informality all lead to the conclusion that, at least in the long run, informality and informal employment are not beneficial to a country's export success or its growth performance, at least in comparison with the welfare-improving situation of fully formalized labour markets. In the short-run and in a static sense, informality may provide some relief, at least for certain companies that are engaged in price-sensitive international markets.

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2. How does informality affect trade performance and growth?

Even though the three views on informality lead to similar conclusions regarding the long-term relationship between informal employment, trade and growth, they have substantially diverging implications for the transmission mechanisms. This section presents the implications of these three views for the transmission dynamics and offers a unifying view of how they can be brought together.

In the long run, informality, trade and growth are determined simultaneously, making it difficult to distinguish among the three different views. In the short run, however, it is possible to identify different transmission mechanisms and dynamic interactions corresponding to each of the three views. In particular, even though the three views imply roughly similar patterns of aggregate interactions between the size of the informal economy and a country's growth fortunes, they make different predictions with regard to the variations of flows among different sectors over the cycle and the capacity of firms and employees in different sectors to generate profits and earn wage premiums:

■ According to the dualistic view, an acceleration of (measured) growth should be relatively uncorrelated to changes in the size of the informal economy: discernible differences exist between formal and informal firms regarding their capacity to earn rents. With informal economy firms and workers both being price-takers, often even facing a monopsonistic situation, the dynamics in this sector are solely influenced by labour supply growth and the possibility for new entrants to avoid the informality trap through better education or access to other assets. Firms and employees in the formal economy, on the other hand, can take full advantage of new opportunities created by growth dynamics. As a consequence of this view, an (exogenous) increase in the informal economy will have an adverse impact on GDP per capita levels, but will leave intact the capacity of the formal economy to grow. As indicated above, due to a composition effect, the aggregate impact of an increase in the size of the informal economy may well be negative on both GDP levels and growth rates.

■ In stark contrast, the legalistic view emphasizes a much more dynamic informal economy that acts as a separate growth engine of the total economy (Llosa, 2008). According to this view, the decision to become informal is based on the opportunity costs of remaining in the formal economy. In an upswing, these costs tend to decline, strengthening incentives to return to the formal economy and helping to boost (measured) growth. As both sectors interact, flows will change direction during the

course of the cycle, making up for a formal sector multiplier: as measured GDP relies principally on information from the formal economy, actual and observed GDP tends to differ more in downturns than in upswings. One implication of this view is that an exogenous increase in the size of the informal economy will strengthen this multiplier. *Ceteris paribus*, such an increase will lead to a steeper growth profile in upswings and a more pronounced growth slowdown in recessions.

■   Finally, the structuralist approach, with its focus on the linkages between firms in the supply chain, stresses the complementary nature of the relationship between the two sectors. In this view, stronger growth in the formal economy will also enhance employment growth in the informal economy.[1] The informal economy acts both as a buffer for external shocks and as a catalyst for cost reductions that help the formal economy to become or remain competitive in international markets. An exogenous increase in the size of the informal economy will, therefore, be most important when the economy slows down or when export markets are less dynamic. In contrast, in a thriving economic context, formal firms will have less recourse to informally produced goods and services as prices tend to be higher. The implications regarding the correlation between the size of the informal economy and economic growth and trade performance are diametrically opposed to those of the legalistic view.

B. Informality and macroeconomic performance: empirical evidence

1. Informality, inequality and unequal opportunities

Pervasive inequality is one of the most significant barriers to growth in many developing economies (International Institute for Labour Studies, 2008; Kucera, 2002). The lack of access to basic private (e.g. financial services) and public services (e.g. education and health care) as a result of unequal income and wealth distribution has prevented entrepreneurship from flourishing and sidelined many potentially productive individuals. In addition, political economy problems lead to a distorted redistribution in favour of more prosperous households. Informality is at the centre of these inequality dynamics (United Nations DESA, 2005). Indeed, it is one of the most critical channels through which informality affects both growth and stability.

The link between informality and income inequality is by now well-established. Empirical studies have demonstrated persistently that standard measures of income

inequality, such as the Gini coefficient, are highly correlated with the incidence of informal employment (Kucera and Xenogiani, 2008a; 2008b). This is the case even when controlling for various other factors, such as the quality of governance and government spending as a share of GDP, or when using different indicators to measure the size of the informal economy (Elbadawi and Loayza, 2008). More indirect measures concern the relationship between the incidence of poverty and informal employment. As demonstrated by Kucera (2008), standard poverty measures (such as the share of the population living below 2 US$ a day) are closely related to the share of informal employment in a cross-country analysis. Nevertheless, such an aggregate picture masks differences among informal workers at the microeconomic level as the measured wage gap varies substantially between different segments and tiers of the informal economy (Bargain and Kwenda, 2009). Indeed, depending on the type of informal work – informal employer, self-employed, casual worker or home worker – informal employment is remunerated at vastly different levels, further contributing to distributional concerns (Carr and Chen, 2002).

The correlation that may be drawn from these studies is, however, no proof of causality. Indeed, recent analyses demonstrate that the link between inequality and informality is running in both directions. A higher incidence of informal employment is raising the degree of income inequality through a composition effect. At the same time, a higher degree of income inequality is increasing the size of the informal economy as individuals are prevented from joining the formal economy, due to a lack of either human or financial wealth (Chong and Gradstein, 2007). In cross-country regressions an increase in the size of the informal economy by 3 percentage points can be shown to raise income inequality as measured by the Gini coefficient by as much as 8 percentage points. Chong and Gradstein (2007) also show that the strength of this link depends on institutional quality, such as the degree of corruption, the integrity of the rule of law, government stability and democratic accountability. This result is also confirmed by earlier studies which looked only at transition economies in Eastern Europe and Central Asia (Rosser et al., 2000).

Looking beyond the static picture of unequal income distribution, one can also draw inferences from studies analysing earnings mobility for workers transiting between different segments of the labour market. Compatible with the model of a multi-segmented labour market, studies for Argentina and the Ukraine find no negative, or even a positive, wage premium for certain segments of the informal labour market when compared with formal employment (Arias and Khamis, 2008; Lehmann and Pignatti, 2008). As a general rule, however, workers transiting from the formal to the informal economy typically have to accept substantial cuts in their disposable income

and their monthly average earnings (Duryea et al., 2006). More importantly, mobility studies confirm that informal employment can act as a poverty trap and a barrier to transition towards better paid and more secure jobs. The length of stay in the informal economy has been shown to be adversely linked to wage premia for switching back to the formal segment (Saha and Sarkar, 1999). In addition, transition probabilities decline with the duration of informal work.

2. Informality and the productivity puzzle

According to economic theory, emerging and less developed economies have a strong catch-up potential that helps them to grow faster than more advanced economies and leads eventually to a global convergence of living standards. Empirical research in this area, however, has consistently demonstrated that such a convergence is not taking place. At best, different "convergence clubs" exist, whereby countries converge within a group, but income and productivity differences across groups remain entrenched (Durlauf et al., 2008). Hence, the lack of convergence of living standards and productivity levels is a puzzle that the relative size of the informal economy may be able to solve.

Informality, in this regard, plays an important role in explaining the existence of these convergence clubs and the inability of certain countries to escape from their development trap. As a consequence, a persistent negative relationship exists between the size of the informal sector and GDP per capita levels (Kucera and Xenogiani, 2008a). Exactly how the informal economy prevents the total economy from growing faster is, however, a matter of substantial debate, depending on which of the three views on informality is preferred. To date, the empirical evidence for each one of them has not yet allowed the balance to be tipped in any particular direction.

According to the dualistic view, the informal economy is not sufficiently equipped with the necessary financial and human capital assets to grow faster and produce goods and services that allow a sufficient (quasi-)rent to be earned. When human capital is low and access to other essential assets limited, informal firms are prevented from innovating or, at least, responding creatively to changing market conditions. The quality of managerial capital seems to be crucial to understanding the performance differences between formal and informal firms (La Porta and Shleifer, 2008), which partly explains why product quality in the informal economy is low (Dayaratna-Banda, 2007). In addition, segmented financial markets lead to a process of self-selection, whereby well-educated and talented individuals have access to formal finance to

open a registered business; for all others only the informal economy remains as a source of subsistence. This seems to explain, for instance, why in Argentina formally employed workers tend to be older, with more education and higher wages than informal workers (Amaral and Quintin, 2005; 2006).

In contrast, the legalistic view stresses the fact that low quality of governance, distortive taxation and overly burdensome regulation prevent the formal sector from growing sufficiently to exploit economies of scale (and hence become more productive) and push firms into the informal economy (de Soto, 2000). According to this view, the size of the informal economy is yet another indicator of weak economic performance, but not causally related to it. When governments introduce appropriate regulation and reduce the distortive nature of their tax code, they may be able to earn a double dividend in the form of less informality and higher growth rates (Loayza, 1996). For instance, entrepreneurship (i.e. the willingness of individuals to take risks and start their own business) is typically damaged when regulation and taxation become heavier (Hall and Sobel, 2008). In addition, as firms try to avoid taxation by becoming informal, the formal economy is reduced, the tax base restricted and, hence, government revenues limited. This places a strong instrument in the hands of governments: to the extent that public authorities manage to increase the tax base and provide more public assets, a greater number of firms will have an interest in becoming formal and having access to the goods and services provided by the public sector. A threshold effect exists, nevertheless, that may be difficult to overcome (Dessy and Pallage, 2003). Similar effects can be detected when considering labour market regulation. In a model of the Mexican economy, Satchi and Temple (2006) find that the size of the informal sector and economic growth are jointly determined by labour market regulations. Moreover, in their set-up even small changes in policies that improve the hiring process in the formal economy may substantially reduce the incidence of informal employment and boost the growth rate.

Hence, a large informal economy constrains the capacity of governments to expand public investment resulting in difficulties in accessing markets, lack of transportation infrastructure and the absence of public education and professional training. There is evidence in some sub-Saharan African countries that these problems constitute decisive factors in explaining low average firm size, the high incidence of informal employment and, hence, the productivity disadvantage from limited scale effects (Bigsten and Söderbom, 2005). This view receives further support from studies that compare average firm-level productivity, depending on whether the firm is small or large (Bigsten et al., 2004b). In this study, the authors do not find any significant productivity difference between small informal and formal firms in Kenya; rather, the crucial factor for firm-level productivity is average firm size.

Finally, according to the structuralist view, the informal economy constitutes a productive asset for firms in the formal economy, to the extent that the two segments enter into a vertical relationship. In this symbiotic relationship, both aggregate growth and the size of the formal sector would increase with a rising incidence of informal employment. Such a positive link has indeed been observed in some sub-Saharan African countries (Sandefur, 2006). During the 1990s, Ghana, Kenya, Tanzania and Uganda experienced positive per capita GDP growth rates, while at the same time experiencing a rise in the informal urban labour market. Even though productivity in these newly established firms was low due to their small size, they nevertheless allowed the absolute size of private sector employment to expand, even though, as a share of the total, the formal economy either stagnated or shrank.

To summarize, all three approaches find some empirical support in the data. It appears, however, that the impact of informality on productivity and growth is highly dependent on the particular time period and the specific country under examination. None of the studies cited here allow for cross-cutting affirmations: rather they indicate that particular circumstances, as much as the methodology of the study, are significant for the results of the analysis.

3. Informality and trade

(a) Job mobility in multi-segmented labour markets

An essential characteristic of well-functioning labour markets is the existence of large job-to-job flows at any given point in time (Haltiwanger and Davis, 1990; 1992; Haltiwanger et al., 1996). These transitions have the potential to cross sectors and occupations, but many remain within limited boundaries. Nevertheless, job flows constitute an essential element of adjustment, both for firms and for countries, when responding to changes in the economic environment, such as those occasioned by trade opening. Available evidence for advanced economies shows that every year around 10 per cent of all jobs are destroyed and replaced by others. What is more, the rate of destruction seems to be comparable across countries, despite institutional and economic differences. In fact, cross-country variations in labour market dynamics are explained by the capacity of the unemployed to transit to a job. It should be noted that such job creation and destruction dynamics are a characteristic part of the adjustment process when countries are opening up for trade and are essential for a country to exploit its comparative advantage successfully.

In line with the multi-segmented labour market theory developed in Chapter 2, available evidence on job transitions indicates that transition probabilities are high both within and across segments (see Table 4.1). As the table shows, status persistence within different segments is high, including among those without a job. There are, however, sizeable flows across segments, although the outflow of joblessness is significantly lower than that between the formal and the informal economy. Moreover, the size of these transition probabilities is likely to be influenced by economic conditions, including adjustment processes, following trade reforms. Available evidence points to the fact that transitions from formal employment to self-employment increased in a sample of 12 countries in reaction to difficult economic times (Horton et al., 1991). Also, sectoral shifts, such as those observed in transition economies in Eastern Europe during the 1990s, have caused large job flows across different labour market segments. Flows among different segments (including unemployment) can, therefore, be interpreted as acting as a buffer to exogenous economic shocks and, consequently, should be considered as part of the normal dynamics of any labour market. An essential precondition for successful participation by developing economies in international markets is that policies aim to reduce persistence within particular segments of the labour market to ensure that the adjustment process can take place with as little friction as possible. This applies particularly to the informal segments and the category of workers that is unemployed or has withdrawn from the labour market altogether.

Whereas many results from the literature on gross job flows carry over from advanced to developing countries, Eslava et al. (Forthcoming) point to possible interactions of job creation dynamics with capital adjustment costs. In their study of Colombian plant adjustments following structural reforms in the 1990s, the authors show that firms faced with capital shortages are less likely to create jobs. Conversely, firms that face labour shortages – for instance when seeking to hire skilled professionals – are likely to shed capital and opt for smaller plant sizes, potentially damaging their ability to export, as discussed below. In this respect, informal labour markets and financial market dynamics enter a complementary relationship. Less-developed financial markets, in combination with tight regulation of the banking sector - as observed in many emerging countries - may hamper a more dynamic process of job creation in the formal sector and prevent higher transition rates from the informal to the formal economy. Analysing these interactions between financial and labour markets goes beyond the scope of this study but indicates further avenues of research that need to be explored more thoroughly to tackle the issue of employment informality.

**Table 4.1 Transitions in segmented labour markets: Mexico (2002–2005)
(in percentages)**

		Status in 2005		
		Formal	Informal	Without job
Status in 2002	Formal	65.5	18.2	16.3
	Informal	19.7	42.1	38.2
	Without job	7.1	7.1	85.8

Note: The table displays transition probabilities (in percentages) among individuals aged 20 to 60 years old across different segments in the Mexican labour market between 2002 and 2005.

Source: Reproduced from Gagnon (2008).

(b) Firm size and export performance

The size of the firm, productivity growth and export performance are intimately linked. Much of what has already been said regarding the small average size of firms in the informal sector carries over to the discussion here. However, a strand of the empirical literature has focused more specifically on the conditions for success in trade. In particular, this research is motivated by the desire to establish which specific factors explain a firm's export performance and how the limited success of the informal economy in international trade can be understood. For instance, is firm size related to different factor intensities or to the ability to obtain credit, and the capacity to enter new or bigger markets? In addition, large firms may have higher levels of skilled labour, the possibility of offering trade credit and greater capacity to fulfil contracts on time in comparison with smaller firms. The policy conclusions associated with these various transmission channels would differ substantially.

The average size of firms has implications for the exporting potential of a country. As shown in a study by Sandefur (2006), this has been the case in some African countries. Using data from the manufacturing sector in Ghana the author characterizes informality by the scale of production and observes that there has been a reduction in the average size of manufacturing firms. This shift happened simultaneously with a general acceleration in growth, leading to a rapid inflow of new but small enterprises.

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These firms typically had a less skilled workforce, paid lower wages, faced higher interest rates or were unable to obtain credit. As a consequence, they were unable to grow and trade internationally, causing trade openness to recede and dampening trend productivity growth, with potential adverse long-run consequences for Ghana's macroeconomic performance.

Firm size also matters when it comes to attracting able managerial staff. As demonstrated in La Porta and Shleifer (2008), smaller firms typically have lower-skilled employees compared to large firms. The probability of finding managerial staff educated to degree level decreases further in the case of a small, informal firm compared to a small, formal firm. In contrast, the difference in skill level of non-managerial staff between formal and informal firms is not significant. Such differences in human capital at the executive level among firms are likely to be a significant explanatory factor in the varying degrees of success in engaging in trade or achieving growth, both across firms and countries. This also explains why the status of a firm – either formal or informal – may be very persistent and almost never changes over the course of the firm's existence (La Porta and Shleifer, 2008), posing a particular challenge for formalization strategies.

A study by Elbadawi and Loayza (2008) examines the dynamics of micro and small enterprises among Arab economies and finds that the average firm size is not a significant determinant of average output. However, firm size appears to be significant in relation to the local market share. Bigger firms tend to produce for international markets and sell only small shares of their output to the local markets. Moreover, the authors confirm the finding by La Porta and Shleifer (2008) that enterprises led by older and better-educated entrepreneurs, or those that employ a larger share of skilled and semi-skilled workers, tend to perform better in terms of output per worker and relative wages. These firms typically also sell a larger share of their proceeds in regional and international markets. One important conclusion that can be drawn from this finding is that, for firms to grow out of informality, they require access to better skilled managerial staff, an objective that may call for more than just attractive remuneration packages.

Finally, firm size and formality status may also limit the quality of the firm's location and, consequently, the distribution network. Interaction with other firms and exchange of information may be difficult when firms are forced to settle in substandard locations due to their limited size or the fact that they are not registered. For instance, home-based production typically comes with poor, less accessible locations that restrict access to markets and information (Kappel and Ishengoma, 2006). Similarly,

Bigsten and Söderbom (2005) argue that one reason for the prevalence of small manufacturing firms in sub-Saharan African countries is the lack of properly developed infrastructure. This, together with the relatively low population density, limits market size and "creates pockets of demand that tend to generate small-scale localized producers" (Platteau, 2000).

(c) Vertical sectoral linkages and trading success

Evidence on the importance of the informal economy for vertical supply chains is more limited. Several authors consider these links to be essential for formal firms to successfully enter international markets. Others have even argued that the existence of a large informal economy is necessary for the success of setting up EPZs (see also Chapter 5). The available empirical studies do not present an unambiguous picture in this regard. Several examples exist where a majority of informal firms are inserted into vertical relationships with formal sector firms (Itzigsohn, 1998). Often, however, firms that have recourse to inputs from the informal economy are themselves not strongly positioned on global markets and struggle to survive. Using the informal economy is, for these firms, only a last resort to resist increased global competition but does not represent a winning strategy to gain market shares.

It has been noted, however, that the capacity of the informal economy to provide such a lifeline extension for otherwise unprofitable formal economy firms is potentially harmful to future economic development and growth. Some authors have recognized the importance of such vertical linkages, pointing to the complementary dynamics between formal and informal firms that these linkages create (Carr and Chen, 2002). In this view, the informal economy – instead of being considered incompatible with economic growth and industrialization – is actually seen as a by-product of growth, helping capital-starved formal sector firms to escape the initial poverty trap. As has been pointed out by Farrell (2004) and – more extensively – Lewis (2004), the advantage of remaining informal, in terms of lower prices, can be shown to come at the cost of smaller size, less potential to grow and, hence, smaller productivity increases. This constitutes a drag on long-term productivity growth, keeping unprofitable firms in the market and preventing the necessary churning that is essential for technological advancement.

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Endnotes

1. This can happen through both the extensive and the intensive margin. Typically, informally employed workers do not hold a full-time job. Instead, they work on a casual basis, helping out occasionally. When the economy booms, more opportunities will arise for such casual jobs.

CHAPTER 5: Economic resilience: dynamics of informality

Informality is associated with increased vulnerability of countries to economic shocks. At the same time, informality raises the likelihood of being affected by (external) shocks. The combination of these two tendencies can create a vicious circle, weakening the long-term performance of a country, lowering the potential benefits it can derive from trade and reducing economic well-being. This chapter discusses how informal employment evolves over the cycle – differentiating among different segments of informal labour markets – and the consequences for economic resilience to shocks. It presents evidence of the extent to which informal economies increase volatility in growth performance and the frequency of extreme economic events. Moreover, the chapter discusses the particular interaction between international capital flows and labour market informality in worsening a country's vulnerability to shocks. It emphasizes the potentially adverse effects of official development aid and international investment by multinationals within global production networks. The key findings of this chapter are summarized in Box 5.1.

A. Transmission mechanisms of shocks in informal labour markets

The preceding chapter has argued that high informality rates not only have an adverse impact on social equity and income distribution but also hamper growth and international competitiveness. This chapter will develop this topic further, considering the implications of high rates of informal employment for a country's resilience to external shocks or sudden changes in investment flows. Two aspects are of particular relevance in this respect: the evolution of informal employment over the business cycle and the reaction of the economy to large capital inflows, for instance through foreign direct investment or aid flows. Macroeconomic volatility and capital flows are intimately intertwined in developing countries. The role of informal labour markets is of central concern as it determines how a country adjusts to such external shocks and whether these shocks prevent an economy's long-term performance from improving in a sustainable manner.

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Box 5.1: Key findings

■ Large informal economies increase the vulnerability of a country to shocks. This is partly related to the particular place such countries occupy in global production chains, and partly to the limited capacity of states with large rates of informality to command sufficient resources to adequately insure people against external shocks. This chapter presents estimates showing that countries with above average sized informal economies are more than three times as likely to suffer adverse effects of a crisis than those with lower rates of informality.

■ The fact that larger informal economies are associated with higher cyclical volatility also arises because both are driven by joint factors related to weak institutions and policies. Informal employment reduces the effectiveness of automatic stabilizers and requires additional discretionary fiscal and monetary policy interventions in countries that lack the necessary fiscal and policy space.

■ Countries with larger informal economies are also likely to receive more of a certain type of capital inflow, particularly harmful for stable long-run development, than others. The chapter identifies two channels through which this inflow can reduce a country's resilience to economic shocks: foreign aid and global production chains.

■ The inflow of large foreign reserves triggered by official development aid has the potential to worsen conditions for economic growth and international trade by appreciating the domestic currency. In such cases, informal employment may become more widespread. This worsens labour market conditions but may act – at least temporarily – as a buffer to limit adverse macroeconomic consequences.

■ A potentially stronger impact stems from international investment flows in global production chains. The monopsonistic relation between multinational producers and local providers of labour services in these countries has been shown to exacerbate already difficult working conditions. In addition, the vertical linkages in these production networks act as multipliers of local demand shocks, thereby spreading shocks more widely.

Before turning to a review of empirical studies on the impact of informality on trade and resilience, however, some indirect effects will be discussed. The influence of the informal economy on the political economy of trade openness – especially through global production networks or in the form of EPZs – and its influence in shaping international flows of official development aid (ODA) and private capital both require further attention:

- ODA represents a large share of public spending in certain emerging markets. To the extent that the size of these flows is determined by relative per capita income levels, economies with a larger informal sector are likely to receive a larger share of these aid flows in relation to their own size. The risks of such flows for long-term economic success and external competitiveness ("Dutch disease") are well-known and represent yet another factor that can explain a development trap, which looms larger the more important is the informal sector (see Nkusu (2004) for an overview of the empirical literature linking ODA to real exchange rate appreciations).

- Global supply chains, EPZs and trade regimes may be a direct function of the importance of informal employment of a country. Some emerging economies and also some least developed countries, have tried in the past to utilize the size of their informal economy as an argument to encourage international investors to take advantage of cheap labour and working standards that do not match those of more advanced economies. Even though labour regulation and inspection in these zones may not differ, in principle, from the rest of the economy, often less stringent enforcement of, or compliance, with such regulation is permitted (Engman et al., 2007). As is the case with ODA, the theoretical relationships between the size of the informal economy, the existence of EPZs and economic performance are ambiguous. While the intended effect of EPZs is to help the country to improve its price- and non-price competitiveness, huge within-country wage and employment differences often reinforce the initial dual-economy problem, further entrenching mechanisms that have produced informality in the first place.

CHAPTER 5

B. Informality and business cycles

1. Evolution of informality over the business cycle

Business-cycle volatility and growth are typically negatively correlated (see, for example, Aghion and Banarjee (2005) and the references presented therein), especially when considering large cross-country samples (Norrbin and Yigit, 2005). The different views on the informal sector discussed in Chapter 2 imply different hypotheses regarding the incidence of informality over the cycle and the transition probabilities of worker flows among different segments of the labour market. With the availability of long series of labour force and household surveys – at least for some emerging economies, notably in Latin America – research has focused more specifically on flows and transition probabilities among different labour market segments. The behaviour of these flows over the business cycle has been the subject of major research to assess the relative importance of the different views of the informal economy. Anecdotal evidence points to the possibility that large informal economies prevent the macroeconomy from expanding in a sustainable manner (see Box 5.2).

Loayza and Rigolini (2006) study the dynamic behaviour of the informal sector over both the long and the short run. In their model, business cycles are the consequence of productivity shocks that affect the formal and the informal economy in different ways. The model's main result predicts a countercyclical reaction of informality to shocks. The model treats regulation as a fixed cost for all formal firms. Thus, if there is a positive shock on productivity (affecting both labour market segments symmetrically), then the proportion of the cost of regulation becomes smaller, providing incentives for firms to join the formal economy. Under the assumption of a symmetric shock, the informal economy reacts in a countercyclical manner, which is unaffected by the quality of public services, regulation or governance. With asymmetric shocks, however, the effect would be different, depending on the sectoral linkages between the formal and the informal economy and the type of products that each sector produces (e.g. tradables versus non-tradables). Informal workers, for instance, might be more exposed to cycles and negative shocks in the economy to the extent that they are credit-constrained and unable to smooth their activities over the shock. When testing their model empirically, the countercyclical relationship was confirmed but the effect was smaller the larger the informal economy. Moreover, more effective institutions help to limit the countercyclical reaction of informality with respect to shocks. Their study confirms earlier research on that issue, which indicated that

Box 5.2: The business cycle in Argentina during the 1990s

■   The economic cycle in Argentina during the 1990s provides a good illustration of how the informal economy enters into a dynamic relationship with the business cycle, eventually preventing a permanent and sustainable increase in (potential) growth.

■   Following volatile economic times during the 1980s, Argentina adopted a more stable macroeconomic regime, introducing a currency board and pegging the peso to the dollar. This helped to bring inflation rates down to single digit levels and supported strong output growth, which accelerated between 1991 and 1998 to more than 4 per cent p.a. At the same time, however, the incidence of informal employment remained high, at above 40 per cent throughout the 1990s and unemployment grew continuously against the backdrop of weak employment growth. Partly, this can be seen as a reflection of the failure of the formal economy to generate sufficient job growth. More importantly, however, it constituted a drag on sustainable growth (for the reasons discussed in Chapter 4) and led to a substantial over-estimation of the sustainable rate of GDP growth by dampening inflation, despite strong growth in domestic demand (IMF, 2003).

■   The persistence of informality demonstrated the difficulties facing the formal economy in gaining competitiveness, in contributing to output growth with strong net exports, and in absorbing workers into formal employment. As a consequence of sluggish trend growth, the current account deficit started to widen, further demonstrating the underlying weakness of the economy. As GDP growth became increasingly driven by accommodative fiscal spending, foreign investors withdrew their capital holdings, which eventually triggered a rapid deterioration of the balance-of-payments position and forced authorities to let the peso float freely in 2001.

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informal employment largely acted as a buffer against business cycle developments: during periods of relative prosperity, informality rates decline in Latin America, while during periods of low economic activity, the informal economy expands (Kucera and Galli, 2003).

In contrast to this work, Perry et al. (2007) find a substantial positive correlation between the informal and the formal economy over the cycle. Not only is the incidence

of the formal and informal employment correlated over the cycle, evidence also shows that – at least in certain countries – transition from formal to informal employment occurs pro-cyclically, in contrast to the situation implied by the dualist view (Bosch and Maloney, 2007; 2008). Part of this pro-cyclicality of informal employment can be traced back to previous shocks that may have hit the observed economies. Informal employment is concentrated in certain non-tradable sectors, such as construction or retail distribution. A positive shock that mainly affects these sectors would help to explain the observed positive correlation between macroeconomic performance and the size of the informal economy (Fiess et al., 2002; 2008). In contrast, during periods of negative productivity shocks and when rigidities prevent a wage adjustment in the formal economy, the informal one plays the role of an adjustment buffer (Fiess et al., 2006).

An important implication of this result is that periods of economic growth may not necessarily be related to a reduction in the size of the informal economy. On the contrary, the rise of informality in Latin America during the 1990s could be the expression of macroeconomic stabilization and vibrant economic growth. It should be noted, however, that simultaneous demographic and social changes which have taken place over the period under consideration may have substantially biased the aggregate picture. As has been shown in Chapter 3, informality is closely related to skill levels. A larger inflow of low-skill workers (through increased participation rates or internal migration) might explain part of the observed pro-cyclicality. Also, Galiani and Weinschelbaum (2007) point out that the increase in female participation may have contributed – in a pro-cyclical way – to the observed increase in informal employment.

2. Informal labour markets and sustainable long-term growth

On the basis of the database developed for this study, the effect of informal labour markets on the sustainability of long-term growth can be illustrated (see Figure 5.1). Long-term success in terms of stable growth rates can be measured either by the frequency of business cycle crises or by the frequency of extreme events (either extremely high or extremely low growth rates).[1] Figure 5.1 shows that countries with large informal economies tend to experience more frequent growth crises and extreme growth events. Taken together, the two parts of the chart suggest that even though growth acceleration may occur more frequently in countries with larger informal economies, the risk of sudden stops and economic crises is also significantly

larger in these countries, preventing sustainable long-run economic expansion. It should be noted that this illustration does not causally link the two phenomena but suggests an empirical regularity.

Figure 5.1 Informality and the long-term sustainability of growth (1990–2006)
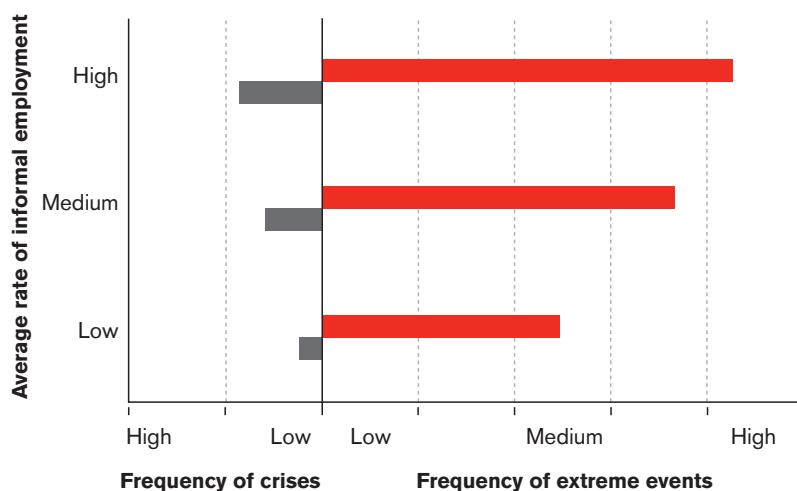
Note: The figure presents average rates of frequency of extreme events, as measured by the kurtosis of the average annual GDP growth rates over the period 1990–2006. The 31 countries in our sample are grouped according to their average informality rates over that period.

Source: IILS estimates based on the IILS Informality Database.

In a similar vein, Ferreira-Tiryaki (2008) tests whether a trend increase in the size of the informal economy affects business-cycle volatility. Depending on whether the informal and the formal economies are linked through counter- or pro-cyclical relationships, this would significantly affect volatility over the cycle. Stabilization policies need to take the implications of such a link into account. This study confirms the impact of larger informal economies on increased cyclical volatility. Moreover, it demonstrates the importance of policies for this link. Weak institutions – by raising the incidence of informal employment – make economic fluctuations more severe and increase the volatility of output, investment and consumption. These findings

are in line with earlier research by Acemoglu (2001), where macroeconomic shocks have only a minor impact on economic volatility, once the effect of institutions is controlled for. Such an increase in business-cycle volatility constitutes a particular challenge for stabilization policies as it is typically coupled with lower growth in output, investment and employment. At the same time, as informal employment reduces the effectiveness of automatic stabilizers, additional, discretionary fiscal and monetary policy interventions are necessary to counter this additional volatility.

C. Capital flows and informality

International capital flows influence informal labour markets. Certain forms of capital inflow can be related to increases in the incidence of informal employment, through both the macroeconomic and the microeconomic effects of these flows. On the other hand, the destination of these flows is not independent of the specific characteristics of a country: countries with larger informal economies are likely to receive more of a particular type of capital inflow than others. This section explores these bi-directional linkages between the two phenomena, as they have been discussed in the literature.

1. Foreign aid and informality

Foreign aid is likely to play an indirect role in determining the impact of informality on trade. Large inflows of ODA have been identified in the past as affecting the economic performance of a country in at least two ways: (a) an appreciation of the currency that is caused by large, non-sterilized capital inflows; and (b) unproductive rent-seeking behaviour, such as queuing for jobs with local outlets of international organizations and stiff wage increases. Both situations come under the heading of "Dutch disease", whereby one particular sector in the economy grows much more quickly than the rest of the economy and with little spillover in terms of inter-sectoral demand.

On the other hand, ODA can be productively used when it is directed towards public investment projects or utilized to set up basic social security systems which help the economy to cope better with external shocks. In such a situation, foreign aid complements existing public spending to strengthen the overall impact. To the extent that ODA is determined on the basis of labour market characteristics in different receiving countries, informality could exercise a positive impact on the long-term growth potential.

Evidence of such effects is inconclusive and the role of the informal economy in explaining the impact of aid on a country's fortunes has not received much attention. It has been argued that the informal sector can constitute a buffer, helping policy-makers to limit the adverse macroeconomic consequences of large aid inflows, thereby maximizing their stimulative effect. In particular, the high degree of price and wage flexibility observed in the informal economy allows monetary policy to develop its full potential to sterilize foreign exchange inflows, thereby helping to limit pressure for exchange rate appreciation (Prati and Tressel, 2006).

More importantly, the question of whether the size of the informal economy or – at the very least – the mere existence of informal employment has been a driving force in directing foreign aid towards developing countries needs to be answered; this would constitute an indirect effect of informality on a country's capacity to grow and to export. This hypothesis has received relatively little support in the empirical literature. On the contrary, most studies concur that ODA is given on the basis of political considerations or with regard to cultural, geographical or linguistic proximity. Moreover, bureaucratic rigidities often prevent foreign aid flows from being allocated solely on the basis of a recipient country's potential needs as measured by its level of economic development. Hence, while in principle a possible link may exist between ODA, informality and a country's growth performance, in practice such a link is likely to be very weak.

2. Foreign direct investment and informal labour markets

(a) Global production chains and the international division of (informal) labour

The role of the informal economy in shaping international capital flows has gained prominence in the intellectual and policy debate in recent years. The existence of global production networks that rely on outsourcing to firms which either belong to the informal economy or employ large parts of their workforce informally, has raised substantial concerns. They relate to the exploitation of lower labour standards in developing countries and the possibility of a "race to the bottom" (Hayter, 2004). These supply chains are typically structured around a dominant company that receives its inputs from various suppliers across different countries and regions. Often, these linkages resemble monopsonistic relations, where market power remains with the final assembler, thereby putting substantial cost pressure on suppliers. Some have

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even claimed that informal employment is essential for these global networks to retain the required flexibility to react quickly to (regional) changes in consumer demand (Barrientos and Barrientos, 2002). In the absence of full vertical integration, however, the dominant companies do not control labour standards, wages or the status of employees working for their suppliers (Nordås, 2005), which makes it difficult – though not impossible – for them to influence their business practices directly.

The underlying logic of such global supply chains follows the structuralist view: informal labour markets help to lower labour costs – an essential factor to allow local suppliers to respond to the constant cost pressures they face. Their position within the supply chain (fully dependent on one or, at most, a few clients for their products) prevents them from gaining market power or accumulating sufficient resources to diversify their business and help them grow to a sufficient size. In other words, informal labour markets are both a driver and a consequence of these networks. In this respect, the market-dominant position of final clients *vis-à-vis* their intermediate suppliers is key to this interdependent relationship. When lower-level producers in the value chain manage to share parts of the global profits with final retailers, global supply chains can have a trickle-down effect on informal labour markets, helping the country to improve its living standards (Ponte, 2008).

Global production chains not only exacerbate already difficult working conditions in developing economies, they may themselves constitute a source of instability. The current global financial crisis offers a particularly interesting case in this respect (see Hoekman (2009) for a discussion on the role of global production chains in the international transmission of demand shocks). It has been argued that the cross-country vertical linkages characterizing these networks act as a multiplier of local demand shocks, quickly affecting economic growth at a global level. Such destabilizing forces of globalization clearly go against the expectations of better international risk-sharing that ought to result from trade integration (Imbs, 2004). In this respect, even though the informal economy is not causally related to the global crisis, it has influenced patterns of globalization that induced multiplier effects through the trading networks (Nanto, 2009). Put differently, the fact that a large informal economy attracts international investors leads to a wider geographical spread of shocks, further weakening economic and social conditions in those countries.

(b) Export processing zones: curse or cure?

One specific example of vertical production linkages concerns the establishment of EPZs. EPZs have spread throughout the developing world over the past 15–20 years, partly as a response to several economic and policy challenges that (seem to) have prevented the successful inflow of foreign capital into other parts of the economy. Typically, setting up an EPZ remains, inherently, a political decision. However, several studies confirm that the existence of a large informal economy in a particular region increases the probability of a country setting incentives for foreign direct investment (FDI) in these regions by opening an EPZ there (see, for instance, Jenkins (2005) for the case of Costa Rica). Put differently, the existence of a large informal sector increases the chances of an EPZ benefiting from the availability of a cheap, flexible labour force for the production of labour-intensive export goods (Cling and Letilly, 2001). In particular, the (pre-) existence of a large home production sector seems to provide a fertile ground for EPZs. Indeed, indirect evidence suggests that EPZs have been drawing heavily on the – predominantly female – workforce that was previously employed in home production in the informal economy (Rama, 2003).

EPZs seem to offer a series of benefits for the country in which the zone is created (Aggarwal, 2007). In addition to offering better, more stable employment opportunities for those previously working in the informal economy, the jobs in EPZs usually also come with higher pay and better working conditions. In particular, women seem to benefit from these new job opportunities, partly related to the fact that they typically represent a large share of those informally employed (Kusago and Tzannatos, 1998). Equally importantly, workers from the informal economy who find a job in an EPZ typically then have access to some basic training or other forms of human capital formation, substantially enhancing their chances of remaining employed in the formal sector. Also, EPZs have some indirect employment effects, for example generating additional demand for locally produced goods and services, partly – but not exclusively – from the formal economy. Finally, EPZs help to draw in additional resources through international technological transfers and investment, further supporting the host economy and helping to create a more favourable environment for growth and trade (technological upgrading).

The success of EPZs and their benefits for the host country depend, to a large extent, on the surrounding environment as well as on the establishment of complementary policies and links (Ge, 1999). The dynamic benefits that an EPZ can bring about will also depend on the level of development of the host country, since poorer countries might be less able to absorb technological innovations into their domestic

economy. In this regard, benefits are greatest in those countries that have succeeded in establishing strong backward linkages between international investors and local suppliers (Engman et al., 2007). This will not always be possible, in particular when local producers are unable to meet certain standards, such as quality and delivery terms, or when producers in the EPZs put excessive pressure on the margins of subcontractors by fully exploiting their monopsonistic power. This latter point highlights a potential benefit of diversifying and multiplying the effort to set up EPZs, thereby creating a sound environment of competition within the domestic input market among EPZ enterprises. Where country size does not allow such diversification, institutional support by public authorities for clustering activities and a stable business environment, together with appropriate macroeconomic policies, would also seem to allow countries to benefit from the establishment of EPZs (Makoond, 2004).

Endnotes

1. The frequency of business cycle crises is measured by the skewness of the distribution of annual GDP growth rates within countries. The more the distribution of growth rates is skewed to the right, the more frequent are situations by which negative or very low growth rates arise. Relatedly, the frequency of extreme events is measured by the kurtosis of the distribution of annual GDP growth rates within countries. The higher the kurtosis measures the larger are the tails of the distribution, indicating that extremely low ("crisis") or extremely high ("growth accelerations") growth rates are arising more frequently than in a normally distributed sample.

CHAPTER 6: Globalization and informal employment: an empirical assessment

This chapter sheds further light on the linkages between trade reforms, integration into the world economy and the size of the informal economy. It presents an empirical analysis based on a new database that regroups information on the incidence of informality and the size of the shadow economy. The chapter aims to clarify the multifaceted nature of the globalization process and its implications for labour markets in developing countries. It starts by describing the main questions that arise from the discussion in the previous chapters. It then provides an overview of the empirical material and the methodology used before presenting the results. A more technical discussion of the different issues that arise with the empirical approach chosen here is discussed in Annex 2. Key findings are presented in Box 6.1.

A. Setting the stage

1. Testing links between informality and trade

The literature review undertaken in the preceding chapters pointed to a complex web of interactions between economic openness and the informal economy in developing countries. In order to analyze these issues further, four questions (Q1 to Q4) are formulated for empirical analysis. In addressing these questions, a differentiation is made between *de facto* and *de jure* trade openness, the former referring to actual flows of goods and services between countries while the latter characterizes the extent to which trade reforms have been implemented. In principle, both are intimately related, albeit in a dynamic way, with no expectations of a contemporaneous impact of trade reforms on trade openness. Potentially, this may allow the dynamics of the adjustment process to be unveiled. While little is known about these dynamics, *de jure* trade reforms may be expected to require some time before they achieve *de facto* trade openness. Similarly, potential benefits from trade opening in terms of higher formalization rates may also take time to materialize to the extent that sectoral reallocation is taking place following trade reforms.

Box 6.1: Key findings

▪ Empirical analysis carried out for the purpose of this study shows that more open economies tend to have a lower incidence of informal employment. By contrast, trade reforms, such as cuts in tariff rates, tend to be associated with higher informal employment. Likewise, larger inflows of FDI tends to be associated with higher informal employment. These findings may suggest that even if trade and investment reforms hold the promise of more and better jobs in the long run, such reforms tend to be associated with negative labour market developments in the short run.

▪ Decent work policies can help to improve this trade-off between the short- and long-term effects of trade reforms. Evidence in this chapter suggests that the incidence of informal employment is lower in countries that enjoy: a) better enforcement of the rule of law, including core labour standards, b) well-designed social protection and labour regulations, notably appropriately set minimum wages; and c) more transparent business regulations and a more supportive environment for sustainable enterprise creation.

▪ Importantly, the empirical analysis sheds light on the possibility of a virtuous circle of lower informality facilitating successful international integration, in turn promoting formal job creation and further reducing informality. In particular, there is an empirical association between lower informality on the one hand, and greater economic and trade diversification on the other. Greater diversification, in turn, boosts economic performance and facilitates further progress in reducing informality. Finally, there is significant evidence that lower informality will help achieve a more balanced distribution of the gains from economic growth and globalisation.

Q1: Do both trade openness and trade reforms have an impact on the incidence of informal employment and if so, does the impact occur in the same direction?

Globalization refers not only to increasing trade integration of countries into the world economy. Other aspects are also relevant and may have an equally strong effect on informal labour markets. As has been argued above, EPZs and – more generally – FDI

may also have an impact on informality rates. In line with the discussion in Chapter 2 on the importance of social networks for trade, other non-economic factors such as tighter social integration and more intensive personal contacts and information flows might also affect the performance of tradable sectors, with a corresponding impact on the incidence of informal employment.

Q2: What other aspects of globalization apear to influence informality rates? Are measures of FDI, social globalization, personal contacts and information flows relevant determinants of informality?

Informality rates are not only affected by economic and social factors such as the extent to which a country takes part in the world economy. Other, policy-relevant aspects of labour markets are also important. In particular the regulatory environment, such as the cost of entry for new firms, administrative burdens and red tape, are decisive factors in determining formalization rates of enterprises. Similarly, labour market regulation related to hiring costs and firing restrictions are likely to limit the appetite of firms to create jobs in the formal sector. At the same time, open economies make it necessary for firms to have the capacity to compete on a level playing field, with the ability to adapt quickly to changes in their environment. Minimum wage legislation may therefore help formal firms to compete successfully with informal ones as the legislated minimum wage creates a lower floor, which is also binding in the informal sector (as discussed above). On the other hand, firm-level wage bargaining helps companies to adjust more rapidly to trade shocks resulting from economic opening and will therefore limit adverse consequences for formal labour markets.

Q3: How and to what extent do regulatory reforms and labour market policies shape a country's capacity to adjust to trade reforms and to reduce the extent of informality?

Labour market policies might be able to underwrite a level playing field by imposing minimum standards that spill over to informal jobs. The impact of labour market policies on the incidence of informal employment may, therefore, be ambiguous.

As mentioned in the introduction to this study, high rates of informality not only pose a problem in terms of social equity, but are also likely to affect economic efficiency. Large informal sectors impact on the capacity of exporters to succeed in the international economy. They may also prevent firms from gaining access to new sectors as they impose constraints on the development of new skills and necessary human capital. Countries, therefore, remain stuck within a particular – restricted – set of sectors. As a consequence, a high incidence of informal employment dampens

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GDP growth and lowers employment creation, in addition to its adverse effect on the distribution of disposable income.

Q4: Does a large informal sector depress economic growth, hamper employment creation, raise income inequality or prevent a country from diversifying its export base?

The question here is whether the informal economy locks in a country's specialization pattern and narrows its export diversification, with potentially large adverse consequences for GDP growth, employment creation and income inequality.

These four questions constitute the background to the following empirical study. A snapshot of the data and the empirical methodology is given before the presentation of the results.

2. Assessing informality and its driving forces

For the purpose of this study, information on the size of the informal economy has been assembled along the lines suggested by the conceptual discussion and considerations of measurement issues in Chapter 2. In order to ensure cross-country comparability, we have focused on collecting information for informality rates in urban areas and omitted rural sector informality. The information has been completed with alternative indicators, such as informality estimates available in the ILO's Key Indicators of the Labour Market (KILM) database or the shadow economy estimates by Schneider and Enste (2000). Our preferred measure for the incidence of informal employment covers most of the period 1990–2006 and representative countries from Latin America, Africa and Asia, although with less coverage for the latter two.

The exposure to international trade and the integration into the world economy has been measured through two broad categories of variables: (a) standard trade openness indicators, measuring the sum of imports and exports relative to GDP (both with and without commodity and oil exports and imports); and (b) trade reform indicators, such as the evolution of various tariff averages and changes in trade restrictions or the compliance cost of exporting and importing. In order to further differentiate among various hypotheses, *de facto* trade openness has been broken down into indicators related to the evolution of exports (annual growth of exports and export share to GDP) and the degree of import penetration. Indicators for assessing the peripheral nature of an economy with respect to major economic centres have been used to assess the importance of network density for trade success and formalization of jobs.

Finally, the relative concentration or diversification of merchandise exports has been assessed on the basis of the United Nations Conference on Trade and Development (UNCTAD) trade concentration index.

The impact of globalization on developing countries has been assessed more broadly, using globalization indicators developed by the Zurich-based Konjunkturforschungsstelle (KOF) (Dreher et al., 2008). These indicators include not only statistics on international trade and investment flows, but also indicators regarding the social and political globalization of a particular country (e.g. the intensity of information flows, the frequency of personal contacts across countries, the exchange of political ideas, etc.). They therefore allow an assessment of the effect, not only of goods and services trade but also of the importance of information exchange, personal contacts, cultural proximity and the influence of political ideas across constituencies. These latter indicators complement distance indicators based purely on geography.

Standard control variables have been included in all estimations reported below. A first indicator typically used in this literature is the level of economic development, measured in per capita terms. Various indicators are available, depending on whether economic development is measured in expenditure or income terms, and whether the data is expressed in nominal or real terms. Available indicators from the World Development Indicator database have been used, including standard GDP per capita, Gross National Income (GNI) per capita and household disposable income. In addition, population-related indicators, such as the relative size of the working-age population, the share of young people in total population, population growth and the relative size of the urban versus the rural population, have been used to control for the growth of the labour force and the pressure on urban labour markets to absorb new entrants.

Besides indicators related to trade openness and tariffs, the database also includes a variety of other social, institutional and policy variables, drawn from various international sources (see Annex 1 for a detailed description of the data and their sources). Specifically, the following indicators have been used at different instances in the empirical analysis:

- variables related to school attainment and achievement at various levels (primary, secondary and post-secondary education);

- indicators related to labour and product market regulation, such as the importance of minimum wages, administrative burden and the cost of firm entry;

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■ indicators reflecting the overall quality of governance, as exemplified by the control of corruption and red tape, the application and rule of law, etc.;

■ variables related to the importance of the public sector and taxation to measure the extent to which firms operate under particular types of distortions.

On the basis of this newly assembled database, a panel of 31 countries has been established for the period between the early 1990s and the early 2000s. The nature of our data allows the application of panel-data techniques to test the different hypotheses developed above. Beyond the general caveat related to the limited sample size, three main issues arise when using these econometric techniques (see Annex 2 for further details on the technicalities).

Our measure of the incidence of informal employment is highly persistent over time. Therefore, standard estimation techniques may not be applicable, since they would yield biased results. More recent developments in the area of panel econometrics, however, help address these problems. A related problem stems from the fact that many of our explanatory variables suffer from limited time-variability, partly because of the relatively short time period under consideration. Typically, policy variables such as labour and product market regulation (but also certain trade reform indicators that restrict the sample substantially due to limited availability) show very little variation within panels in comparison to variation among panels. In a standard panel regression, controlling for fixed effects, such variables can become indistinguishable from country-specific effects. In an alternative specification, therefore, we also control for such limited time variability, applying a recently introduced technique known as vector decomposition of the country fixed effects (Plümper and Tröger, 2007). Last but not least, as discussed in Chapters 4 and 5, there are reasons to expect the level of informality to affect the degree of openness or the likelihood of introducing a reform. This reverse-causality creates a problem of endogeneity which may bias the estimation results. As explained below and in Annex 2, a number of techniques are used to address this problem.

B. The impact of globalization on informal employment

Let us now turn to the presentation of the results.

1. *De facto* trade openness and trade reforms affect labour markets differently

Across specifications and controlling for various economic fundamentals, trade openness seems to be correlated with less informality, not more (see Table A2.1 in Annex 2). This is also true if trade openness is replaced by a more general concept: the size of economic flows that also include FDI, portfolio investment and returns on foreign assets. However, the same does not hold true in the context of lifting trade barriers and reducing tariff rates. Across different indicators, such as trade-weighted or unweighted tariff averages and trade restrictions, our specifications show a positive relationship between trade reforms that lower these indicators and informality rates.

At the same time, other indicators, which offer a more encompassing picture of the globalization process, give mixed results regarding the impact on informal labour markets. Personal contacts and improved information flows have helped to reduce informality in some of our sample countries, in line with the theoretical arguments developed earlier in this study. This view is also confirmed by the fact that geographical distance from main world markets is linked to a higher incidence of informal employment. On the other hand, inward FDI seems to have increased informality rates in our country sample, which could be interpreted as evidence supporting the structuralist hypothesis of the informal economy serving the formal sector (assuming that FDI takes place in the formal sector). Finally, summary information regarding the globalization process, as provided by the KOF indicator, also indicates a positive link with informality.

Figure 6.1 sums up the contribution of different factors in our preferred specification. The chart confirms the mixed picture that earlier studies have presented, as discussed in the previous chapters. However, our estimations also show that a divide exists between *de facto* trade openness and *de jure* trade reforms. As is shown in Table A2.1 of Annex 2, this distinction can be made consistently across different indicators for the two aspects of economic openness. How can this be interpreted? To the extent that trade reforms require an economic adjustment process and labour reallocation across sectors, as has been argued earlier, the immediate impact of such reforms is likely to harm formal labour markets in developing economies, and this aspect is reflected

in our estimates. On the other hand, once a successful transition to a more open economy has been made, successful economic exchange helps to strengthen formal labour markets, drawing in new workers and creating decent work opportunities. It should be noted that the two effects in the chart cannot be counted against each other. Rather, the indicator of *de facto* trade openness could be interpreted as representing the accumulated effect of past trade reforms on informality rates in the longer term (alongside other factors influencing trade openness). The opposite effect from *de jure* trade reforms (measuring the change in trade restrictions and tariff rates), on the other hand, may be thought of as representing the immediate effect from such reforms on informal labour markets, which can be expected to vanish over time.[1] However, as confirmed by some of the robustness checks in the annex, further research may be needed to better understand the dynamics of adjustment and further unveil the magnitude of the trade-off between the short-term costs and long-term benefits that accompany such trade reforms.

Figure 6.1 Globalization and other economic influences on informal employment

Note: The figure shows the contributions of various economic factors to the average incidence of informality in the IILS Informality Database. Contributions are displayed with respect to their signs, i.e. those factors that reduce informality are displayed in the negative quadrant while those factors that increase informality are displayed in the positive quadrant. The contributions from trade reforms refer to the change in the index on "trade restrictions" (see Annex 1 for the variable definition); higher values of this index indicate less restrictive trade barriers. To account for a possible endogeneity bias in the estimated coefficient of trade openness, its lagged value has been used. See Annex 2 for further details on the estimation methodology used.

Source: Authors' calculations based on the IILS Informality Database.

2. Government policies and regulation have a decisive impact on informal employment

Government policies and regulation play an important role in supporting the labour adjustment process following opening to trade. Our estimations (see Table A2.2 in Annex 2) partly confirm earlier insights from the legalist school about the adverse consequence for informality resulting from a high tax burden, in particular in the export sector, red tape and absence of the rule of law or high levels of corruption. The results nevertheless provide a more nuanced picture of the linkages between government activity and informal employment. In particular, government spending and transfers and subsidies can be shown to contribute to a reduction in informality rates, lending support to policies which aim to set incentives to encourage formalization of workers by offering access to social transfer systems. Also, high marginal tax rates for top earners do not seem to harm informal labour markets, in contrast to some of the results presented in the literature, which seem to assume that high marginal tax rates would also set incentives for high-skilled employees to become informal. Our estimations do not confirm this hypothesis.

Regarding the regulatory environment, overall governance efficiency and upholding the rule of law can be shown to contribute to high formalization rates. Similarly, and again in line with authors such as de Soto, high costs of firm entry, ineffective and burdensome product market regulation and bureaucracy impact adversely on the informal economy and raise informal employment. Labour market regulation offers a more balanced picture on the one hand: decentralized wage bargaining systems – by offering scope at the level of the firm to cope with shocks related to trade opening – appear to support an increase in formal employment. On the other hand, minimum wages have either no effect or even a positive effect on formal jobs, as they create level playing field conditions that help workers in formal jobs to compete successfully against informal employers. This latter result is in line with other studies in the literature, arguing that formal economy minimum wages can spill over positively to the informal economy, thereby creating a level playing field.

Using the empirical analysis of the previous section as the baseline, Figure 6.2 summarizes the different effects on the basis of our preferred policy specification. The objective was to further break down the unexplained part in the previous chart by introducing various policy instruments in the empirical estimation.[2] Overall, different policies and labour market regulation contribute more than 50 per cent to the total cross-country variation in informality rates, whereas other, economic factors explain

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the remainder. In this respect, it is noticeable that typical factors stressed by the legalist school – such as the rule of law or business regulation – do not seem to play as predominant a role in our sample as they would argue (Gindling and Terrell, 2005; Khamis, 2008; Lemos, 2004).

Figure 6.2 The impact of policies and regulation on informality
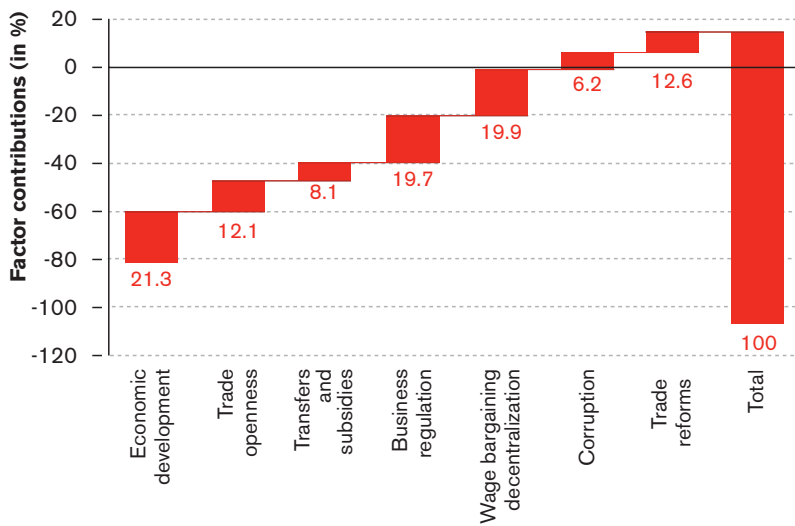
Note: The figure shows the contributions of various economic, policy and regulatory factors to the average incidence of informality in the IILS Informality Database. Contributions are displayed with respect to their signs, i.e. those factors that reduce informality are displayed in the negative quadrant while those factors that increase informality are displayed in the positive quadrant. The contributions from trade reforms refer to the change in the index on "trade restrictions" (see Annex 1 for the variable definition); higher values of this index indicate less restrictive trade barriers. To account for a possible endogeneity bias in the estimated coefficient of trade openness, its lagged value has been used. See Annex 2 for further details on the estimation methodology used.

Source: Authors' calculations based on the IILS Informality Database.

C. Does informal employment lock countries into trade patterns?

Finally, we return to the interaction between the size of the informal economy on the one hand and the macroeconomic performance and trading success of developing countries on the other. In particular, going beyond the discussion in Chapter 4 (see Table A2.3 in Annex 2) we want to establish a link between the size of the informal economy, the limiting effect this has on trading success, export diversification and the consequences for economic development.

That the failure to diversify exports can hamper the capacity of a country to grow and develop is increasingly recognized in the literature. Empirically, a U-shaped relationship can be identified, whereby export diversification increases simultaneously with economic development. Only at a very advanced stage in the development process will countries start to specialize again (Carrère et al., 2007; Imbs and Wacziarg, 2003). More recent research pointed to the fact that export diversification may be causally related to economic growth, at least at lower levels of economic development (Dutt et al., 2008). Partly, such a causal link may be related to underlying policy changes, which simultaneously promote export diversification and better prospects for economic growth, for instance through product market reforms or sector-specific trade reforms (Bacchetta, 2007). None of the research to date, however, has linked the failure to diversify exports explicitly to the existence of large informal economies.

We seek to answer the first part of the fourth question by regressing our measure of the incidence of informal employment on GDP growth and income inequality. Our regression results confirm the consensus that arises from the existing literature regarding the adverse impact of a high incidence of informal employment on macroeconomic performance and income inequality. GDP growth is impaired, irrespective of any positive contribution from other factors, such as trade openness or educational attainment. Similarly, total employment growth is weaker and income inequality rises. Finally, the estimations also demonstrate that trade openness is making a positive contribution to growth, most notably where it allows the quantity of exported goods to grow and to help the country to accumulate foreign reserves.

Furthermore, our analysis in this chapter tried to address the question whether the basis for exporting is limited by high rates of informality. Using the UNCTAD trade concentration indicator, our estimates confirm that export concentration increases when the informal sector is large. This result is confirmed even when controlling

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for trade specialization caused by the opening of the current account, i.e. a high incidence of informal employment has an adverse effect on the degree of export diversification, independently of the *de facto* integration of the country into the global economy. This result is also robust to a series of other control variables that are likely to affect the concentration of exports, such as GDP and population growth or different indicators for trade reforms. Our results are summarized in Figure 6.3, which represents the contribution of different factors to an index of export concentration in our preferred specification, confirming that the incidence of informal employment is the largest (positive) contributor to higher export concentration. On the other hand, a higher share of manufacturing exports, trade reforms and − to a much lesser extent − population growth also help a country to diversify its export base.

Figure 6.3 Determinants of export concentration
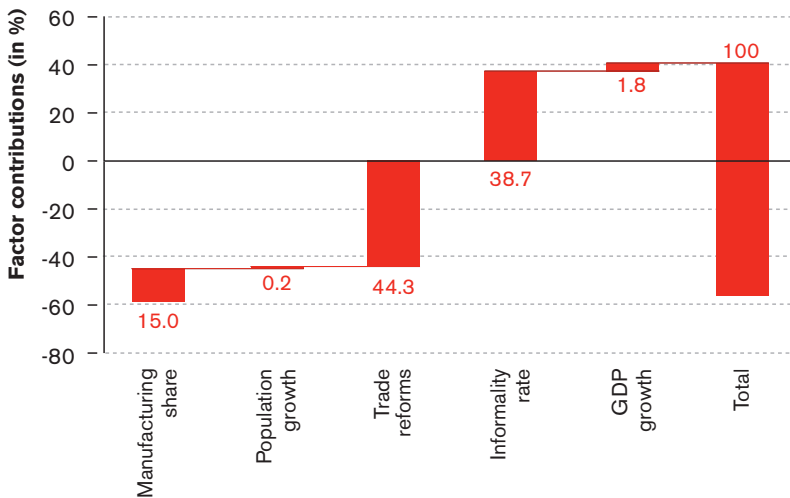
Note: The figure shows the contributions of various economic factors to the overall variation of the UNCTAD export concentration index in the IILS Informality Database. Contributions are displayed with respect to their signs, i.e. those factors that reduce export concentration are displayed in the negative quadrant while those factors that increase export concentration are displayed in the positive quadrant. The variation of export concentration is measured as the average unitary standard deviation of export concentration within individual countries.

Source: Authors' calculations based on the IILS Informality Database.

The results presented in this section confirm the core propositions of this study: informal employment not only makes the distribution of disposable income more unequal, it also has an adverse impact on a country's macroeconomic performance, thereby lowering economic growth. In particular, informality plays an important role in limiting the basis of a country's trade success by concentrating exports in a restricted number of – often – lower value-added goods with limited possibilities for making a positive contribution to growth.

Endnotes

1.   A different way of looking at this is that it represents the estimated simultaneous effects of all past versus one single present reform. Over time, this adverse effect of the current reform will vanish and turn into a positive effect as all the other past reforms have done.

2.   Note that FDI was dropped from the chart as a determinant due to its endogenous nature with respect to most of the policies considered. Geographical distance also proved to be insignificant in this set-up and was dropped consequently.

CHAPTER 7: Robust policies for an uncertain world

This report argues that informality in developing countries deprives about 60 per cent of the workers in these countries of proper income and career opportunities. At the same time, high informality rates limit government resources, which could be used productively, and depress the growth of aggregate demand, hampering a country's successful integration into the world economy. This means that successful formalization strategies would not only improve the working conditions of large segments of the labour market in those countries, they would also constitute a significant engine of further growth, of both the individual country and the world economy. At the same time, the study argues that the integration of a country into the world economy – if properly managed – can help informal workers by improving their living standards and giving them access to decent working conditions. Integration into world markets and tackling informal employment should thus be considered complementary, as only formal jobs allow a country to benefit fully from trade openness.

Formalization policies, however, cannot overcome persistent problems overnight. Often, informality is deeply engrained within the economy with the result that change is gradual. Also, for lack of fiscal space, such policies often need to be targeted at the neediest and most vulnerable in society, limiting the potential group of beneficiaries. In addition, building up the necessary legal and public infrastructure to promote a return to formality for those who drop out voluntarily or to support jobseekers in the informal labour market to find a formal job may take time before being properly implemented. Nevertheless, as our study argues, the long-term advantages of formalization are substantial, resulting in higher potential growth, improved macroeconomic stability and strengthened government finances.

Over time, a vast literature has accumulated which discusses such formalization policies, with a particular focus on labour market reforms. A comprehensive survey of this literature would clearly be beyond the scope of this report, which focuses on the linkages between informality and globalization. Instead, this chapter aims to integrate the policy conclusions drawn from this report's analysis of the linkages between globalization and informal employment and the relevant lessons from the formalization and labour regulation literature. In particular, this chapter aims to review policies that assist in maximizing employment growth following trade reforms.

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Some general conclusions emerge. And even though these conclusions need to be adapted to the particular country context, they provide some fundamental principles on how to address the challenges which arise as a consequence of the informal economy. A first guiding principle is that successful integration into the world economy ultimately requires formalization of firms and jobs. No country can expect to reap the full benefits of its trade openness if appropriate policies are not put in place to cope with the necessary structural adjustment in the formal economy. This will require a full set of policy options to be implemented, with country-specific emphasis in different areas to take historical, institutional and geographical conditions into account (International Labour Office, 2007a). Second, trade reforms should be carefully designed, combining measures aimed at developing and diversifying exports and measures aimed at opening markets to foreign competition. This will typically require the integration of unilateral policies with regional and multilateral strategies into a coherent approach. Finally, formalization policies and trade reforms must be coordinated to maximize their impact. This will require a careful reform process and exploitation of complementarities across policy domains to support the adjustment process.

This chapter is organized around four main themes. It first addresses the issue of formalizing firms in the informal economy, trying to identify how costs and benefits can be shaped in such a way as to improve incentives for firms to be properly established. Thereafter, the chapter aims to identify appropriate policies to improve opportunities and incentives for informally employed workers to transit to the formal segment of the labour market and discusses appropriate policies to protect the (remaining) informal employees. Finally, the chapter turns to trade policies, asking what would constitute appropriate reforms to successfully integrate developing economies with large informal economies into the world economy. The chapter concludes with a discussion of a coherent policy framework, taking sequencing issues and policy complementarities between trade reforms and formalization processes into account. The key findings of this chapter are summarized in Box 7.1.

A. Formalization of firms

A sizable literature has developed over the past few years on how governments might encourage formalization (Djankov et al., 2002; International Labour Office, 2007a; International Labour Organization, 2006; Ishengoma and Kappel, 2006; Kenyon, 2007a; 2007b; Puech and Igué, 2008). Most of this literature is concerned with the formalization of enterprises and is part of a broader literature that focuses on private sector development. Formalization, however, can be extended to labour relationships

Box 7.1: Key findings

■ Integration into world markets and tackling informal employment should be considered complementary, as formality of firms and jobs helps a country to benefit fully from trade openness, while the integration of a country into the world economy – if properly managed – can help informal workers by improving their living standards and giving them access to decent working conditions.

■ To achieve this, the study considers three possible policy approaches. First, successful integration into the world economy ultimately requires formalization of firms and jobs. No country can expect to reap the full benefits of its trade openness if appropriate policies are not put in place to cope with the necessary structural adjustment in the formal economy. This will require a comprehensive policy strategy that (a) enhances incentives from the point of views of both employers and workers and (b) supports infrastructure investments and institutions that facilitate transitions to formal employment, while at the same time providing basic social protection for those who continue to be employed informally.

■ A distinction is made between policies that foster the formalization of firms and those aimed at workers. For the former, incentives can be strengthened by lowering costs of formalization and raising benefits. For the latter, policies should focus on support for employees to transit out of informality and on the provision of basic social protection for those who continue to be employed informally.

■ Second, trade reforms can be implemented in an employment-friendly way, making the reallocation of jobs more conducive to formal employment growth. Even though little is known about the microeconomic aspects of the transformation dynamics following trade reforms, some guidelines have been identified that may help to make trade reforms more labour-market friendly.

■ A gradual opening process may be necessary to allow policy-makers, workers and firms to adjust to the new environment. Also, the development of an export-oriented sector is crucial to lowering the adjustment costs associated with trade reforms and helping workers to switch from import-competing sectors to export-oriented ones. Both regional and multilateral

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trade-opening can prove useful in diversifying the economy. Finally, trade reforms must be announced credibly.

▪ Third, the study stresses the importance of coordination between trade and labour market policies. One approach has been to seek the integration of a number of core labour standards into international trade agreements. Some bilateral trade agreements contain such provisions, but little is known about how far workers in the countries concerned have actually benefited from such provisions. Another instrument to help countries adjust to trade opening is the wider deployment of policies that support labour market adjustment. This includes in particular active labour market policies, well-designed social protection and minimum wages, and skill-development policies. Finally, the trade and decent work agendas need to be implemented in a coordinated way. Social dialogue is instrumental in this respect.

and its objective could be rebalanced towards social welfare (Tokman, 2007). Most important, however, is the fact that high formality rates are a precondition for long-term economic and trading success, as the literature review and our own work shows. Formal firms are in a better position to widen the scope of product differentiation, which avoids leaving the country with too narrow an export base. Also, learning-by-doing effects and other economies of scale are more easily exploited when firms are formal and have access to more sophisticated financial products and human capital that help them to achieve rapid growth.

Recommendations regarding formalization policies are typically grounded in a discussion of the reasons why firms choose the formal or informal route. The discussion here is no exception and will start with a short analysis of firms' choice of legal status. Formalization policies necessarily start by assessing the costs and benefits of firms switching to the formal economy. In a second step, we will delve further into the main recommendations regarding formalization policies, also focusing on appropriate policies to organize linkages with the rural area. In particular, investments to improve road infrastructure and irrigation systems or policies to promote micro-finance institutions and help with land reforms can improve farm productivity, thereby releasing productive forces for urban labour markets.

1. Costs and benefits of informality for entrepreneurs

Recent empirical research has tried to identify barriers to formalization. Ishengoma and Kappel (2006) survey evidence regarding the factors hindering the growth of informal enterprises. They distinguish between: internal factors, such as limited human capital, lack of working capital, the utilization of obsolete technology or poor location; external factors, including limited access to financial services, limited access to business development services, a limited market, poor supply of economic infrastructure and public services and complex and burdensome government regulations; and inter-firm factors, which include limited and exploitative linkage relationships, and weak business associations. Based on a review of the literature and of donor experience, USAID (2005) focuses on external factors and identifies seven categories of barrier to formalization from the entrepreneur's perspective: (a) regulatory barriers, (b) administrative barriers, (c) fees and financial requirements, (d) corruption in public administration, (e) socio-cultural attitudes, (f) lack of key business services, and (g) criminality.

In the tradition of de Soto (1989), the choice of whether to be formal or informal can be presented as a rational decision. Economic units weigh the costs and benefits that formalization entails and consider their particular institutional and resource constraints. The costs of formality can be divided into the costs of accessing the formal economy and those of remaining formal. A number of authors have applied the analytical framework proposed by de Soto to a variety of different countries. Loayza (1996) surveys the existing literature and finds evidence of high access costs to legality in Latin America. He also finds evidence that remaining formal can be very costly too. Marginal tax rates on formal firms are typically very high in developing countries, given the narrow tax base. Regulations and, in particular, labour regulations similarly entail substantial compliance costs in Latin America as well as in Asia. Finally, bureaucratic requirements also represent a significant cost of remaining formal. Loayza also surveys evidence on the costs of informality. He distinguishes between penalties when informal activity is detected and the cost of restricted access to government services. With regard to penalties, there is evidence to suggest that informal firms pay much higher bribes to corrupt government officials than formal firms and that they choose suboptimal sizes and capital to labour ratios to avoid detection.

Bigsten et al. (2004a) compare the benefits of informality with the costs and risks associated with operating outside the rule of law. They conclude that, in the existing

business environment, it can be rational for African entrepreneurs to remain informal, since this reduces their costs without having a detrimental effect on productivity. Using available evidence to compare the costs of formalization with the costs of informality, Ishengoma and Kappel (2006) come to the same conclusion.

2. Formalization strategies

While views diverge on whether governments should pursue active formalization policies and how such policies should be designed, specialists agree on a number of issues. There is no unique strategy that would apply in all circumstances. The success or failure of formalization measures depends on the measures themselves as much as on the specific political, economic, social or cultural circumstances of their implementation. A strategy that has worked in a particular country or for a particular sector may be inappropriate in another country or sector. Another conclusion shared by most specialists is that communication matters. Governments should inform all actors in the informal economy of the measures they take.

As already mentioned, different formalization strategies are typically grounded in the views of the informal economy discussed in Chapter 2. The legalist view would suggest that a reduction of barriers to formality and improved access to finance will suffice to induce unofficial firms to register, borrow capital, take advantage of all the benefits of official status and, by doing so, improve their productivity and possibly start to trade and to grow. The structuralist view would rather suggest that a strong enforcement of regulation and a fight against tax evasion will eradicate informality. Finally, the dualist view suggests that the best approach to the elimination of informal firms is to support the creation of new formal firms and the development of existing formal firms.

A first example of formalization policies that leans towards the structuralist approach is suggested by the ILO, insisting, however, on the fact that quick fixes and one-size-fits-all solutions are not available. In addition to the recognition that growth and stable macroeconomic conditions are key to formalization, the following policy initiatives to enable the transition to formality should be included (International Labour Office, 2007b):

■ an extension of the scope of the regulatory environment, such as labour laws, taxation, property rights and business laws, to informal firms, including an improvement of labour administration and labour inspection;

■ a promotion of social dialogue by bridging the organizational and representational deficits;

■ a promotion of gender equality and decent working conditions;

■ the development of entrepreneurship by fostering business services and improving access to finance and markets for goods and services;

■ an improvement in access to social security;

■ the integration of these policy initiatives into a locally rooted strategy.

Another example, inspired by the legalist view, is provided by Perry et al. (2007) in their detailed study of informality in Latin America. Having observed that labour informality is primarily a small-firm phenomenon, they argue that formality can be seen as an input into the production process for which these firms have little need. They also argue that, in order to induce the formalization of a substantial percentage of informal firms, a combination of carrots and sticks is needed. Addressing regulatory constraints faced by small firms or reducing tax rates may not be enough. Positive incentives for joining the formal economy would also be needed. Such positive incentives would include improvements in the private and public services available to formal firms and other measures aimed at enhancing productivity and growth in the formal sector. Perry et al. (2007) put considerable emphasis on improvements in aggregate productivity. They note that "Achieving significant reductions in present informality levels will require, first and foremost, actions to increase the aggregate productivity in the economy". In their view, a more enabling investment climate and a higher level of human capital are key. Raising human capital levels, especially for the poor, will permit more workers to find remunerative jobs in a more dynamic formal sector, while a more favourable investment climate will permit formal firms to expand and pay higher wages. With regard to the phenomenon of partial informality in larger firms, Perry et al. (2007) propose a complementary set of measures. Such measures would include administrative and tax simplification programmes, regulatory reviews aimed at eliminating laws and regulations that are either anachronistic or privately motivated, and enhanced enforcement.

A third and final example, this time inspired by the dualist view, is suggested by La Porta and Shleifer (2008). In their view, the recipe for formalization through productivity growth is the creation of formal firms, the larger and the more productive the better. The instruments that can be used to promote the creation of such firms include taxation regimes, human capital, and infrastructure and capital market

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policies. Government services can also use their procurement policies to ensure that informal firms can also access such contracts, but with the objective that, over time, they partially or completely formalize their activities (Chen et al., 2002).

Along the lines of the multi-segmented approach discussed in earlier chapters, the best formalization strategy is definitely one that combines elements from the various strategies. In reality, good practices suggest the need to develop a comprehensive set of policy initiatives, to promote coherence and to reinforce positive synergies across the actions. In addition, experience shows that implementation matters. The following are six practical lessons listed in a policy note by the World Bank's Foreign Investment Advisory Service (FIAS) (Kenyon, 2007). First, simplify and coordinate business regulations. Second, inform entrepreneurs. Third, build trust. Fourth, work through intermediaries. Fifth, provide the right incentives. Sixth, sequence carrots and sticks. Another recommendation that can be found in a number of papers is that formalization, because it is not painless, should be gradual. It would be preferable initially to target measures whose potential benefits are highest (Kenyon, 2007a; Tokman, 2007).

B. Supporting transitions from informal jobs to formal employment

The heterogeneity of the informal economy requires a multi-dimensional approach in order to promote the growth of formal employment. High taxes, for instance, may only be relevant for workers in the upper-tier informal economy, whereas lack of skills or insufficient infrastructure for efficient job-search is likely to be more important for the lower-tier informal economy. Similar to formalization strategies for enterprises, tackling informal employment requires analysis not only of the barriers to transition but also of the costs and benefits for individual workers to remain informal instead of becoming formally employed. As argued in Chapter 2, such a decision may not always be taken at the level of the individual, a perspective that still needs to find more recognition in public policies.

Incentives to formalize are, however, only part of the approach to addressing informality. Following ILO Recommendation No. 198 ("Employment Relationship Recommendation"), governments can also support informally employed workers directly with specific social security schemes that reach outside the formal economy. In particular, public policies should ensure that informal workers do not become trapped in poverty, further reducing their opportunities to switch to the formal

economy. Such support can also be used to strengthen incentives for formalization, for instance when a certain conditionality is applied. Overall, such strategies will not only improve the working and living conditions of people in the informal economy, they will also provide support for their transition to the formal sector.

1. Policies to support transition out of informality

As has been reviewed in this study, the incidence of informality is particularly high among low-skilled workers. Any formalization strategy on the labour market, hence, needs to overcome this structural obstacle in order to achieve a successful transition to the formal labour market. Expanding or setting up educational systems, however, is resource and time consuming. Today's investments may not pay off for several years or even decades. More importantly, people currently in the labour market may not be reached any more. Educational policies, therefore, need to take the initial conditions into account and provide training and educational support also for those in the informal economy.

Fortunately, in many countries, the informal economy has also developed its own training and educational institutions (International Labour Office, 2008b). Vocational training systems abound which allow young people to acquire the necessary skills for the local labour markets (see Box 7.2 for an example). Constructed on similar principles as craftsmanship programmes, these systems allow for easy access, in particular among the poor. Skills are immediately work-relevant, facilitating a successful "school-to-work" transition, and are more effective than pre-employment training programmes conducted in classrooms. Often, however, skill transfer is limited to kinship or social networks, limiting the speed and extent with which skills and knowledge are disseminated within the economy. Moreover, skills are often not portable and not recognized outside the particular network within which the training is provided. The quality of training may vary substantially from one enterprise to the next. Also, skills themselves only develop insofar as the enterprise within which they are provided ventures into new areas but, in fact, very little prospective skill development takes place. Finally, long training periods during which the apprentice runs the risk of being exploited as "cheap labour" and the widespread lack of post-training follow-up limits the flexibility of these systems to adapt to challenges arising from economic opening. All this poses particular challenges to policy-makers who seek to broaden the skill basis of their economy. At a fundamental level, policy-makers should guarantee minimum standards in the provision of training programmes in order to uphold and gradually improve the quality of skills. Such an approach could

Box 7.2: Skill policies for the informal sector – An example from West Africa

■   West Africa has a well-developed vocational training system in the informal economy, supported by a sophisticated institutional architecture that helps young apprentices to access cost-effective training and acquire relevant skills with clearly identified costs and benefits.

■   The institutional framework in the region allows typical informational and commitment problems that apprenticeship systems face elsewhere to be overcome. In particular, strong ties to social networks – often reinforced through family ties – in combination with shared cultural and religious values help to create strong bonds between trainer and apprentice. Sophisticated payment structures of the apprenticeship fee and gradual transmission of knowledge – keeping certain craft skills for later stages – further eliminate opportunistic behaviour and free-riding.

■   Such apprenticeship systems can constitute a base for successful adjustment of the informal economy following trade reforms. However, several challenges remain to be addressed. Overcoming these can also amount to an increasing formalization of the informal economy. In particular:

    ■   existing systems must be made more responsive to technological change and help to diffuse knowledge more rapidly;

    ■   new professions and the arrival of new technologies requiring cross-cutting competencies are only imperfectly implemented in existing structures;

    ■   urbanization and population growth may jeopardize existing social networks that support current apprenticeship systems;

    ■   portability of skills is limited by a lack of certification, locking apprentices into a particular network of (informal) firms in which their skills are recognized once they have left their training relationship.

■   Policy-makers in the countries of the region are increasingly aware not only of the challenges faced by the existing systems but also of the potential to further promote and expand them in their quest to integrate into the global economy.

Source: International Labour Office (2008b); Nübler (2007).

be combined with support for a general recognition of skills outside particular social networks. In addition, access to such programmes should be enhanced. Possibly, this could be achieved using microfinance approaches that would provide additional funds to trainers for workers outside their immediate social networks.

Efforts to tackle informal employment – especially in the upper-tier of the sector – will also require modernization and reform of the taxation system. This is only partly related to lowering marginal tax rates but, more importantly, may involve changes in tax administration. Implementing reforms to taxpayer registration, harmonizing tax administration rules and regulations, regular updating of company and taxpayer registries and introducing some scope for self-assessment can increase tax revenues and compliance, and lower fraud and corruption. Also, simplified tax schedules and clear rules for tax deductions and allowances are key to increasing compliance. Several Eastern European countries, for instance, have introduced flat-tax systems, which substantially increase tax compliance and, ultimately, tax revenues. The effectiveness of such systems in reducing the size of the shadow economy, however, may partly rely on the ability of government agencies to offer public services that are valued by the taxpayer. A review of different studies in this area shows that flat-tax systems have proven to be particularly effective in the short-term only. Their effectiveness fades over time and they need to be complemented by additional benefits which justify – in the eyes of the taxpayer – higher compliance rates (Peter, 2009).

A substantial debate has arisen on the question of whether strict application of international labour standards is hampering the formalization process. Critics of these standards claim that they tend to make labour markets more rigid, thereby hampering employment creation in the formal economy. On the other hand, enforcing labour standards and government regulation can improve the functioning of the informal sector and help job transitions from the informal to the formal economy. Often, standards that are being set in the formal economy have implications for the informal labour market segments. Recent evidence on the working of minimum wages, for instance, indicates that these tend to spill over into the informal economy, sometimes raising informal economy even more than in the formal one (Khamis, 2008). These results have been confirmed for various regions, but seem to be particularly strong only for paid informal workers, and less for the self-employed (Gindling and Terrell, 2005). Nevertheless, such legislative spillovers from minimum wage regulation create a level playing field, an argument that is also supported by our evidence presented in the previous chapter.

Empirical evidence on the implications of other types of regulation for informal labour markets has been more mixed. Kucera and Roncolato (2008) review empirical

studies on formal labour regulations and informal employment and conclude that existing evidence does not support the view that weakening labour regulations is an effective policy for reducing informal employment. On the other hand, Perry et al. (2007) review the empirical literature on the effect of labour market regulation on informality in Latin America and find some evidence that more restrictive labour regulations had a negative impact on formal job creation in Brazil. They also find evidence that an increase in labour taxes reduced formal employment in Colombia. However, they find no direct evidence of a link between labour market regulation and informal employment. Finally, Fox and Oviedo (2008) review the literature on the effect of labour regulation on labour market outcomes, focusing on Africa, though evidence for sub-Saharan Africa is only available in cross-country analyses. Available evidence suggests that the effect of employment protection legislation on employment in the low-income countries of this region may be of a lesser magnitude than in Latin America. One limitation of the reviewed evidence is that it does not directly discuss the effects of regulation on informal employment.

Incentives to formalization of jobs can also be stimulated more directly through hiring subsidies or targeted reductions in payroll taxes and social security contributions (Zenou, 2008). These policies, however, need to be precisely targeted, often requiring substantial labour market information that may not be readily available. Hiring subsidies are the more precise instrument but run the risk of large deadweight costs and substitution effects. Wage subsidies, on the other hand, can be very costly if not properly targeted and may lock workers into low-wage jobs without any possibility of career development. However, to the extent that productivity levels are not sufficiently high – in particular for low-skilled employment – to generate sufficient labour demand in the formal economy, both types of subsidies can constitute a strong mechanism for countries to improve transition probabilities out of informality. Countries, however, must recognize that, in isolation, these policies are no panacea for formalizing the labour market. Rather, complementary policies need to be implemented alongside them to enable workers' skill development and a rapid improvement in individual productivity levels to make the change into formality enduring.

2. Supporting workers in the informal economy

Fostering formalization in the labour market also requires proper protection and support for workers in the informal economy, helping them to access the necessary funds and resources for a successful transition. In this regard, the ratification of ILO Convention No. 81 ("Labour Inspection Convention") and subsequent implementation

of a well-functioning labour inspection and labour administration is key (International Labour Office, 2006). However, developing countries have experienced difficulties in the past in providing adequate financial resources for labour inspection. For those countries lacking sufficient domestic resources, international development banks or donor funds may provide financing alternatives. In addition, labour administration needs to benefit from regular auditing, carried out by appropriate tripartite structures that assist governments in improving their policies. Most importantly, in relation to informal employment, is the fact that a properly established labour inspection system benefits from a wide mandate that also reaches into the informal economy and gives appropriate means and instruments to enforce compliance with current regulation. Similar to formalization strategies of firms, effective compliance may require transition periods or dual regimes whereby (formal-sector) firms are supported in the process of gradually formalizing their workforce or helping to absorb informal workers.

As discussed in Chapter 2, informal employment is often firmly based on social networks. Policy initiatives to formalize employment, therefore, should target local development structures and carry out micro-level interventions. For instance, programmes to upgrade informal settlements could make use of private, community-based initiatives, thereby helping to improve living and working conditions and, at the same time, strengthening linkages between public authorities and local communities (International Labour Office, 2007a). Such local initiatives would also help to improve social dialogue between different development partners, allowing a more effective implementation of local priorities to support the informal economy and improve opportunities to take up formal employment. Local initiatives would also permit compliance in other areas to be improved, including regarding tax payments and respect for the law. Government services would be considered useful to the community, strengthening the support function of social networks.

Extending social protection to the informal economy can also be a powerful tool, not only for alleviating poverty and improving working conditions in the lower-tier segment of the informal labour market, but also for creating a lower wage floor that prevents firms from exploiting their monopsonistic market power in this segment. Typically, however, governments have shied away from offering social protection – even at the very basic level – to informally employed workers, as this could entail a substantial fiscal burden, especially in countries with very large informal economies (Unni and Rani, 2002). Available evidence suggests, however, that a minimum social floor can be provided without putting at risk fiscal sustainability. Indeed, minimum health care, old-age pensions and poverty relief is estimated to cost not more than 5 per cent of GDP (International Labour Office, 2008a). Moreover, in common with

community-based policy initiatives, social protection mechanisms can also rely on existing networks of workers associations and microfinance institutions, such as the Self-Employed Women's Association (SEWA) in India (Lund and Nicholson, 2006). Financially supporting these networks is likely to be considerably cheaper than setting up a full new administrative structure. Nevertheless, existing organizations may be weak and, overall, organizations are few in number, preventing these community-based approaches from being applied more widely (Kucera and Roncolato, 2008). However, to the extent that governments can identify several complementary benefits from supporting these associations, a more encompassing strategy should be sought, whereby public-supported private benefit schemes can create strong membership incentives and a multiplier effect of government intervention in expanding protection to the informal economy.

In conclusion, an encompassing strategy – improving the transition out of formality and supporting those who remain informally employed – seems to be the most promising strategy in poverty reduction and formalization, albeit over a long horizon. Existing examples of countries that have managed to lower their incidence of informal employment support the view that these approaches may bring the most benefits for developing countries (see Box 7. 3).

C. Employment-friendly trade policies

As discussed in Chapter 3, the existing literature does not offer clear results regarding the effects of trade reforms on informal employment. Theory points to a number of mechanisms through which trade opening affects informal jobs. It also identifies factors that can be shown to affect the reaction of informal employment and wages to trade opening. The degree of segmentation of capital markets and the production interactions between the formal and the informal sectors seem to play an important role. As for the empirical studies, they suggest that both the sign and the size of the effect of trade opening on informal variables are highly dependent on country-specific circumstances. Trade opening raised informality in Colombia, reduced it in Mexico and did not have any measurable effect on informality in Brazil. They also show that, in Colombia, trade opening raised informal employment only before labour regulations were made substantially more flexible. Our own estimates go one step further, allowing a distinction to be made between the effect of the reduction of trade barriers (level of tariffs and other barriers) and the effect of trade openness (as measured by the trade to GDP ratio). They suggest that, while tariff reductions may increase informal employment, more trade is typically associated with less informal employment.

These results are clearly in line with the general idea that, even though trade opening brings net gains to the economy, this does not imply that the economy is immediately better off. In the short term, trade opening will induce adjustments which correspond to a reallocation of resources to more productive uses. Adjustment is a *sine qua non* condition for efficiency gains from trade and therefore cannot be avoided. A number of mechanisms through which trade opening could raise informal employment have been discussed in the foregoing chapters. It can induce import-competing firms to use more informal labour either by replacing formal with informal workers (i.e. by cutting worker benefits or using more part-time and short-term contract workers) or by outsourcing activities to the informal sector. Firms can also lay off workers who may end up in the informal sector if they cannot find appropriate formal jobs. Unfortunately, the literature does not provide much guidance on remedial measures to alleviate potentially adverse employment effects of globalization (Bacchetta and Jansen, 2003; Goldberg and Pavcnik, 2007; International Labour Office and World Trade Organization, 2007). In fact, it raises more questions than it answers. A thorough understanding of the adjustment processes following trade opening would help in the design of appropriate policies. Surprisingly, however, little is known about the transitional employment effects of globalization. Among the few common findings identified by Goldberg and Pavcnik (2007) in their overview of the studies of adjustment to trade reforms in developing countries, one that stands out is the lack of inter-sectoral labour reallocation which might, at least in part, be related to constrained labour mobility (see also the discussion in the subsequent section).

Another finding is that the particular mechanisms through which globalization affects labour markets are country-, time- and case-specific. The effect of trade opening must be examined in the light of the effect of other policy reforms and it must be borne in mind that implementation details are important. All in all, further research and more data are necessary to be able to develop country-specific diagnoses and policy recommendations. In particular, our study has demonstrated that data on the informal economy in sufficient quantity to be usefully exploited is available only for a limited number of countries. Also, other aspects of informality – including measures based on production rather than employment and differentiation of informality according to different tiers – need to be the subject of further research to improve our understanding of labour market dynamics in developing economies.

Having said this, the existing literature offers a number of general guidelines that may assist in the design of trade policies which result in minimal adjustment costs (Bacchetta and Jansen, 2003). One such guideline is that gradual opening may be optimal for political reasons and in the presence of certain market distortions. Another guideline is that the credibility attributable to trade policies is important.

Box 7.3 Poverty reduction in Brazil

Over the past decade, Brazil has made significant social progress by reducing inequality and lowering informality, while at the same time maintaining a relatively solid growth record. These successful achievements have emerged through a sequence of trade reforms, changes to labour market and social policies. The labour market has been supported by several policy reforms.

■ The Brazilian development bank: Based on a mandatory savings scheme from labour income, its objective is to strengthen the supply of capital to micro entrepreneurs regardless of whether they operate formally or informally. The bank can thereby achieve macroeconomic objectives without competing with the private sector for funds, avoiding crowding out problems.

■ Bolsa Familia: This conditional cash transfer system for poor households has been complemented with additional programmes to improve adult literacy and promote employment opportunities. Bolsa Familia has been successfully extended as a response to the crisis.

■ Pension reform: The public pay-as-you-go pension system has been made more equitable, both in terms of access to benefits and benefit levels. This has helped reduce deficits of the pension system, while also opening fiscal space for anti-poverty measures.

■ Pensions for rural workers and disabled people: This informal sector pension scheme supports workers, especially in rural areas. It has helped to lower rural-urban migration, thereby reducing the inflow into urban informal labour markets.

Source: Medici (2004); http://www.mds.gov.br/bolsafamilia/; http://inter.bndes. gov.br/english/

Workers and firms will only adjust to trade opening if they believe that the move to freer trade will not be reversed. A third guideline is that export development is crucial to lower the adjustment cost associated with trade reforms. If export-oriented firms can absorb workers displaced from import-competing firms, adjustment costs will be lower. It may not always be possible to ensure that displaced workers immediately find better paid jobs, but, if possible, the creation of new jobs should not come at the expense of a deterioration in working conditions.

In relation to this third guideline, the Aid-for-Trade Initiative has raised awareness that support to developing countries and, in particular, to the least developed, is needed to overcome the barriers that constrain their ability to diversify their exports, expand trade and thereby reduce poverty. As a result, countries are raising the profile of trade in their development strategies and donors are responding by providing increasing resources to build trade capacity – whether in terms of policies, institutions or infrastructure.

More generally, trade policies should, as far as possible, avoid policy-induced distortions of comparative advantage in favour of industries that generate no, or mainly poor quality, jobs. Examples of such distortions among developing countries abound. For reasons of political economy, protection in developing countries often favours investment in capital-intensive industries, such as shipbuilding, chemicals, steel and other sectors with little potential for expanding employment in the formal economy. Also, the creation of an EPZ around specific industries linked to resource extraction may have only limited potential for both industrial development and employment creation. Instead, policy-makers could ensure that these instruments are utilized in a "sector-blind" manner, offering favourable investment conditions regardless of the particular sectors in which firms plan to expand capacity.

These guidelines and, in particular, specific attention to export development, together with appropriately designed formalization policies should, in principle, reinforce the negative relation between trade openness and informal employment. Beyond these general guidelines, neither the literature that we have reviewed nor our empirical work provide much guidance regarding the design of trade policies. This is an area where further research and policy development remains to be undertaken.

D. Coherence between trade and labour market policy

Past strategies designed to formalize the labour market have often relied on economic growth, with the expectation that trickle-down processes from higher growth rates would create jobs in the formal economy that would eventually absorb informally employed workers. As argued in this report, these strategies may need to be reconsidered. If the persistence of large informal sectors is not only a consequence of weak growth but also an obstacle to growth and development, informality will need to be addressed through a combination of growth policies and formalization policies.

Moreover, the current global crisis suggests that the pattern of globalization, based on strong growth of domestic demand in some key countries of the world economy, is

unlikely to be so marked in the future. While countries may have to find domestic sources of growth in the face of stiffening competition on world markets, that does not mean that trade integration must be stopped or reversed. On the contrary, specialization through trade according to comparative advantage and international capital flows will continue to be an important component of countries' growth and poverty reduction strategies. However, there is a possibility that, following the rebalancing of global imbalances, trade growth may stabilize at a lower, more sustainable level, making it more difficult for countries to export their way out of poverty. More than ever, export opportunities and advantages will need to be sought through genuine competencies and cost advantages that lead to sustainable patterns of international trade.

1. Core labour standards

In this regard – and to ensure a fair and more socially inclusive globalization – the question of the promotion of labour standards in the context of expanding global trade remains as relevant as ever. In the Singapore Ministerial Declaration in 1996 (WTO, 1996), WTO Members reinforced their committment "to the observance of internationally recognized labour standards". They also recognised that "[t]he International Labour Organization (ILO) is the competent body to set and deal with these standards, and [they] affirm[ed] their support for its work in promoting them." They reiterated their belief "that economic growth and development fostered by increased trade and further trade liberalization should contribute to the promotion of these standards". The Singapore Declaration also rejected the use of labour standards for protectionist purposes and WTO Members declared their intention not to impose them in such a way as to put "the comparative advantage of countries, particularly low-wage developing countries", in doubt. The WTO and ILO secretariats were requested to continue their existing collaboration. In the discharge of its recognized responsibilities the ILO adopted two key Declarations. In 1998 it adopted a Declaration on "Fundamental Principles and Rights at Work" (ILO, 1998) which identified the rights and principles at work whose guarantee is of special significance to maintain the link between social progress and economic growth "in that it enables the persons concerned to claim freely and on the basis of equality of opportunity their fair share of the wealth which they have helped to generate, and to achieve fully their human potential". It stressed that all members, even when they have not ratified the conventions[1] which elaborate these principles and rights, have an obligation to respect, promote and realize them in good faith. In 2008 the ILO further elaborated the significance and implications of these rights in the Declaration on Social Justice (ILO, 2008) which proclaims inter alia that "the violation of fundamental principles and rights at work cannot be invoked or otherwise used as a legitimate comparative

advantage and that labour standards should not be used for protectionist trade purposes".

The ILO has regularly reported on commitments made by countries and supported them by providing technical assistance. In 2000, the ILO Governing Body also broadened the mandate of the working party on the "Social Dimensions of Liberalization of International Trade", renaming it the working party on the "Social Dimensions of Globalization". WTO Members, at the Doha Ministerial Meeting in 2001, reaffirmed their Singapore commitment regarding internationally recognized core labour standards and took note of the work under way in the ILO on the social dimension of globalization. The issue of trade and labour standards remains an intensely discussed subject among economists, policy-makers, international agencies and non-governmental organizations (Marceau, 2008; Stern and Terrell, 2003).

Some bilateral and regional trade agreements have integrated national and international labour standards in the form of labour clauses (Doumbia-Henry and Gravel, 2006; Polaski, 2004). In particular, the United States has been active in seeking to promote core labour standards – freedom of association, elimination of forced labour, effective abolition of child labour, and the elimination of discrimination in employment and occupation – as well as certain other labour standards. Other countries, such as Canada and Chile, have included similar provisions in some of their trade agreements or – as in the case of the Mercosur common market – have incorporated them in the overarching political framework, without including them specifically in their trade agreements. To date, however, no comprehensive evaluation is available as to the effectiveness of these clauses in protecting labour standards in developing countries or their effects on the informal economy. Neither is there an assessment of the possible adverse effects of these clauses on trade and economic integration between the partners to these agreements. Further research is, therefore, needed to assess to what extent these clauses can stand up to scrutiny or whether other instruments are more effective in promoting the formalization process.

2. Active labour market policies and job reallocation

A second field in which coherence between trade and labour market policies must be sought concerns the area of active labour market policies and public employment services. Our study shows that important gains for the formal economy can be sought once employment is reallocated across sectors to reflect a country's comparative advantage. Active labour market policies are therefore crucial to enable dismissed employees to quickly find new opportunities in other sectors instead of transiting

into the informal economy. This requires a tight, countrywide network of public employment services (PES) with a well-developed information exchange handling job vacancies and labour market developments in different regions. These PES also need to be adequately staffed to permit an appropriate follow-up of registered jobseekers, provision of regular advice and appropriate identification of both potential vacancies that match the skills of the jobseekers and eventual training needs.

The particular challenge for PES in developing countries – besides the financing constraints that many of these countries face – is the fact that they also need to reach out to the informal economy and unregistered jobseekers there. Lowering the administrative burden involved in accessing services at the PES is crucial. This includes ensuring short distances to local outlets, non-discriminatory access to services (i.e. disregarding the status and type of current employment), opening hours compatible with typical working hours in the informal economy and, eventually, also proactive outreach into the informal economy, potentially in partnership with civil society and non-governmental organizations. Equally important will be the setting of incentives to PES to make best use of their regional and local knowledge of the state of the labour markets and to motivate both unemployed and informally employed workers to find jobs in the formal economy. Here, experiences that have been gained in recent years in countries with a longer history of PES, such as the Netherlands and Denmark, are potentially of use in setting up an incentive-compatible system in developing countries (Carcillo and Grubb, 2006).

It is important to recognize, however, that even if implemented quickly, such policies need time before substantial gains can be made and will have to be adjusted over time to the country specificities of the labour market. A long-term commitment to such policies is therefore necessary so that PES at the local level can adjust their activation instruments as required and allow formalization processes to take root.

3. Coordination of trade and labour market policies

Finally, the complementary nature of trade and labour market policies poses a particular challenge to policy-makers in implementing such reforms simultaneously. Clearly, opening up the current account without strengthening the supply side will prevent long-term benefits of trade openness from emerging quickly. In particular, legislation and restrictions that hamper the smooth reallocation of jobs and capital across sectors and between the formal and the informal economy need to be lifted.

Implementing policies that improve the functioning of the labour market and promote a more fluid reallocation of resources across different segments and geographical areas is likely to foster employment creation in the formal economy, irrespective of any trade reforms. This is particularly relevant for countries that already run current-account surpluses and where domestic savings do not find sufficient opportunities for investment in the home country.

There is, therefore, a strong argument for coordination of labour market and formalization policies on the one hand and trade policies, on the other. Poor coordination of reforms not only hampers a country's successful integration into the world economy, but runs the risk of leaving it worse off, with a higher incidence of informality and more vulnerable employment, further depressing its economic outlook. However, requiring the economy to formalize, before going ahead with trade reforms, is likely to postpone relevant measures indefinitely or, at the very least, for an extended period of time. Countries with high informality rates can take several decades before the formal economy represents a substantial part of the total economy. Labour market reforms need to be implemented that guarantee a sufficiently strong supply reaction of the formal economy without necessarily leading to substantially higher observed formality rates prior to trade opening.

At the level of policy-making institutions, issues related to sequencing of reforms require a close collaboration between the ministries of labour and commerce. Technical expertise needs to be exchanged to evaluate the extent to which supply constraints are binding and what pace of market opening is compatible with successful labour reallocation. At the same time, a clear political agenda for reforms should be set up to enable labour ministries to implement the appropriate policies and seek support from local and regional policy-makers for their programmes. Such trade reform agendas can be used to set a constraining time-frame for labour market reforms that need to be implemented beforehand to strengthen the supply side. Such political economy mechanisms have been used successfully in the past in advanced economies as a means of promoting more flexible labour markets (Nicoletti and Scarpetta, 2005). Often, however, this will require tight interaction between different ministries and layers of policy-makers, which might not be easily achieved in countries with little experience in this domain. International organizations such as the WTO and the ILO therefore have obvious roles to play in supporting countries when implementing such large-scale reforms and helping them to achieve a successful transition to a competitive economy, relying on decent work conditions.

Box 7.4 Open issues.

This study examines the role of trade in shaping informal labour market developments. It reviews the current state of economic intelligence in this field and presents new empirical evidence; but the study also points to several open issues that future research should address, possibly in the form of in-depth country studies:

■ How are the different segments of informal economies related to each other and to the formal economy? How does trade opening affect the transition probabilities of employees among these segments, including unemployment? How do adjustment processes play out in the informal economy? What are the time lags involved in successful adjustment?

■ How do domestic policies shape the adjustment process following trade reforms? In particular, how should countries adapt their policy mix in terms of capital and income taxation, labour market institutions and social protection, product market reforms and governance systems to respond to challenges arising from trade opening? How do initial country conditions determine the optimal mix of these policies?

■ How can the complementarities between trade reforms and labour market policies be fostered? Is there an optimal reform path through which complementarities between the two policy domains can be exploited? How can trade reforms be designed to support the efforts of policy makers to formalize the economy and to strengthen the productive capacity of the informal economy?

Endnotes

1. ILO Conventions No. 11, 29, 87, 98, 100, 105, 138 and 182.

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Annex 1: Data description

A. Informality measures

Country	Time period	Source	Definition	Coverage
LATIN AMERICA				
Argentina	1996-2006	Roca et al. (2006)	Harmonized non-registered employment	Gran Buenos Aires
Bolivia	1990-1997	Key Indicators of the Labour Market database ILO Regional Database for Latin America and the Caribbean	All own-account workers (excluding professionals and technicians) and unpaid family workers, and employers and employees working in establishments with less than 10 persons engaged, depending on the available information.	National
Brazil	1992-2006	Rani (2008) calculations based on data processed by the ILO's Information System and Labour Analysis (SIAL) in Panama city	Informal sector includes enterprises with less than 5 workers, entrepreneurs, own account workers or self-employed (excluding professional, managerial and technical workers), contributing family workers (unpaid) and domestic workers.	National
Chile	1990-2006	Rani (2008) calculations based on data processed by the ILO's Information System and Labour Analysis (SIAL) in Panama city	Informal sector includes enterprises with less than 5 workers, entrepreneurs, own account workers or self-employed (excluding professional, managerial and technical workers), contributing family workers (unpaid) and domestic workers.	National

Colombia	1992-2004	Bustamante (2006)	Workers in small businesses with less than 10 employees, family workers without remuneration, domestic employees, self-employed workers except independent professionals.	Seven main cities
Costa Rica	1990-2006	Rani (2008) calculations based on data processed by the ILO's Information System and Labour Analysis (SIAL) in Panama city	Informal sector includes enterprises with less than 5 workers, entrepreneurs, own account workers or self-employed (excluding professional, managerial and technical workers), contributing family workers (unpaid) and domestic workers.	National
Dominican Republic	2000-2003	Key Indicators of the Labour Market database ILO Regional Database for Latin America and the Caribbean	All own-account workers (excluding professionals and technicians) and unpaid family workers, and employers and employees working in establishments with less than 5 or 10 persons engaged, depending on the available information.	National
Ecuador	1994-2006	Rani (2008) calculations based on data processed by the ILO's Information System and Labour Analysis (SIAL) in Panama city	Informal sector includes enterprises with less than 5 workers, entrepreneurs, own account workers or self-employed (excluding professional, managerial and technical workers), contributing family workers (unpaid) and domestic workers.	Urban
Honduras	1990-2006	Rani (2008) calculations based on data processed by the ILO's Information System and Labour Analysis (SIAL) in Panama city	Informal sector includes enterprises with less than 5 workers, entrepreneurs, own account workers or self-employed (excluding professional, managerial and technical workers), contributing family workers (unpaid) and domestic workers.	National

Mexico	1995-2006	Rani (2008) calculations based on data processed by the ILO's Information System and Labour Analysis (SIAL) in Panama city	Informal sector includes enterprises with less than 5 workers, entrepreneurs, own account workers or self-employed (excluding professional, managerial and technical workers), contributing family workers (unpaid) and domestic workers.	National
Paraguay	1995-2006	Rani (2008) calculations based on data processed by the ILO's Information System and Labour Analysis (SIAL) in Panama city	Informal sector includes enterprises with less than 5 workers, entrepreneurs, own account workers or self-employed (excluding professional, managerial and technical workers), contributing family workers (unpaid) and domestic workers.	National
Panama	1991-2006	Rani (2008) calculations based on data processed by the ILO's Information System and Labour Analysis (SIAL) in Panama city	Informal sector includes enterprises with less than 5 workers, entrepreneurs, own account workers or self-employed (excluding professional, managerial and technical workers), contributing family workers (unpaid) and domestic workers.	National
Uruguay	1996-2005	Rani (2008) calculations based on data processed by the ILO's Information System and Labour Analysis (SIAL) in Panama city	Informal sector includes enterprises with less than 5 workers, entrepreneurs, own account workers or self-employed (excluding professional, managerial and technical workers), contributing family workers (unpaid) and domestic workers.	National

Venezuela	1994-2006	Rani (2008) calculations based on data processed by the ILO's Information System and Labour Analysis (SIAL) in Panama city	Informal sector includes enterprises with less than 5 workers, entrepreneurs, own account workers or self-employed (excluding professional, managerial and technical workers), contributing family workers (unpaid) and domestic workers.	National
ASIA				
China	1990, 2003	Ghose et al. (2008)	Informal is taken as the difference between formal employment and the labour force. Formal employment includes employment in state-owned enterprises, in collectively owned enterprises and in private large-scale enterprises.	National
India	1993-4, 1999-2000, 2003-4	Rani (2008)	Informal sector includes enterprises with less than five workers, entrepreneurs, own-account workers or self-employed (excluding professional, managerial and technical workers), contributing family workers (unpaid) and domestic workers	National
Indonesia	1990-2003	Sakernas as cited by Sugiyarto et al. (2006)	Sakernas National Labour Force Survey Indonesia classifies workers employment status into employers, employees, self-employed and unpaid family workers. In Indonesia informality is defined as self employed and unpaid family workers.	Urban
Pakistan	1992, 1997, 2000	Key Indicators of the Labour Market database	Households in unincorporated enterprises owned by own-account workers; households in unincorporated enterprises owned by employers with less than 10 persons.	Urban

Sri Lanka	1990-2003	Ghose et al. (2008)	Employment in the formal segment is taken as the sum of wage employment in the public sector and wage employment in those private sector establishments that employ at least ten wage workers. Informality is the difference.	National
Thailand	1994, 2001	Rani (2008)	Informal is taken as the difference from formal employment. Formal: enterprises with more than 5 workers and those in public administration.	National

AFRICA				
Botswana	1994, 2001	Rani (2008)	Informal is taken as the difference between formal employment and the labour force. Formal enterprises include those with more than 15 workers and those in public administration.	National
Cameroon	1993-2005	Enquête sur l'emploi informel au Cameroun (EESI) Institut National de la Statistique	Informality is measured on the basis of unregistered production units and those that do not keep books formally.	National
Egypt	1988, 1998, 2006	El Mahdi and Rashed (2007)	Private non-agricultural wage-workers as a share of non-agricultural wage workers.	National
Ethiopia	2000, 2003-2005	Statistical Bulletin from Central Statistical Agency	Number of answers to: a) has ten or more workers, b) is keeping book of account that show monthly income statement and balance sheet and c) is licensed.	Selected urban centres
Ghana	1998	Standardized Survey Bulletin based on surveys conducted by African National Statistical Offices. World Bank African Region	Informal sector employment: own account workers, unpaid family workers who work for at least 7 hours per day, and employers and employees in small establishments (less than five workers)	National

Kenya	1997	Standardized Survey Bulletin based on surveys conducted by African National Statistical Offices. World Bank African Region	Informal sector employment: own account workers, unpaid family workers who work for at least 7 hours per day, and employers and employees in small establishments (less than five workers)	National
Malawi	1998	Standardized Survey Bulletin based on surveys conducted by African National Statistical Offices. World Bank African Region	Informal sector employment: own account workers, unpaid family workers who work for at least 7 hours per day, and employers and employees in small establishments (less than five workers)	National
South Africa	1997-2006	Essop and Yu (2008)	October Household Survey, conducted annually by SSA from 1994 to 1999, consisting of those businesses that are unregistered and do not have a value added tax (VAT) number. A cautionary note is that the 1995 OHS did not ask respondents whether their employers were registered, thus undercounting the informal sector in this year. From 1999 on, self-declaration was given preference over VAT registration as the defining characteristic, i.e. respondents were specifically asked if they considered themselves part of the informal economy.	National
Tanzania	1990, 1995	Key Indicators of the Labour Market database	Employment in enterprises with less than 5 employees.	Urban
Zambia	1998	Standardized survey bulletin based on surveys conducted by African National Statistical Offices. World Bank African Region	Informal sector employment includes own-account workers, unpaid family workers who work for more than seven hours per day, and employers and employees in small establishments (less than five workers)	National

			Informal is taken as the difference from formal employment.	
Zimbabwe	1990, 2002	Rani (2008)	Formal enterprises are those with more than 5 workers and those in public administration.	National

B. Economic and social indicators used in the empirical analysis

The table below summaries the variables, their definitions and their source as used in the empirical analysis of Chapter 6 and in the following Annex 2.

Variable	Definition	Source
GDP per capita (level)	Gross Domestic Product per capita in constant US$ 2000 prices	World Bank, World Development Indicators (2009)
GDP growth	Annual real GDP growth rate	World Bank, World Development Indicators (2009)
Population growth	Annual rate of change in population size	World Bank, World Development Indicators (2009)
Working-age population	Working-age population (15-64 years) in percentage of total population	World Bank, World Development Indicators (2009)
Trade diversification	Diversification index of exports and imports of countries and country groups	UNCTAD, 2009
Trade concentration	Concentration index of exports and imports of countries and country groups	UNCTAD, 2009
Traded share of manufacturing goods	Sum of manufacturing exports and imports as a share of GDP	World Bank, World Development Indicators (2009)
Trade openness	Sum of exports and imports as a share of GDP	International Monetary Fund, World Economic Outlook, 2007, chapter 4
KOF Globalization indicator	Index (0-100) of a weighted average of the indicators on "Economic flows", "Trade restrictions", "Personal contacts" and "Information flows"	Dreher et al. (2008)

Economic flows	Index (0-100) representing a weighted average of trade, foreign direct investment, portfolio investment and income payments to foreign nationals	Dreher et al. (2008)
Trade-weighted tariffs	Average of the effective rate (tariff revenue over import value) and the average unweighted tariff rates	International Monetary Fund, World Economic Outlook, 2007, chapter 4
Most-favoured nation (MFN) rate	Applied MFN average duty	CAMAD, 2009
Most-favoured nation rate (manufacturing)	Applied MFN average duty (manufacturing)	CAMAD, 2009
Trade restrictions	Index (0-100) representing a weighted average of hidden import barriers, mean tariff rate, taxes on international trade and capital account restrictions. The indicator moves from most to least restrictive.	Dreher et al. (2008)
Trade reforms	Annual percentage change of the trade restrictions indicator	Own calculation based on Druker et al. (2008)
Revenue from trade taxes	Index on the basis of amount of taxes on international trade as a share of exports and imports. The formula used to calculate the ratings for this sub-component was: $(V_{max} - V_i) / (V_{max} - V_{min})$ multiplied by 10. V_i represents the revenue derived from taxes on international trade as a share of the trade sector. The values for V_{min} and V_{max} were set at zero and 15%, respectively	Fraser Institute, Economic Freedom of the World (2008)
Export taxation	Index on the basis of the amount of taxes on international trade as a share of exports and imports. The formula used to calculate the ratings for this sub-component was: $(V_{max} - V_i) / (V_{max} - V_{min})$ multiplied by 10. V_i represents the revenue derived from taxes on international trade as a share of the trade sector. The values for V_{min} and V_{max} were set at zero and 15%, respectively	Fraser Institute, Economic Freedom of the World (2008)

Foreign direct investment liabilities	Inflows of foreign direct investment as a share of GDP	International Monetary Fund, World Economic Outlook, 2007, chapter 4
Personal contacts	Index (0-100) of a weighted average of the indicators on "outgoing telephone traffic", "transfers (as a percentage of GDP)", "international tourism", "foreign population (as a percentage of total population)" and "international letters (per capita)"	Dreher et al. (2008)
Information flows	Index (0-100) of a weighted average of the indicators on "internet hosts (per 1000 people)", "internet users (per 1000 people)", "cable television (per 1000 people)", "trade in newspapers (percent of GDP)" amd "radios (per 1000 people)"	Dreher et al. (2008)
Geographical distance	Trade-weighted geographical distance of a country with respect to its trading partners	International Monetary Fund, World Economic Outlook, 2007, chapter 4
Government spending	Index on the basis of general government consumption spending as a percentage of total consumption. The rating for this component is equal to: $(V_{max} - V_i) / (V_{max} - V_{min})$ multiplied by 10. The V_i is the country's actual government consumption as a proportion of total consumption, while the V_{max} and V_{min} were set at 40 and 6, respectively	Fraser Institute, Economic Freedom of the World (2008)
Top marginal tax rates	Index on the basis of marginal income tax rates at the highest income braket. Countries with higher marginal tax rates that take effect at lower income thresholds received higher ratings	Fraser Institute, Economic Freedom of the World (2008)
Tax revenues	Index on the basis of general government tax revenues as a share of GDP	Fraser Institute, Economic Freedom of the World (2008)

Transfers and subsidies	Index on the basis of general government transfers and subsidies as a share of GDP. The rating for this index is equal to: $(V_{max} - V_i) / (V_{max} - V_{min})$ multiplied by 10. The V_i is the country's ratio of transfers and subsidies to GDP, while the V_{max} and V_{min} values are set at 37.2 and 0.5, respectively	Fraser Institute, Economic Freedom of the World (2008)
Rule of law	Index (-2.5 to 2.5) capturing perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence	Kaufmann et al. (2009)
Corruption	Index (-2.5 to 2.5) capturing perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as state capture by private interests	Kaufmann et al. (2009)
Government accountability	Index (-2.5 to 2.5) capturing perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media	Kaufmann et al. (2009)
Costs of start-ups	Index on the basis of amount of time and money it takes to start a new limited liability business. Countries where it takes longer or is more costly to start a new business are given lower ratings.	World Bank, Doing Business and Fraser Institute, Economic Freedom of the World (2008)
Product market regulation	Index on the basis of an (unweighted) average of the sub-indices on "costs of start-ups", "price controls" and "administrative burden"	Fraser Institute, Economic Freedom of the World (2008)
Price controls	Index on the basis of the extent to which price setting in sectors is subject to controls or marketing boards	Fraser Institute, Economic Freedom of the World (2008)

Administrative burden	Index on the basis of responses to the Global Competitiveness Report's question: "Complying with administrative requirements (permits, regulations, reporting) issued by the government in your country is (1 = burdensome, 7 = not burdensome)"	World Economic Forum, Global Competitiveness Report and Fraser Institute, Economic Freedom of the World (2008)
Minimum wages	Index on the basis of the ratio of mandated minimum wages to average value added per worker. Countries with higher mandated minimum wages relative to average value added per worker are given lower ratings. The formula used to calculate the zero-to-10 ratings for this sub-component was: $(V_{max} - V_i) / (V_{max} - V_{min})$ multiplied by 10. V_i represents the ratio between minimum wage and average value added per worker. The values for V_{max} and V_{min} were set at 79% (1.5 standard deviations above average) and 0%, respectively	Fraser Institute, Economic Freedom of the World (2008)
Centralization of wage bargaining	Index on the basis of responses to the Global Competitiveness Report's question: "Wages in your country are set by a centralized bargaining process (= 1) or up to each individual company (= 7)"	World Economic Forum, Global Competitiveness Report and Fraser Institute, Economic Freedom of the World (2008)
Educational achievement	Percentage of secondary school attainment in total population (15 years and above)	Barro and Lee (2000) extrapolated after 2000.

Annex 2: Technical details to the empirical analysis

This technical annex offers further details to the empirical analysis presented in Chapter 6. In particular, it discusses the methodology used to produce the different charts, describes the variables, presents the detailed regression results underlying Figures 6.1 to 6.3 and carries out some robustness checks.

A. Methodological considerations

The empirical analysis of this study is based on a panel data approach, making use simultaneously of the variation of informality rates between and within countries. Given the short time span over which our data run (at most 16 years), analysing countries individually would have only been possible for a very limited number of them. On the other hand, the differences in definitions of informality between countries does not allow to pool the data. Applying panel data estimators, we make the assumption that variations of informality rates within countries over time are not affected by the underlying type of definition. All specifications contain country fixed effects, for some specifications also time dummies have been included. The general specification of the estimated equations writes as:

$$Y_{it} = \alpha_i + \beta X_i + \gamma Z_i + \varepsilon_i$$

where ε_{it} is i.i.d. In those equations where Y_{it} represents the incidence of informal employment, both the rate of informal employment over total employment and the logit-transformed rate have been used (not reported). Explanatory variables are split into variables of interest for the purposes of this study, X_{it}, control variables, Z_{it}, and country fixed effects α_i. Notably, the latter catch any level differences across countries related to the variations in the definition of informal employment.

Due to the highly persistent nature of informality rates within countries – confirmed by various (panel) auto-correlation tests of our data (not reported) – standard least-square estimators cannot be applied as they would yield biased and/or over-optimistic results. To control for auto-correlation, our preferred estimator has been generalised least squares, controlling in addition for heteroscedasticity and – depending on the model specification – for sample-wide or panel-specific auto-correlation. Depending on the specification used, also panel-corrected Prais-Winston estimators have been used. Typically, the choice between one or the other has been based on the number of observations and the goodness of fit.

Many of the explanatory variables suffer from limited time-variability, in particular regarding the relatively short time period under consideration. Typically, policy

variables such as labour and product market regulation but also certain trade reform indicators that restrict the sample substantially due to limited availability, show very little variation within panels in comparison to variation between panels. In a standard panel regression controlling for fixed effects, such variables can become indistinguishable from country-specific effects. In an alternative specification, we, therefore, also control for limited time variability, applying a vector decomposition of the country fixed effects (Plümper and Tröger, 2007).

B. Detailed regression results

Table A2.1 to A2.3 present the main regression results underlying the discussion in Chapter 6. Table A2.1 presents the economic determinants of informal employment. A first series of results gives the individual contributions of these determinants controlling for the level of economic development and – depending on the specification – the (relative) size of the working-age population. Equations 16-18 give fuller specifications, analysing the extent to which different determinants are collinear. Equation 18 is the specification used for the contribution Figure 6.1.

As can be seen from Table A2.1, all analysed factors enter the different specifications in a statistically significant way and with the expected sign. Including different factors simultaneously does not alter the sign or the size of the coefficient. In particular, trade openness and the indicator for trade reforms enter simultaneously and significantly in equations 16-18, an indication for the fact that the two measures possibly act at different time scales with respect to the incidence of informal employment. In particular, it may be conjectured that the negative association between trade openness and informal employment represents a long-term relation whereas the positive association between trade reforms and informal employment (i.e. the negative correlation between trade restrictions and the incidence of informality in Table A2.1) represents a short-term link. Partly, this distinction can be justified by the fact that within our country sample, the variation of the trade openness measure is larger between countries than over time within countries whereas the opposite applies for the indicator of trade reforms/restrictiveness. To control for the possibility of an endogeneity bias between trade openness and informality, equations (2), (9) and (18) also display specifications with the lagged trade openness indicator, leading to results not sensibly different from the other specifications.

Table A2.2 deepens the empirical analysis by integrating various policy determinants into the regression equation. In particular, government activity related to taxation and regulation is being considered in the following specifications. Equations 16-19 display more elaborate specifications, where equation 19 has been used for the contribution Figure 6.2. A differentiation has again been made between contemporaneous and lagged measures of trade openness. Moreover, trade restrictions have been

differentiated from trade reforms (i.e. the annual change of trade restriction measures). Overall, the different specifications give a consistent picture even when considering alternative measures for similar types of policy interventions (e.g. the four indicators relating to "costs of start-ups", "product market regulation", "price controls", "administrative burden").

In order to test the impact of informality on different economic and social outcome indicators, Table A2.3 performs several estimations to assess the association between the incidence of informal employment and output growth, employment growth, inequality and trade concentration.

C. Robustness checks

To understand the extent to which our results are driven by certain characteristics of our data, we apply three robustness checks:

■ First, we run our preferred specification as a dummy-variables quantile regression, applying the same specification to different quantiles regarding the incidence of informal employment in our country sample. This will allow us to see whether certain variables are particularly effective for countries at particular levels of informality.

■ Second, we assess to what extent possible endogeneity between trade openness and informality affects our results by estimating different models carrying out system-GMM estimations.

■ Finally, we aim at directly identifying outliers that might drive our results. Here, we use particular statistical measures that could indicate specific points in our sample that are likely to drive the regressions and should therefore be eliminated.

1. Quantile regressions

Quantile regressions allow to assess the extent to which countries with particular characteristics in our sample are dominating the results. In particular, we are interested in understanding to what extent the incidence of informal employment plays a role in explaining the impact of the different economic and policy factors that we have identified above. In Figure A2.1, four different factors are retained and their impact is presented depending on the quantile of informal employment at which their effect is assessed.

The relatively small sample size and the nature of our data (panel data instead of either time series or cross-section) precludes a more elaborate specification. Instead,

Table A2.1: Globalization and informal employment

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Dependent variable: Incidence of informal employment																	
Economic control variables																		
GDP per capita (levels)	-2.1e-3*** (3.6e-4)	-5.8e-3*** (1.1e-4)	-6.1e-3*** (5.5e-4)	-1.3e-3*** (4.0e-4)	-1.4e-3*** (4.2e-4)	-2.0e-3*** (5.1e-4)	-2.2e-3*** (7.2e-4)	-2.4e-3*** (4.0e-4)	-1.0e-3** (4.6e-4)	-1.3e-3*** (1.5e-4)	-2.2e-3*** (4.9e-4)	-3.4e-3*** (3.3e-4)	-2.0e-3*** (1.3e-4)	-2.5e-3*** (4.6e-4)	-2.7e-3*** (4.0e-4)	-2.7e-3*** (5.6e-4)	-2.7e-3*** (5.2e-4)	-2.4e-3*** (1.0e-4)
Working-age population size (%)	0.73*** (9.1e-2)	0.50*** (5.2e-2)	1.10*** (0.23)			0.30** (0.15)	0.95*** (9.0e-2)	0.65*** (0.12)		0.53*** (7.4e-2)	0.48*** (0.14)	1.08*** (0.14)	0.13*** (4.9e-2)	0.53*** (0.18)	0.51*** (0.14)	0.10 (0.24)		
Trade variables																		
Trade openness	-3.3e-2*** (1.1e-2)															-3.1e-2** (1.3e-2)	-3.0e-2** (1.3e-2)	
Trade openness (t-1)		-2.4e-2*** (5.3e-3)							-3.4e-2* (2.0e-2)									-1.9e-2** (8.2e-3)
Economic flows			-9.8e-2** (4.9e-2)															
Trade-weighted tariffs				-8.8e-2** (3.9e-2)														
Most-favoured nation rate					-0.14** (7.1e-2)													
Most-favoured nation rate (manufacturing)						-0.14* (8.1e-2)												
Trade restrictions							-0.16* (8.9e-2)	-4.9e-2** (2.1e-2)								-4.9e-2* (2.8e-2)	-6.2e-2*** (2.2e-2)	
Trade reforms (Change)									4.21*** (1.47)									13.94*** (2.85)
Revenue from trade taxes (Index)										0.46*** (0.12)								
Globalization indicators																		
Foreign direct investment											6.1e-2** (2.4e-2)	-0.35*** (5.1e-2)						
Personal contacts													-0.20*** (1.6e-2)					
Information flows														1.5e-3* (8.8e-4)			1.5e-3* (8.3e-4)	
Geographical distance															9.3e-2** (3.8e-2)	2.5e-3** (1.0e-3)		3.0e-3*** (5.8e-4)
KOF Globalization index											-3.1e-2*** (1.2e-2)							
Goodness-of-fit																		
R² / Chi²	4.6e+5	0.97	0.90	9.5e+3	8.9e+3	1.6e+4	0.39	1.3e+4	4.7e+3	0.98	1.3e+5	0.92	0.97	8.4e+3	8.3e+3	6.7e+3	8.7e+3	0.98
Number of observations	231	187	251	243	137	137	130	256	76	136	203	206	258	228	256	203	203	224
Number of countries	26	19	28	29	21	21	21	29	14	27	25	20	31	28	29	25	25	30
Country fixed effects	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	No	No	No	Yes	Yes	No	Yes	Yes
Time fixed effects	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Vector decomposition of s.e.	No	Yes	No	No	No	No	No	No	No	Yes	No	Yes	Yes	No	No	No	No	Yes

Note: The table displays the results of various specifications linking economic determinants to the incidence of informal employment. All specifications control for country fixed effects. Standard errors of the estimated coefficients are given in parentheses where the statistical significance level is indicated with an asterisk: *: statistical significance at the 10% level, **: 5% level significance, ***: 1% level significance.

Source: Authors' calculations

Table A2.2: Informality, trade openness and policies

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
	Dependent variable: Incidence of informal employment																			
Economic control variables	GDP per capita (levels)	-3.2e-3*** (4.1e-4)	-1.6e-3*** (1.0e-4)	-3.1e-3*** (4.2e-4)	-4.4e-3*** (3.8e-4)	-4.2e-3*** (7.0e-4)	-3.2e-3*** (1.2e-4)	-2.0e-3*** (4.5e-4)	-2.8e-3*** (3.5e-4)	-2.8e-3*** (4.8e-4)	-1.7e-3*** (3.6e-4)	-3.0e-3*** (2.4e-4)	-3.0e-3*** (3.8e-4)	-2.9e-3*** (2.4e-4)	-3.1e-3*** (5.3e-4)	-3.7e-3*** (4.9e-4)	-4.3e-3*** (4.5e-4)	-4.5e-3*** (4.6e-4)	-3.0e-3*** (3.8e-4)	-1.5e-3*** (9.7e-5)
	Working-age population size (%)	0.93*** (0.28)	0.76*** (6.1e-2)	0.97*** (0.29)	1.61*** (0.23)	0.33* (0.17)	0.63*** (4.9e-2)	0.39*** (6.7e-2)	0.84*** (9.1e-2)	0.57*** (0.11)	-1.46*** (0.28)	0.98*** (0.16)	1.05*** (0.26)	1.01*** (0.16)	0.72*** (0.13)	0.88*** (7.5e-2)	-1.94*** (0.32)	-2.06* (0.34)		
	Trade openness	-4.9e-2* (2.5e-2)		-5.1e-2* (2.5e-2)				-0.12*** (1.2e-2)		-8.6e-2** (1.2e-2)		-6.3e-2* (1.6e-2)		-5.8e-2*** (1.6e-2)	-2.6e-2* (1.5e-2)		-3.6e-2** (1.6e-2)		-5.6e-2*** (1.5e-2)	
	Trade openness (t-1)		-3.3e-2** (5.9e-3)						-0.12*** (8.9e-3)											
	Trade restrictions					1.21*** (0.29)										9.5e-2*** (1.1e-2)		5.6e-2*** (2.7e-2)		-2.9e-2** (8.5e-3)
	Trade reforms						8.12*** (3.04)													41.50*** (2.80)
Government activity	Government spending	-0.90*** (0.14)																		
	Top marginal tax rates		-0.59*** (4.2e-2)																	
	Export taxation (Index)			-3.41*** (0.38)	7.8e-2* (3.5e-2)															
	Tax revenues (in % of GDP)					0.55*** (0.12)	0.30*** (5.5e-2)													
	Transfers and subsidies (in % of GDP)																-0.29*** (6.4e-2)	-0.20*** (6.8e-2)	-0.28*** (7.0e-2)	-0.24*** (5.2e-2)
Regulation	Rule of law							-5.26*** (1.14)												
	Prevalence of corruption								1.41* (0.80)										1.37* (0.72)	2.04*** (0.36)
	Government accountability									-1.47** (0.29)								-0.46*** (0.15)		
	Costs of start-ups										1.4e-2** (6.1e-3)									
	Product market regulation											4.37*** (0.36)								
	Price controls												1.55*** (0.23)							
	Administrative burden													2.54*** (0.18)					0.39*** (8.6e-2)	0.71*** (2.2e-1)
	Minimum wages														-0.15* (8.0e-2)					
	Centralization of wage bargaining															0.82*** (0.16)	1.31*** (0.17)	1.29*** (0.19)	0.86*** (0.19)	0.57*** (0.16)
Goodness-of-fit	R^2 / Chi^2	0.96	0.99	0.96	0.96	3.9e+4	0.99	1.6e+6	9.3e+4	3.4e+4	2.1e+4	0.98	0.97	0.98	6.3e+4	7.5e+4	8.2e+10	9.0e+6	4.9e+5	0.99
	Numer of observations	78	104	78	53	70	137	125	125	125	52	78	78	78	112	116	103	108	77	83
	Number of countries	16	16	16	9	15	25	23	23	23	14	16	16	16	24	19	19	19	17	23
	Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Time fixed effects	No	No	No	Yes	No	No	No	No	No	No	Yes	No	No	No	No	No	Yes	No	Yes
	Vector decomposition of s.e.	Yes	Yes	Yes	Yes	No	Yes	No	No	No	No	Yes	Yes	Yes	No	No	No	No	No	Yes

Note: The table displays the results of various specifications linking economic determinants and policy factors to the incidence of informal employment. All specifications control for country fixed effects. Standard errors of the estimated coefficients are given in parentheses where the statistical significance level is indicated with an asterisk: *: statistical significance at the 10% level, **: 5% level significance, ***: 1% level significance.

Source: Authors' calculations

Table A2.3: Growth, employment, inequality and trade concentration with informal labour markets

	GDP growth						Employment growth		Income inequality			Trade concentration					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Initial GDP	-7.7e-4** (2.8e-4)	-6.1e-4*** (2.2e-4)	-1.2e-3*** (3.5e-4)	-1.4e-3*** (3.4e-4)	-1.9e-3*** (4.5e-4)	-1.4e-3*** (3.9e-4)											1.4e-3*** (3.7e-4)
GDP growth												8.2e-4*** (2.9e-4)	1.5e-3*** (3.6e-4)	6.9e-4** (3.1e-4)	1.2e-3* (7.0e-4)	8.3e-4*** (2.8e-4)	2.0e-3*** (9.5e-4)
Population growth																-1.9e-2*** (5.5e-3)	-1.6e-2* (8.5e-3)
Informality rate	-7.9e-2** (3.3e-2)	-4.8e-2** (2.4e-2)	-0.13*** (4.4e-2)	-0.17*** (4.3e-2)	-0.20*** (5.3e-2)	-0.15*** (4.6e-2)	-6.9e-4** (3.4e-4)	-8.1e-4** (3.8e-4)	0.10*** (2.4e-2)	9.5e-4** (4.0e-4)	1.2e-3*** (3.6e-4)	1.4e-3*** (4.5e-4)	2.2e-3*** (7.5e-4)	8.1e-4 (5.0e-4)	3.1e-3*** (5.5e-4)	9.9e-4** (4.4e-4)	1.4e-3*** (3.7e-4)
Trade openness		3.0e-2*** (8.8e-3)				3.6e-2* (1.9e-2)		2.0e-4** (1.0e-4)			4.1e-4*** (1.2e-4)						
Trade diversification					3.8e-2*** (1.1e-2)	4.0e-2*** (1.3e-2)											6.1e-4*** (1.4e-4)
Tariff rate				-0.29** (0.13)													
Most-favoured nation rate													-7.7e-3*** (3.8e-3)				-2.2e-3*** (5.2e-4)
Trade restrictions														-8.6e-4* (4.8e-4)	-1.5e-3* (8.0e-4)		
Educational achievement			0.13*** (4.2e-2)	0.10** (4.1e-2)													
Traded share of manufacturing goods																	-3.3e-3*** (1.8e-4)
R²	0.15	0.20	0.29	0.34	0.13	0.16									0.76		0.92
Chi²							1.3e+2	1.4e+2	3.2e+3	4.1e+3	6.1e+3	3.0e+3	3.0e+3	2.8e+3		3.6e+3	
Number of observations	206	235	118	118	157	136	189	189	103	188	176	188	128	161	157	188	180
Number of countries	20	30	16	16	19	18	20	20	20	22	22	22	27	20	19	22	30
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vector decomposition of s.e.	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	Yes	No	Yes

Note: The table displays the results of various specifications linking the incidence of informal employment and other economic determinants to different outcome indicators such as GDP growth, employment growth, income inequality and an export concentration index. All specifications control for country fixed effects. Standard errors of the estimated coefficients are given in parentheses where the statistical significance level is indicated with an asterisk: *: statistical significance at the 10% level, **: 5% level significance, ***: 1% level significance.

Source: Authors' calculations

the four different factors have been assessed individually, including only very few additional control variables. In addition, country and time dummies have been used to control for country characteristics and common shocks. Despite these limitations, Figure A2.1 displays some noteworthy results. In particular, the four charts confirm that the different factors do not excercise the same effect regardless of the quantile at which they are applied. For example, the informality-reducing effect of trade openness is strongest at intermediate levels of informality rates but seem to be statistically only weakly or not significant in countries with either high or low informality rates. For other variables, such as foreign direct investments the coefficient remains statistically significant throughout the entire sample but the absolute size of the coefficient changes depending on the incidence of informality in a particular country.

These results further confirm the complexity of informal employment that is difficult to be properly taken into account at an aggregate level as the one used in this study. Clearly, further research is needed to better understand the country characteristics and their role in the transmission of different factors on the size of the informal economy. Moreover, these results caution against a generalization of the results of our empirical analysis for countries not included in our sample.

2. System-GMM

Panel estimators as the ones used for the results in this study cannot account for possible endogeneity between (*de facto* and *de jure*) trade openness and informality measures. As argued in the previous chapters, the size of the informal economy is by itself a likely factor in determining a country's success in international trade. This reverse effect is potentially a source of bias in the estimated coefficients, in particular in Table A2.1 and A2.2. In the estimated equations for Figures 6.1 and 6.2, therefore, the lagged value for trade openness has been retained as a first approach to address this issue. However, due to the highly persistent nature of the our trade openness measure, this may not be sufficient to address such an endogeneity bias.

As an alternative approach to address this bias, we implement the Arellano-Bond system GMM estimator that uses lagged values for all variables as instruments. In the specifications reported in the following table we concentrate on the *de facto* and *de jure* trade openness measure as the two most likely variables in our sample to suffer from an endogeneity bias. As suggested by these results, the estimated sign of the association between *de facto* trade openness and the incidence of informal employment continues to be significantly negative while the sign of the association between trade reforms (i.e. changes in *de jure* trade openness) continues to be significantly positive. More fundamentally, the absolute size of the coefficient is almost identical to the estimated coefficient in similar specifications in Table A2.1. Direct tests confirm that the endogeneity bias, if it exists at all, is likely to be very small and not affecting the sign of the estimated relationship.

Figure A2.1 Selected quantile regressions
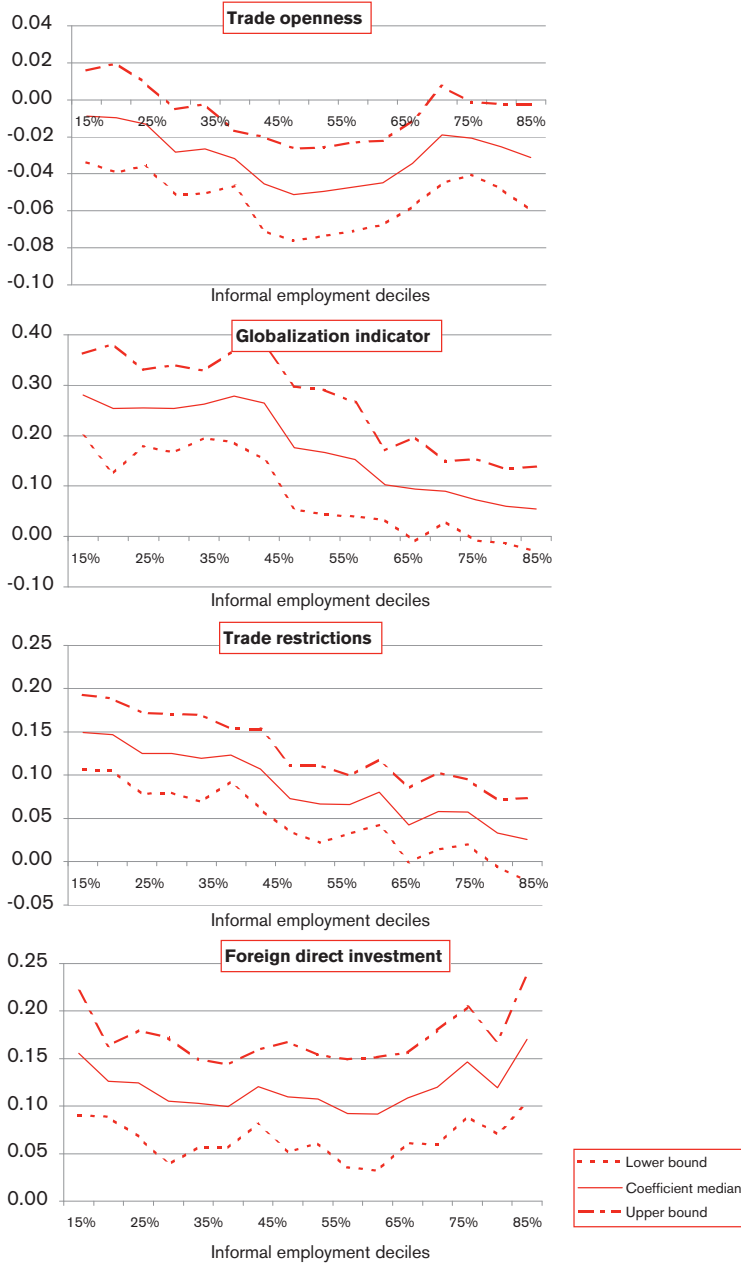
Note: The figure presents the results from quantile regressions using bootstrapped standard errors. The coefficients with their lower/upper bounds for the measures of trade openness, trade restrictiveness, the KOF globalization indicator and foreign direct investment liabilities are estimated using equations (1), (8), (15) and (11) in Table A2.1. Coefficients are displayed for the 15% to the 90% decile of informal employment for each specification. Upper and lower bounds are calculated on the basis of +/- 1 standard deviation of the estimated coefficient.

Source: Authors' calculations.

Table A2.4: System GMM estimations

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable: Incidence of informal employment						
Informality (t-1)	0.68***	0.54***	0.47***	0.57***	0.54***	0.47***
	(0.10)	(0.09)	(9.2e-2)	(0.10)	(0.09)	(0.10)
GDP per capita (levels)	-1.4e-3***	-2.2e-3***	-1.7e-3***	-2.0e-3***	-1.3e-3***	-0.17e-3***
	(4.8e-4)	(5.1e-4)	(5.4e-4)	(6.2e-4)	(5.0e-4)	(5.1e-4)
Working-age population size		0.63***				0.69**
		(0.18)				(0.30)
Trade openness	-2.8e-2**	-3.3e-2**		-3.2e-2**		
	(1.4e-2)	(1.3e-2)		(1.4e-2)		
Trade reforms					4.97***	5.76***
					(1.92)	(1.88)
Foreign direct investment			0.12***	4.5e-2*		
			(1.8e-2)	(2.6e-2)		
Observations	152	152	160	128	51	51
Number of countries	17	17	18	16	13	13
Sagan test for over-identification (P-value)	0.84	0.77	0.26	0.65	0.70	0.75

Note: The table displays the result from system-GMM estimations of selected specifications taken from Tables A2.1 and A2.2. The coefficient on trade reforms refers to an index related to the variable "annual percentage change of most-favoured nation rates"; higher value of this index indicate more pronounced declines in most-favoured nation rates (corresponding to equation (8) in Table A2.1).

Source: Authors' calculations

3. Influential observations

Empirical models with a limited number of observations and small sample sizes either regarding the country or the time dimensions such as ours are potentially affected by influential observations (outliers) that might bias the regression results. Specifically, in aggregate specifications such as ours, this may arise due to measurement errors or omitted variables. In order to assess the extent to which the results are being affected or even rendered statistically insignificant by such influential observations, we identify a possible (small) number of them and re-run the estimations on the basis of the reduced sample.

One possibility to (automatically) identify influential observations makes use of the studentised residual of each observation, which corresponds to the *t*-statistics of a dummy variable for this particular observation that has been added to the original estimated equation. Although appealing and quite intuitive, this statistics tends to eliminate observations with large residual but low leverage that do not influence the estimated coefficient very much (that is in the case where the dummy variable is orthogonal to the other regressors), biasing upwards goodness-of-fit statistics. Other more complex indicators are based on the notion of an influence curve. The influence curve assesses the asymptotic marginal effect on the coefficient estimates of adding a specific observation, on the basis of the original model. For our purposes, we use two indicators, the Welsch-Kuh distance (identified as "Dfits" in the tables below) and the Welsch distance (identified as "Welsch"), that try to approximate empirically the influence curve and detect influential observations (Chatterjee and Hadi, 1988). Usually, the Welsch distance has been preferred over the Welsch-Kuh distance in removing influential observations due to the fact that fewer observations needed to be dropped. Occasionally, however, the latter was retained when the statistical significance of the estimated model was less affected.

The results of controlling for the outliers thus identified are presented in Tables A2.5 – A2.7. As can be seen from these three tables, in most specifications, the estimated coefficients remain significant and the sign unchanged. In particular, the specifications retained for the contributions Figures 6.1 to 6.3 remain almost identical, including as regards the absolute size of the estimated coefficient. It should be noted that in most cases, only very few observations have been removed as influential (typically less than 10 per cent). Due to the limited overall sample size, however, removing these influential observations proved sufficient in a few cases to affect the statistical significance of the estimated model.

Table A2.5: Globalization and informal employment with outlier control

	Dependent variable: Incidence of informal employment with outlier control																	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Economic control variables																		
GDP per capita (levels)	-1.8e-3*** (4.1e-4)	-2.1e-3*** (4.7e-4)	-6.1e-3*** (5.5e-4)	-1.2e-3*** (3.9e-4)	-1.3e-3*** (4.2e-4)	-1.9e-3*** (5.1e-4)	-2.2e-3*** (6.6e-4)	-2.9e-4*** (1.2e-4)	-1.5e-3*** (4.6e-4)	-1.8e-3*** (1.1e-4)	-2.0e-3*** (5.1e-4)	-3.6e-3*** (2.7e-4)	-1.9e-3*** (1.0e-4)	-3.1e-3*** (4.9e-4)	-2.5e-3*** (4.2e-4)	-3.4e-3*** (5.3e-4)	-2.3e-3*** (5.3e-4)	-2.7e-3*** (8.9e-5)
Working-age population size (%)		0.67*** (1.3e-1)	1.10*** (0.23)			0.38* (0.16)	0.99** (6.7e-2)			0.38*** (5.8e-2)	0.28* (0.15)	1.19*** (0.12)	-0.18*** (4.2e-2)	0.14 (0.21)	0.32** (0.15)	0.07 (0.25)		
Trade variables																		
Trade openness	-2.2e-2* (1.2e-2)								3.1e-2 (2.6e-2)									
Trade openness (t-1)		-1.9e-2* (1.0e-2)														-3.4e-2** (1.3e-2)	-2.6e-2** (1.3e-2)	
Economic flows			-9.8e-2* (4.9e-2)															-2.9e-2*** (7.2e-3)
Trade-weighted tariffs				0.03 (3.3e-2)														
Most-favoured nation rate					-0.24*** (8.3e-2)													
Most-favoured nation rate (manufacturing)						-0.18** (8.7e-2)												
Trade restrictions							8.3E-2 (0.11)	-5.0e-2*** (1.7e-2)								-5.9e-2** (2.8e-2)	-4.6e-2** (2.3e-2)	
Trade reforms (Change)									3.48** (1.66)									11.82*** (2.46)
Revenue from trade taxes (Index)										0.56*** (0.10)								
Globalization indicators																		
Foreign direct investment											0.10** (2.1e-2)						9.2e-2** (2.5e-2)	6.4e-2*** (1.4e-2)
Personal contacts												-0.35*** (4.1e-2)						
Information flows													-0.23*** (1.3e-2)					
Geographical distance														3.1e-3*** (9.4e-4)		3.0e-3*** (9.9e-4)	6.4e-4 (8.5e-4)	
KOF Globalization index															0.10*** (3.8e-2)			3.8e-3*** (5.0e-4)
Outlier control Type	Welsch	Dfits	Welsch	Welsch	Dfits	Welsch	Welsch	Welsch	Welsch	Welsch	Dfits	Welsch	Welsch	Welsch	Welsch	Dfits	Dfits	Dfits
Goodness-of-fit R²			0.90				0.48			0.99		0.94	0.98					0.98
Chi²	1.7e+4	3.5e+4	251	9.5e+3	8.9e+3	1.6e+4	124	1.3e+4	8.8e+3	122	1.3e+5	203	241	8.4e+3	8.3e+3	6.7e+3	8.7E+03	203
Number of observations	220	179	251	225	126	126	124	242	70	122	181	203	241	215	246	187	180	203
Number of countries	24	18	28	23	17	17	17	25	13	27	20	20	31	24	27	22	20	23
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Vector decomposition of s.e.	No	No	Yes	No	No	No	No	No	No	Yes	No	Yes	Yes	No	No	No	No	Yes

Note: The table displays the results of various specifications linking economic determinants to the incidence of informal employment, controlling for influential observations. All specifications control for country fixed effects. Standard errors of the estimated coefficients are given in parentheses where the statistical significance level is indicated with an asterisk: *: statistical significance at the 10% level; **: 5% level significance; ***: 1% level significance.

Source: Authors' calculations

Table A2.6: Informality, trade openness and policies with outlier control

Dependent variable: Incidence of informal employment with outlier control

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Economic control variables	GDP per capita (levels)	-3.4e-3*** (1.6e-4)	-2.5e-3*** (8.7e-5)	-3.1e-3*** (2.1e-4)	-5.1e-3*** (4.5e-4)	-5.6e-3*** (6.0e-4)	-3.2e-3*** (1.1e-4)	-2.2e-3*** (4.2e-4)	-2.8e-3*** (3.4e-4)	-2.9e-3*** (4.5e-4)	-1.6e-3*** (3.6e-4)	-2.7e-3*** (1.3e-4)	-3.6e-3*** (1.6e-4)	-3.2e-3*** (1.4e-4)	-3.1e-3*** (5.9e-4)	-3.7e-3*** (3.6e-4)	-4.3e-3*** (4.7e-4)	-4.6e-3*** (4.6e-4)	-3.3e-3*** (4.2e-4)	-2.7e-3*** (7.7e-5)
	Working-age population size (%)	0.99*** (0.12)	0.52** (5.7e-2)	1.03*** (0.15)	0.41 (0.37)	0.54*** (0.15)	0.61*** (5.1e-2)	0.27* (0.11)	0.80*** (0.11)	0.63*** (7.3e-2)	-1.66*** (0.28)	1.13*** (8.8e-2)	1.15*** (0.12)	1.05*** (0.10)	0.79*** (0.15)	0.64*** (0.12)	1.03*** (0.13)	-1.52*** (0.29)	0.30* (0.12)	0.40*** (5.8e-2)
	Trade openness	-2.2e-2* (1.2e-2)		-4.7e-2*** (1.4e-2)				-0.12** (1.3e-2)									-5.3e-2*** (1.4e-2)		-3.7e-2*** (1.3e-2)	
	Trade openness (t-1)		1.7e-2*** (6.0e-3)			1.02*** (0.26)			-0.11*** (1.3e-2)											-2.4e-2*** (7.1e-3)
	Trade restrictions									-8.4e-2*** (1.1e-2)						3.2E-2 (2.3e-2)		2.2E-2 (2.4e-2)		
	Trade reforms						15.30*** (2.96)													26.71*** (2.22)
Government activity	Government spending	-0.70*** (7.0e-2)																		
	Top marginal tax rates		-4.6e-1*** (3.9e-2)																	
	Export taxation (Index)			3.78*** (0.24)														0.14 (0.12)		
	Tax revenues (in % of GDP)				-2.80** (1.12)															
	Transfers and subsidies (in % of GDP)					0.59*** (0.11)	0.29*** (5.5e-2)					-6.0e-2*** (9.2e-3)	-2.8e-2** (1.1e-2)	-3.1e-2** (9.8e-3)	-3.0e-2* (1.5e-2)		-0.40*** (6.3e-2)	-0.26*** (6.3e-2)	-0.31*** (7.0e-2)	-0.29*** (4.3e-2)
Regulation	Rule of law							-7.01*** (0.99)												
	Prevalence of corruption								1.47* (0.81)										2.62*** (0.82)	2.07*** (0.32)
	Government accountability									-1.47*** (0.23)										
	Costs of start-ups										-3.7e-3 (1.3e-2)									
	Product market regulation											-4.20*** (0.24)								
	Price controls												-1.11*** (0.14)							
	Administrative burden													-2.40*** (0.15)					-0.42*** (7.8e-2)	-0.48*** (0.17)
	Minimum wages														-5.6e-3 (6.8e-2)					
	Centralization of wage bargaining															-0.74*** (0.12)	-1.60*** (0.16)	-1.31*** (0.18)	-1.15*** (0.18)	-0.92*** (0.15)
Outlier control	Type	Dfits	Welsch	Welsch	Dfits	Welsch	Welsch	Welsch	Dfits	Welsch	Welsch	Welsch	Welsch	Welsch	Dfits	Welsch	Welsch	Welsch	Welsch	Welsch
Goodness-of-fit	R²	0.99	0.99	0.99	0.98		0.99					0.99	0.99	0.99						0.99
	Chi²					5.4e+4		4.8e+4	3.2e+4	4.2e+5	2.0e+4				6.3e+4	7.6e+4	2.7e+5	1.6e+5	3.1e+5	
	Number of observations	78	99	78	47	65	127	121	117	118	49	78	78	78	99	110	96	108	72	73
	Number of countries	16	17	16	7	15	19	23	22	22	13	16	16	16	18	19	18	19	17	18
	Country fixed effects	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
	Time fixed effects	No	No	No	No	No	Yes	No	No	No	No	No	No	No	No	No	Yes	Yes	No	No
	Vector decomposition of s.e.	Yes	Yes	Yes	No	No	Yes	No	No	No	No	Yes	Yes	Yes	No	No	No	No	No	Yes

Note: The table displays the results of various specifications linking economic determinants and policy factors to the incidence of informal employment, controlling for influential observations. All specifications control for country fixed effects. Standard errors of the estimated coefficients are given in parentheses where the statistical significance level is indicated with an asterisk: *: statistical significance at the 10% level, **: 5% level significance, ***: 1% level significance.

Source: Authors' calculations

Table A2.7: Growth and trade concentration with informal labour markets controlling for outliers

	GDP growth				Trade concentration					
	(1)	(2)	(3)	(4)	(12)	(13)	(14)	(15)	(16)	(17)
Initial GDP	-4.7e-4* (2.6e-4)	-1.0e-3*** (2.0e-4)	-1.6e-3*** (3.0e-4)	-1.7e-3*** (3.0e-4)						9.5e-4*** (3.2e-4)
GDP growth					7.2e-4*** (2.6e-4)	1.7e-3*** (2.6e-4)	6.6e-4*** (2.4e-4)	1.4e-3** (6.8e-4)	8.0e-4*** (1.3e-4)	1.1e-3 (8.2e-4)
Population growth									-1.8e-2*** (3.5e-3)	-3.3e-2*** (7.8e-3)
Informality rate	-2.4e-2 (2.9e-2)	-0.11*** (2.4e-2)	-0.16*** (3.9e-2)	-1.9e-1*** (4.0e-2)	1.3e-3*** (4.7e-4)	3.2e-3*** (6.1e-4)	3.8e-4 (5.5e-4)	3.8e-3*** (4.1e-4)	2.0e-3*** (2.4e-4)	9.5e-4*** (3.2e-4)
Trade openness		5.3e-2*** (9.8e-3)								5.6e-4*** (1.2e-4)
Trade diversification										
Tariff rate				-0.17 (0.11)		-2.4e-2*** (1.8e-3)				
Most-favoured nation rate							6.7e-4 (4.3e-4)			
Trade restrictions								6.1e-5 (6.6e-4)		-3.1e-3*** (4.7e-4)
Educational achievement			1.3e-1*** (3.5e-2)	1.2e-1*** (3.5e-2)						
Traded share of manufacturing goods										-3.1e-3*** (1.6e-4)
Type of outlier control	Welsch	Welsch	Welsch	Welsch	Welsch	Welsch	Welsch	Welsch	Welsch	Welsch
R^2	0.18	0.27	0.40	0.43				0.84		0.93
Chi^2					2.5e+3	9.5e+3	2.5e+3		2.7e+4	
Number of observations	198	220	115	115	183	116	154	154	182	167
Number of countries	20	19	16	16	21	19	19	19	21	21
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vector decomposition of s.e.	Yes	Yes	Yes	Yes	No	No	No	Yes	No	Yes

Note: The table displays the results of various specifications linking the incidence of informal employment and other economic determinants to two different outcome indicators: GDP growth and an export concentration index. Estimations control for influential observations. All specifications control for country fixed effects. Standard errors of the estimated coefficients are given in parentheses where the statistical significance level is indicated with an asterisk: *: statistical significance at the 10% level, **: 5% level significance, ***: 1% level significance.

Source: Authors' calculations