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Growth with employment for inclusive and sustainable development

CHAPTER 4

A FRAMEWORK FOR LINKING EMPLOYMENT CREATION AND DEVELOPMENT OF PRODUCTIVE CAPACITIES IN THE LDCs

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A. Introduction

For the past three decades, LDCs have been advised to focus on economic growth as a strategy for economic diversification, poverty reduction and economic development. In hindsight, this appears to have been sound policy advice, since it is highly unlikely that LDCs will achieve economic and social development and halve their poverty levels in line with internationally agreed goals without a sustained period of growth. In fact, in recognition of this likely scenario, the IPoA states (United Nations, 2011,para. 28) that in order for LDCs to achieve "sustained, equitable and inclusive economic growth […] to at least the level of 7 per cent per annum", they should strengthen their productive capacity in all sectors through structural transformation and overcome their marginalization through effective integration into the global economy.

The policies pursued by the LDCs over the past two decades were based on the assumption that a combination of macroeconomic austerity, rapid liberalization, privatization and deregulation would attract investment in sufficient quantity to generate rapid output growth, which in turn would automatically create jobs of adequate quantity and quality.

The market-based reforms and policies pursued by the LDCs over the past two decades were motivated by this advice and were based on the assumption that a combination of macroeconomic austerity, rapid liberalization, privatization and deregulation would attract investment in sufficient quantity to generate rapid output growth, which in turn would automatically create jobs of adequate quantity and quality. As explained in chapter 3, however, it is now evident that economic growth, although necessary, by itself neither guarantees job creation nor automatically results in inclusive development. To the contrary, it may even lead in some cases to an intensification of social inequality, rising unemployment and an increased incidence of poverty. In short, if employment creation and inclusive growth are the ultimate objectives, then the type of growth matters. It is further evident that growth resulting from labour-intensive activities or originating in areas where the poor live is more likely to create jobs and contribute to inclusiveness than growth based on capital-intensive investments.

It is now evident that economic growth, although necessary, by itself neither guarantees job creation nor automatically results in inclusive development.

This chapter proposes a policy framework that links investment with growth and employment creation to generate inclusive and sustainable development. The framework is based on the premise that the employment creation potential of growth will not be maximized without the development of productive capacities. While initiatives to provide jobs through government- or internationally sponsored programmes might be valuable sources of employment in the short term, they do not provide long-term, sustainable solutions to the LDC employment challenge.

The proposed framework builds on three sets of ideas and concepts developed through UNCTAD's analytical work on LDCs and other developing countries.

First, it hypothesizes that economic growth which does not create decent jobs in sufficient quantity is unsustainable, and that job creation without the development of productive capacities is equally unsustainable.

This chapter proposes a policy framework that links investment with growth and employment creation to generate inclusive and sustainable development. The framework is based on the premise that the employment creation potential of growth will not be maximized without the development of productive capacities.

Second, it acknowledges that private sector development is critical for economic growth and for creating employment and building productive capacity. However, given the relatively weak private sector in many LDCs, it also recognizes that in the short to medium term, the investment push required to kick-start the growth process will likely originate in the public sector. The idea here is not to encourage public ownership, which would amount to returning to failed policies of the past. Rather, the idea is to ensure that the capital-mobilizing power of the State is used to provide the initial investment impulses needed to generate growth with employment.

Third, the policy framework provides a definition of productive capacity that is broad enough to incorporate all the elements essential for a country to

build the competencies needed to produce goods and services but that is also sufficiently focused to identify priority areas for policies.

What is meant by productive capacities? At UNCTAD, the development of the concept in the LDC context was linked to earlier efforts to understand how structurally weak and underdeveloped economies like LDCs should promote economic growth and how they should initiate and then accelerate the growth process. Such efforts also sought to understand what are the key factors or capabilities that enable such economies to produce goods they can consume or sell, and what kinds of productive activities create quality jobs that contribute to poverty reduction.

Economic growth which does not create decent jobs in sufficient quantity is unsustainable, and job creation without the development of productive capacities is equally unsustainable.

The analytical work carried out at UNCTAD in search of answers to these questions led to the identification of a number of basic elements of productive capacity (LDCR 2006). Productive capacities are the productive resources, entrepreneurial capabilities and production linkages which together determine a country's capacity to produce goods and services and enable it to grow and develop.

Productive resources are factors of production and include natural resources, human resources, financial capital and physical capital.

Entrepreneurial capabilities are the skills, technology, knowledge and information needed to mobilize resources in order to build domestic enterprises that transform inputs into outputs — outputs that can competitively meet present and future demand. They also include abilities to invest, innovate, upgrade and create goods and services. As such, they refer to the competencies and technological learning needed to induce economic change.

Production linkages are flows of goods and services in the form of backward and forward linkages, flows of information and knowledge and flows of productive resources among enterprises and sectors or activities.

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These three elements together determine not only the overall capacity of a country to produce goods and services, but also which goods and services a country can produce and sell. In this respect, productive capacities are country-specific and differ enormously from one country to the other. They also determine the quantity and the quality of the goods and services which a country can produce at a given time. Such potential production is obviously limited in the short term, but could be expanded in the medium and long term.

Based on this notion of productive capacity, a country's productive capacities are developing when that country shows improvements or progress in all these areas — when, in other words, its productive resources are expanding, it is acquiring technological and entrepreneurial capabilities and it is also creating production linkages. All of these improvements will enable the country to produce a growing array of goods and services and to create jobs and integrate beneficially into the global economy on the basis of an internal growth momentum. If this type of development continues, then the country will have productive capacities which enable it to create jobs that pay higher wages and to acquire the capability needed to produce an increasing range of higher value added goods and services both efficiently and competitively.

The development of productive capacities occurs through three closely related core economic processes: the investment necessary to build domestic capital stock (physical capital, human capital, and so forth), which economists refer to as capital accumulation; structural change (or structural transformation); and building the capabilities of the domestic enterprise sector.

The development of productive capacities occurs through three closely related core economic processes that all countries have to undergo if they are to achieve sustained development. These are: the investment necessary to build domestic capital stock (physical capital, human capital, and so forth), which economists refer to as capital accumulation; structural change (or structural transformation); and building the capabilities of the domestic enterprise sector.

The main novelty in the framework is that it explicitly links employment creation with the three processes through which productive capacities develop.

Efforts to meet the employment challenge in the LDCs will have to involve finding concrete ways to link the development of productive capacities with employment creation. The policy framework proposed here is intended to contribute to thinking about how this might be done, given the specific conditions of a typical LDC. The main novelty in the framework is that it explicitly links employment creation with the three processes through which productive capacities develop. It also links capital accumulation to employment through the investment-growth-employment nexus, links technological progress to employment through enterprise development and links structural change to employment through the three-pronged approach to employment creation (chart 35).

This new policy orientation puts employment creation at the heart of economic policies at the macro, meso and micro levels. It also involves going beyond recent efforts to improve investment climate in the LDCs and proposes a more active role for the State, including, but not limited to, public investment.

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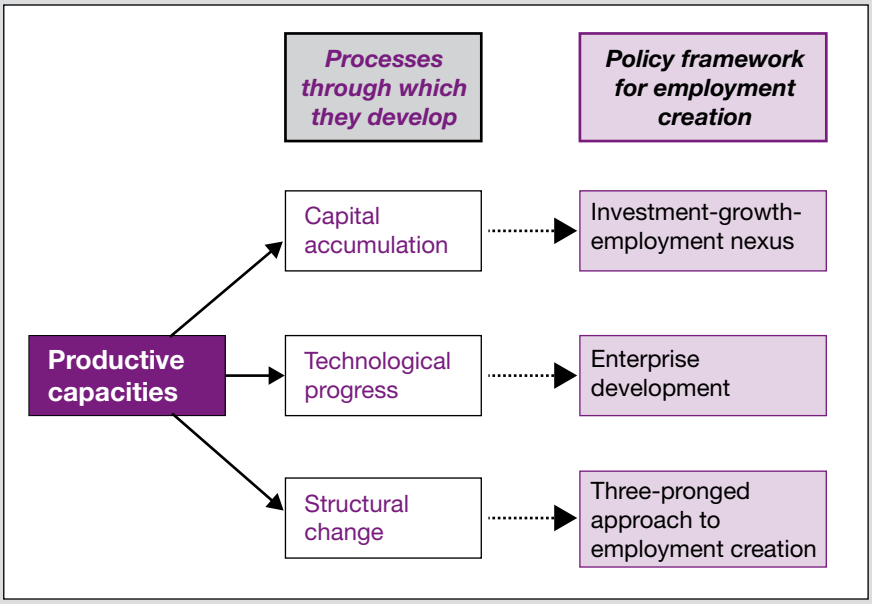
As concerns capital accumulation, the new element is that policies are understood not only in terms of stimulating investment-growth nexus but also as adding employment as a third and integral element of the nexus. Thus, for policymakers in LDCs, the primary goal of capital accumulation is to promote growth with employment. This has implications for the manner in which resources are mobilized and investment decisions are taken. The critical entry point in creating a strong and sustainable investment-growth-employment nexus is investment. The aim — initially through public investment in priority areas (in particular infrastructure) — is to set in motion a virtuous circle where investment boosts growth and growth creates employment. The latter in turn generates increased income for workers, giving rise to consumption that supports the expansion of aggregate demand. Import leakages apart, employment-creating growth also creates incentives for new or additional investment to meet the growing demand, and this cycle can be repeated at a higher level of investment, growth, employment and income.

Chart 35. Policy framework for linking development of productive capacities with employment creation in LDCs



Source: UNCTAD secretariat, adapted from UNCTAD (2006), chart 8 (p.63).

The policy framework also assigns greater importance to development of firms and farms of all sizes, thanks to their potential role in contributing to growth, creating productive capacities and generating jobs for both unskilled and skilled workers. According to the policy framework, policies to encourage micro and small firms to upgrade their production capacity and to grow in scale are needed. Moreover, it proposes the adoption of active policies to influence technological choice in different types of activities. The differentiation of the types of technology choice and corresponding policies is required in order to accommodate the frequently conflicting policy goals of technological progress and employment creation.

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In terms of structural change, the challenge for LDCs is not that their economic structure is static, but rather that in most cases it is changing in a manner not conducive to building productive capacities and creating quality jobs in sufficient quantity. In order to position the LDCs' economies on a job-rich inclusive development path, the policy framework recommends a three-pronged approach to employment creation that focuses on the generation of foreign exchange through investment in both capital- and labour-intensive tradable activities; the expansion of non-tradables sector and the concomitant creation of jobs; and productivity improvement in agriculture in general, and subsistence agriculture in particular.

Given that processes of capital accumulation, technological progress and structural change are closely interrelated (UNCTAD, 2006), different aspects of the framework for maximizing employment are also interrelated. For example, a transformation of productive structures into more skilled and technology-intensive production systems consistent with higher value added activities will also result in higher incomes, thus fuelling demand and stimulating new investment. Capital accumulation, in turn, will help develop new activities and diversify the economy away from traditional sectors, further stimulating the process of structural change. A framework for maximizing employment might use that insight in order to intensify these synergies and to adopt a set of policies that do not contradict one another. For example, if the policies that are part of the three-pronged approach to employment creation succeed in making wage goods cheap, that would have a very beneficial impact on the investment-growth-employment nexus.

In order to position the LDCs' economies on a job-rich inclusive development path, the policy framework recommends a three-pronged approach to employment creation.

The next three sections of this chapter explain each element of the framework in more detail.

B. Investing to develop productive capacities: capital accumulation

1. Capital accumulation and the role of the investment-growth-employment nexus

Capital accumulation is the process whereby investment increases various kinds of capital stock: physical capital, human resources, financial capital and natural resources.

Capital accumulation is the process whereby investment increases various kinds of capital stock: physical capital, human resources, financial capital and natural resources. The patterns and sources of investment mobilization, and the policies applied to guide the investment process, have a direct impact on the type of growth achieved and its impact on employment. Capital accumulation is often seen as a function of private agents in an economy, and in fact the private sector accounts for the bulk of capital accumulation, except for human capital accumulation. However, historically and even in today's developed economies, the State has played and continues to play significant roles, both in creating

an enabling environment for capital accumulation in the private sector and in directly engaging in capital accumulation. The need for a substantial State role is even more evident in LDCs, since the institutions which facilitate and foster active private corporate involvement tend to be less developed and since private agents themselves often do not operate on the scale required for large investments. This means that a strong investment-growth-employment nexus in LDCs requires the involvement of a developmental State.[1]

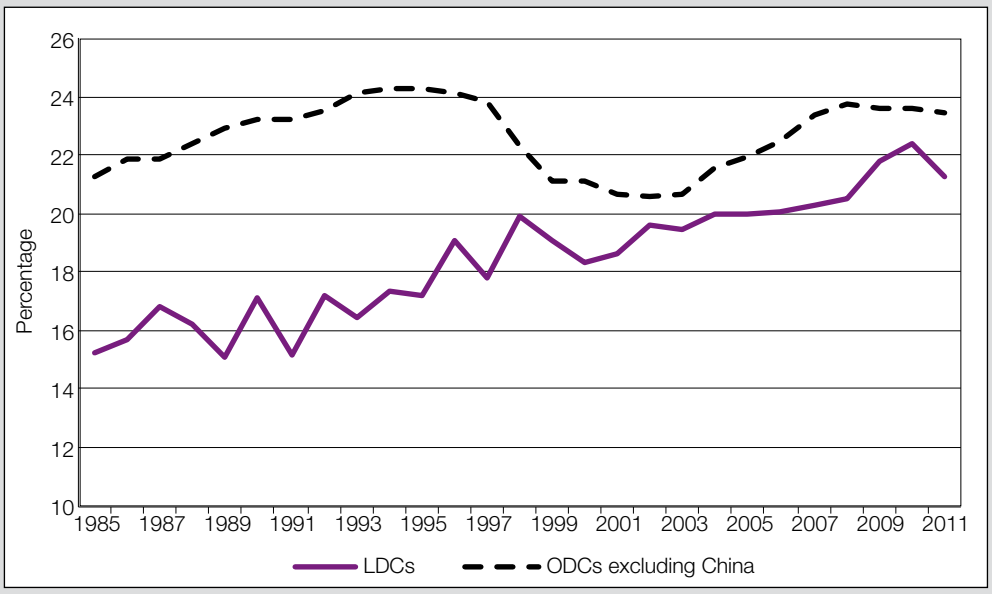
A strong investment-growth-employment nexus in LDCs requires the involvement of a developmental State.

As has already been noted, the policies pursued by the LDCs in the past two decades were based on the assumption that a market-friendly environment would attract private investment in sufficient quantity to generate rapid output growth, which, in turn, would automatically create sufficient jobs of adequate quality. Exceptionally buoyant external conditions for LDC exports — in the form of the global commodity boom, strong external demand and ample external financing – did result in higher GDP growth in the 2000s. That, in turn, led to some increased investment, including, and in some cases mainly, by foreign firms. The investment ratio of LDCs (i.e., gross fixed capital formation as a share of GDP) rose from 18.5 per cent to 21.8 per cent between 2000–2001 and 2010–2011[2] — the highest level in over 40 years. As a result, LDCs managed to narrow the gap between their investment ratio and that of other developing countries, where the ratio stood at 23.5 per cent at the end of the period (chart 36).[3]

The successful cases of long-term economic growth have invariably been associated with investment rates of 25 per cent or more.

Although these are very positive developments, two aspects give rise to concern. First, the increase in the LDCs' investment ratio still falls short of the level typically required for developing countries to sustain high growth rates over long periods. The successful cases of long-term economic growth (i.e., growth sustained over 30 years or more) since the mid-twentieth century have invariably been associated with investment rates of 25 per cent or more (Spence, 2011). In other words, even during the boom period the LDCs as a group did not attain the desired rate of investment. This means that reaching these levels may prove even more challenging in the coming period, when growth will likely be slower than during the boom period of 2002–2008.

Chart 36. Investment ratios in LDCs and ODCs, 1985–2011
(Gross fixed capital formation as percentage of GDP)



Source: UNCTAD secretariat calculations, based on UNCTADstat database, June 2013.

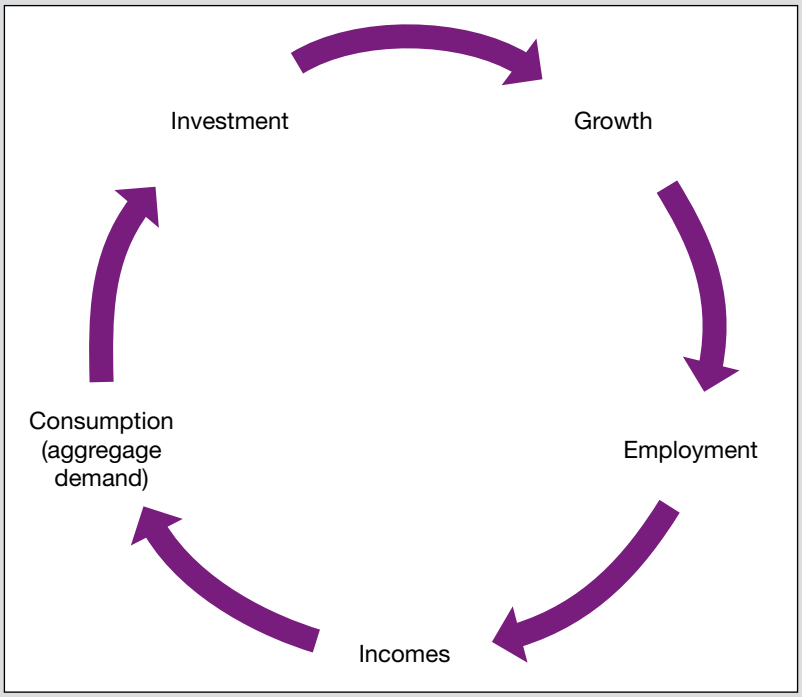
The second and equally important cause for concern about the LDCs' investment patterns is the type of capital formation that took place. The pursuit of export-led growth, coupled with policies to attract FDI, resulted in a type of investment that primarily targeted their extractive industries. As the data presented in chapter 1 demonstrate, the share of non-manufacturing industrial activities in GDP (mining and quarrying, electricity, gas, water and sanitary services, and construction) in the LDCs as a group rose from 14.5 per cent of GDP in 1999–2001 to 22 per cent in 2009–2011. The problem is that those investments were mostly capital-intensive, with small employment effects. So the relatively high rates of economic growth were not accompanied by the expected employment creation. The boom was thus characterized by jobless growth in many LDCs.

This experience underlines the need for a policy framework in which the primary goal of capital accumulation in the LDCs is to promote growth with employment. This can be achieved by establishing an investment-growth-employment nexus as a virtuous cycle in which investment boosts growth, growth creates productive employment, productive employment generates an expansion of aggregate demand, and the expansion of aggregate demand creates incentives for new investment (chart 37). Obviously, supportive public policies are required both to set this virtuous cycle in motion and to ensure that it becomes self-sustaining. If these policies are successful, the process feeds new rounds at higher and higher levels of GDP per capita, simultaneously providing employment and accelerated capital accumulation.

The primary goal of capital accumulation in the LDCs is to promote growth with employment by establishing an investment-growth-employment nexus as a virtuous cycle in which investment boosts growth, growth creates productive employment, productive employment generates an expansion of aggregate demand, and the expansion of aggregate demand creates incentives for new investment.

The emphasis in this approach is on both aggregate supply and aggregate demand, as well as on their interplay. Both of them are needed in order to achieve a dynamic economic growth that increases the level of employment. This is due to the close interconnectedness of aggregate supply and aggregate demand. For example, rapid growth in aggregate demand can have positive supply-side effects due to productivity gains generated by dynamic economies

Chart 37. The investment-growth-employment nexus in a closed economy



Source: UNCTAD secretariat.

of scale and the increased use of underutilized resources. Since underutilization of labour is one of the main characteristics of LDC economies, there are ample possibilities to put such a nexus in motion. Rapid growth of employment, in turn, increases incomes and fuels consumption, boosting aggregate demand.

The most pragmatic approach would be to start to stimulate the process of capital accumulation via that nexus in the non-tradables sector.

The nexus depicted in chart 37 can work in a perfect manner only in a closed economy where there are no transactions with the rest of the world. In an open economy, however, the functioning of the nexus is weakened. Import leakages reduce the domestic demand effects of income growth. The problem of import leakage is usually acute in LDCs, where local manufacturing production is often poorly developed and where most activities do not operate at scales that ensure some degree of international competitiveness. It is clear that if incomes are spent mainly on imported goods, the incentive to invest in production for the domestic market diminishes or disappears. Similarly, intermediate goods industries are unlikely to emerge or expand if the production process itself requires components that at present cannot be produced locally. Broadly speaking, the best strategy for reducing import leakage is to develop productive capacities, but considerable time is needed for that process to produce results. There are, however, short-term policies for reducing leakages and making the nexus more effective. Some of these are discussed in the following chapter.

The critical links in this nexus are not only those which involve jump-starting investment, but also those which ensure that the resulting production process is associated with higher employment.

Given that most LDCs are very open economies, they will be unable to put the nexus in motion in the whole economy. However, the non-tradables sector is still relatively insulated, and policy space there is larger than in other parts of the economy. Initially, therefore, the most pragmatic approach would be to start to stimulate the process of capital accumulation via that nexus in the non-tradables sector. Over time, and as domestic firms develop their technological and learning capabilities, the nexus can be extended to modern services that have become tradable because of technological innovations, import substitution activities and exporting activities.

Different types of economic activities are associated with diverse levels of employment intensity. A major policy implication is that policy interventions have to be designed to encourage investment in activities with the strongest employment effects.

While the nexus in chart 37 is the desired process, it is evident from recent experience that not all investment (even investment that results in higher growth) generates higher employment levels. The critical links in this chain are not only those which involve jump-starting investment, but also those which ensure that the resulting production process is associated with higher employment. A major challenge, therefore, is how to promote and encourage the kind of investment that spurs employment-intensive growth.

Two factors are crucial in that regard.

First, policymakers should be aware that different types of economic activities are associated with diverse levels of employment intensity. For example, services are generally more intensive in their use of the labour force than are activities in the extractive industries. Thus, if investment in activities which are more employment-intensive is promoted, the resulting GDP growth will also be more employment-intensive. If, on the other hand, the investment is directed primarily into extractive industries, it is highly likely that the intensity of employment will be low. A major policy implication is that policy interventions have to be designed to encourage investment in activities with the strongest employment effects.

An additional policy challenge is to ensure that the virtuous cycle, once it is on track, remains in motion and becomes sustainable.

Second, technology choices can increase or reduce the employment intensity of production. The choice of technology often creates a conflict between the objective of achieving competitiveness by acquiring advanced technology (which invariably tends to be capital-intensive) and the objective of creating decent jobs in sufficient quantity. These issues are discussed further in section C.

An additional policy challenge is to ensure that the virtuous cycle, once it is on track, remains in motion and becomes sustainable. This issue is closely

related to policies of distribution in the national economy. As emphasized in UNCTAD (2010, page 87), "the ability to achieve sustained growth of income and employment on the basis of productivity growth depends critically on how the resulting gains are distributed within the economy, how much additional wage income is spent for the consumption of domestically produced goods and services, and whether higher profits are used for investment in activities that simultaneously create more employment, including in some service sectors, such as the delivery of health and education".

In a typical LDC context, a continuous increase in domestic demand for wage goods is a major precondition for the nexus to work and to become sustainable. This will provide incentives for domestic food production, for local provision of basic services and for engaging in import-substituting activities.

In a typical LDC context, a continuous increase in domestic demand for wage goods is a major precondition for the nexus to work and to become sustainable. This will provide incentives for domestic food production, for local provision of basic services and for engaging in import-substituting activities. If local producers can count on a steady demand for their goods and services, they will be induced to increase supply, which will in turn encourage further investment and facilitate the growth of domestic enterprises.

There are accordingly two key requirements for a sustainable virtuous cycle: employment-intensive activities must be sufficiently profitable, and improvements in labour productivity must be translated into increases in wages. Adequate profitability is necessary for further investment and increased supply, while a growth of wages is a prerequisite for buoyant demand.

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Other equally important elements essential for the nexus to work in the long term include an enabling policy and regulatory environment and appropriate macroeconomic policies, as follows.

First, enabling conditions (a business-friendly environment) are needed to encourage private sector development, which is essential for generating decent employment in sufficient quantity. The specific policies for promoting private sector development in both the short and the long term are discussed in chapter 5.

As already noted, in view of the weak private sector in LDCs, in the short term the State will have to play a more prominent role in mobilizing and initiating the investment needed to kick-start the virtuous cycle. While its role in the current "good governance" agenda is to support markets rather than to promote economic development directly, UNCTAD has long advocated injecting a much stronger and more direct development dimension into governance reforms so as to enable a more active role of the State in promoting LDC development (UNCTAD, 2009).

Macroeconomic policies should be appropriate to the task at hand.

Second, macroeconomic policies should be appropriate to the task at hand. The prevailing policy framework in the LDCs of the past 20 years did not consider employment as an important macroeconomic objective. Rather, it focused on such intermediate variables as price stability, fiscal balance and, sometimes, external balance. These were seen as having an intrinsic value in their own right and were considered to be principal targets of macroeconomic policies. The instruments that were deemed sufficient for achieving these goals were monetary and fiscal policy.

The focus should be on the development of productive capacity and the deployment of labour and capital at their highest potential level.

The policy framework proposed in this chapter argues that the focus should instead be on "real macroeconomics".[4] It considers the development of productive capacity and the deployment of labour and capital at their highest potential level to be the paramount goals for policymakers in LDCs. The focus of development policies in these countries should accordingly be on the long-term sustainability and inclusiveness of growth, rather than on intermediate goals, such as price stability. The point here is not to deny the importance of price stability. To the contrary, controlling the rate of inflation is as critical for LDCs

as it is for developed economies. It is, however, important not to confuse the means with the ends, and not to forget that poverty reduction and a higher standard of living for the population are the immediate and also the ultimate goals of economic policymaking for the LDCs. In short, all policy choices involve tradeoffs, and policymakers must be aware of them and carefully weigh the benefits and costs in implementing each policy. As discussed in chapter 5, LDCs may need to consider a mix of policies that go beyond the traditional monetary and fiscal policy focus. It is clear, however, that if the broader goal of LDCs is to create more quality jobs than they have done in the past two decades, then fiscal policy will have to play a central role in driving the public investment-led growth process (McKinley and Martins, 2010).

It is important not to confuse the means with the ends, and not to forget that poverty reduction and a higher standard of living for the population are the immediate and also the ultimate goals of economic policymaking for the LDCs.

A further relevant factor is the difference in the objectives and role of macroeconomic policies between developed countries and the LDCs. The main challenge in the former is the underutilization of existing resources, which is often influenced by business cycles. In developing countries, by contrast, the problem is the deficiency of productive capacities. Supply constraints in the LDCs are much greater than in developed countries. The LDCs often face two serious constraints on growth: a shortage of domestic savings, and a lack of foreign exchange. The resulting dependence on foreign sources of financing produces a much more pronounced economic volatility than is generally found in developed countries. Moreover, the nature of growth is different. In developed countries it is primarily the result of technological progress and its introduction into the broader economy. In many developing countries, and the LDCs in particular, growth is more often than not the result of a shift of resources from less productive activities like subsistence agriculture to more productive ones like manufacturing; of investing in physical capital; and of introducing activities and technologies that were previously developed in more advanced economies (Stiglitz et al., 2006). For all these reasons, when LDC policymakers consider the range of macroeconomic policies that they deem appropriate for their circumstances, they need to bear in mind these systematic differences between developed economies and their own countries, and choose policies that will help them tackle their specific problems.

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2. The nexus in the short term: the primary role of the public sector

The starting point of the nexus should be policies that promote the types of investment which spur employment-intensive growth. Investment can come from both domestic and foreign sources. In many LDCs, foreign investment has been largely concentrated in extractive industries, which are mostly capital-intensive with limited potential for job creation and which typically have few linkages to other local sectors that could generate more jobs. Relying on foreign investment to provide employment-intensive growth is thus not the best option.

The starting point of the nexus should be policies that promote the types of investment which spur employment-intensive growth.

Domestic investment can be either private or public. Given the relatively weak development of the private sector in many LDCs, the primary investment push should come from the public sector in the short to medium term. In these countries, which usually have small domestic markets, the private sector may lack the incentive to invest unless the State expands its expenditure through public capital formation. This is especially true of public investment in infrastructure. An expanded supply of infrastructure services tends to create externalities for the private sector that can make its investment profitable.

Given the relatively weak development of the private sector in many LDCs, the primary investment push should come from the public sector.

From the standpoint of long-term economic growth, public investment in infrastructure has the effect of raising living standards and inducing higher-productivity growth (Rodríguez, 2007). In the short term, public investment

also directly increases the demand for private sector products, because of the purchases made by the State. In addition, it generates indirect demand because of the employment created by public expenditure and the multiplier effects of such expenditure. Public spending also generates more employment and domestic demand, thereby kick-starting macroeconomic processes that can eventually create enhanced supply as well.

Public investment can play a major role in increasing growth and domestic employment, both over the cycle and in the medium term, by increasing demand and enlarging the capital base of the economy.

Public investment can play a major role in increasing growth and domestic employment, both over the cycle and in the medium term, by increasing demand in the short term and enlarging the capital base of the economy. The nature, direction and efficacy of such investment are important, as the multiplier effects and long-term growth implications will differ accordingly. Nonetheless, it is still important to be attentive to other structural features, such as technology choice and institutional conditions, and to create incentives within the economy for more productive employment generation.

Public investment can be designed to encourage certain types of private investment, not to crowd them out. By providing key infrastructure, public investment can turn previously uneconomical private investments into profitable ones. Public investment in rail transport, roads, and airport and port facilities can lower the cost of private sector involvement in almost all economic activities. As energy and water become available thanks to public investment, private businesses can count on a steady supply of these vital inputs and expand their operations as well as upgrading technologically. Better infrastructure is also crucial for attracting foreign investors, increasing a country's chances of becoming a market for FDI.

Public investment can be designed to encourage certain types of private investment, not to crowd them out. By providing key infrastructure, public investment can turn previously uneconomical private investments into profitable ones.

As to the duration of strong public sector involvement, it is important to ensure that public sector investment plays the crucial role of providing an impulse to the virtuous cycle in the short term. In the long term, private sector should have the primary role in the nexus. The public sector can then influence the process of capital accumulation within the nexus indirectly by creating incentives for investment in certain types of activities.

Apart from the theoretical considerations, the critical role of public investment is confirmed by the empirical evidence from successful developing and developed economies that have had sustained catch-up growth over the long term. All these countries invariably had public investment rates on the order of 7 per cent of GDP or higher (Spence, 2011).

It is important to ensure that public sector investment plays the crucial role of providing an impulse to the virtuous cycle in the short term. In the long term, private sector should have the primary role in the nexus.

The evidence for Africa[5] suggests that investment in infrastructure should be scaled up significantly. The World Bank estimates the cost for redressing Africa's infrastructure deficit at $38 billion worth of investment per year. An additional $37 billion per year would be needed for operations and maintenance activities. Hence, the overall price tag would be on the order of $75 billion per annum. The total required spending translates into some 12 per cent of Africa's GDP. There is currently a funding gap of $35 billion per year. Since most LDCs are in Africa, it is evident that the LDCs lag far behind other developing countries in terms of infrastructure and that their investment needs are of a similar order of magnitude.

The simple fact that the LDCs have a huge gap in infrastructure suggests that pragmatic solutions are needed.

While the theoretical discussion on the crowding-in and crowding-out effects of public investment in infrastructure may continue for many years, the simple fact that the LDCs have a huge gap in infrastructure suggests that pragmatic solutions are needed. Since the private sector has been unable to fill that gap after more than two decades of market-friendly policies to facilitate private sector involvement, there is clearly a role for the public sector in filling the gap. In other words, crowding out the private sector will not happen if the public sector undertakes investment which the private sector itself is reluctant to make. Given

these unmet needs, it seems that only the State has the capacity to mobilize capital and increase the investment in infrastructure in the LDCs.

Public gross fixed capital formation (public investment) for the group of 38 LDCs on average stood at 7.2 per cent of GDP over the period 1999–2001. Ten years later (2009–2011), it reached on average 8.8 per cent of GDP.

Indeed, recent trends suggest that this shift may already be under way in many LDCs. The World Bank data show that public gross fixed capital formation (public investment) for the group of 38 LDCs[6] on average stood at 7.2 per cent of GDP over the period 1999–2001. Ten years later (2009–2011), public investment reached on average 8.8 per cent of GDP. The boom period thus resulted not only in higher GDP growth in the LDCs, but also in an increase of the share of public investment in GDP. Given that both the share of public investment in GDP and GDP itself increased during that period, the absolute value of public investment is now substantially higher than in the early 2000s. The commodity boom of the past decade was very likely the main source of the increase in public revenue, which, in turn, made possible the increase of public investment.

While the sectors to which public investment should be directed will necessarily be country-specific, investment in infrastructure seems to be a natural starting point since the lack of adequate infrastructure represents a serious supply-side bottleneck.

While the sectors to which public investment should be directed will necessarily be country-specific, investment in infrastructure seems to be a natural starting point since the lack of adequate infrastructure in most LDCs represents a serious supply-side bottleneck. Government policies should try to remove that bottleneck and at the same time create jobs. Both goals can be achieved using the factor of production that is more abundant, namely labour. This will depend on reorienting policies on infrastructure investment to ensure that technically viable and cost-effective, employment-intensive options are used instead of more capital-intensive ones. In other words, there is a need for adopting appropriate technology.

Social services are another strong candidate for public involvement aimed at increasing employment by kick-starting the investment-growth-employment nexus.

Social services are another strong candidate for public involvement aimed at increasing employment by kick-starting the investment-growth-employment nexus. Millions of LDC citizens still have very poor or inadequate access to the most basic conditions of decent life, such as nutrition, sanitation, electricity, water, transport and communication, health services and education. The role of the State is to provide minimally acceptable standards of living for everyone in the LDCs. Social policy is important and desirable not only in its own right, but also because it contributes to employment creation. To meet the basic needs of the majority of the population, there are ample opportunities for public sector to influence the urbanization process and help provide urban services. These are mostly labour-intensive and can generate numerous jobs. They can also increase the disposable income of households, which tends to reduce the precautionary savings of the lower- and middle-income groups, thus boosting their purchasing power (UNCTAD, 2013). Other sectors that can be targeted because of their potential to create employment are construction, expansion of services in rural areas, textile and leather production, and food processing.

In view of the recent increase of public investment in the LDCs, the proposals in this chapter may be interpreted as advocating the redirection of such investment into sectors and activities with greater employment creation, rather than proposing a large increase in public investment.

In view of the recent increase of public investment in the LDCs, the proposals in this chapter may be interpreted as advocating the redirection of such investment into sectors and activities with greater employment creation, rather than proposing a large increase in public investment. In that sense, for some LDCs, the issue of financing may not be daunting. However, the LDCs are not a homogenous group. For some of them, public finances have been invigorated by rents from extractive industries, but for others the financing of public investment may pose a major problem. For many of these countries, fiscal space constraints will continue to make it difficult to finance the desired level of public investment, which underscores the importance of efforts to mobilize additional fiscal resources. Given the relatively low share of public revenue in GDP in most LDCs, improving domestic resource mobilization may be the best way to place the financing of public investment on sounder footing. This can be done by strengthening fiscal revenues through tax reforms and by making tax collection and administration more efficient.

Going beyond the budgetary sources for financing public investment involves some sort of borrowing. Many LDCs receive ODA in the form of grants and conditional lending, which enables them to finance significant public investments. Despite recent decrease in aid disbursements from OECD-DAC countries, ODA will continue to be a key source for financing for most LDCs. Innovative sources of financing based on a steady flow of workers' remittances could also be explored. UNCTAD (2012) considered using remittances as collateral for long-term syndicated loans, issuing bonds securitized by future flows of remittances and issuing so-called "diaspora" bonds. Thus, there are options for financing public investment; the issue is which option or combination of options is the best at any given moment for a particular country.

Making the process sustainable in the long term will entail reducing the heavy involvement of the public sector over time and stimulating the private sector to assume a steadily greater role in the process of capital accumulation.

3. The nexus in the long term: the primary role of the private sector

Making the process sustainable in the long term will entail reducing the heavy involvement of the public sector over time and stimulating the private sector to assume a steadily greater role in the process of capital accumulation. It follows that the role of the developmental State should be not only to provide investment that spurs employment-intensive growth, but also to help create a vibrant and strong private sector.[7] This should ultimately be the target of LDC policymakers with regard to capital accumulation.

The role of the developmental State should be not only to provide investment that spurs employment-intensive growth, but also to help create a vibrant and strong private sector.

The efforts of the developmental State to steer the economy towards a jobs-rich path should aim at creating and managing rents in line with the objectives of inclusive growth. When designing policies to spur employment-intensive growth, policymakers should bear in mind the dual functions of both profits and wages in a capitalist economy. Profits are a major incentive for investment (since investment results in profits) and a main source of investment. For that reason a strong investment-profits nexus in which businesses constantly reinvest their profits would accelerate the process of capital accumulation. Policies that reinforce the nexus therefore promote and accelerate capital accumulation, and with it the development of productive capacities. A key determinant of the willingness of entrepreneurs to invest in real productive capacity is the expected profitability of a potential investment. This in turn depends on estimates as to whether future demand will be sufficient to permit the full utilization of additional capacity (UNCTAD, 2013).

The efforts of the developmental State to steer the economy towards a jobs-rich path should aim at creating and managing rents in line with the objectives of inclusive growth.

However, not all activities result in capital accumulation that enables net job creation. Government policies should accordingly try to reduce the possibilities for wealth accumulation through large landholdings, moneylending and real estate speculation, since they have very limited job-creating effects. Instead, they should promote wealth accumulation through investment in employment-intensive productive sectors. High profit in these sectors will simultaneously increase both the incentives for enterprises to invest and their capacity to finance new investment from profits. High profitability of targeted activities can be created with such policy instruments as selective and time-bound protection, close monitoring of interest rates and credit allocation, and fiscal instruments. Policymakers could, for example, use such fiscal instruments as tax breaks and special depreciation allowances to create incentives for reinvestment of profits.

A strong investment-profits nexus in which businesses constantly reinvest their profits would accelerate the process of capital accumulation.

Similarly, wages are a major determinant of both production costs and consumption, and thus of aggregate demand. Government policies should accordingly ensure that wage increases keep pace with increases in labour productivity and that the income share of labour in GDP does not fall. If this does not happen, the stimulus for wage-driven consumption and aggregate demand may weaken over time, eventually diminishing the incentive to reinvest profits. Policymakers should also try to lower the prices of wage goods, as explained

in section D of this chapter. That would on the one hand keep wage costs for enterprises low, thereby ensuring high profits, and on the other hand provide workers with sufficient income to increase consumption and thus stimulate aggregate demand. Ultimately, more jobs will be created in the nexus where new jobs and higher real wages boost the purchasing power of households and push up domestic demand.

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Whether or not aggregate demand rises sufficiently to create net employment depends crucially on the distribution of gains from productivity growth, which in turn is greatly influenced by policy choices (UNCTAD, 2010). Profits and wages, in other words, determine domestic consumption and domestic investment. They, like government expenditure, are all sources of domestic demand, and there is a marked interdependence among the three. While the interdependence of consumption and investment has already been explained, it should be added that higher public spending has a positive impact on both private consumption and private investment by creating additional income for consumers and by improving the conditions for private investment (UNCTAD, 2013). Since the last component of aggregate demand — net exports — is mainly determined exogenously in the short term, policymakers can influence only the endogenous factors, namely, domestic consumption, domestic investment and government expenditure. Policies that influence distributional outcomes in the economy are thus an important component of making the investment-growth-employment nexus work. They are endogenous to the growth process and are one of the determinants of how capital accumulation takes place and how productive capacities develop.

Policies that influence distributional outcomes in the economy are an important component of making the investment-growth-employment nexus work.

Whether or not the investment-growth-employment nexus can be put in motion will depend primarily on the extent to which the sectoral structure of domestic production is linked to that of domestic demand. In larger, more closed economies, the two are relatively closely linked. In smaller, open economies, on the other hand — as in primary commodity exporters — domestic production is largely delinked from that of domestic demand (UNCTAD, 2013). In other words, there is a big gap between what these countries produce and what they consume. Thus, creating the nexus will be easier or more complicated, depending, inter alia, on the structure of domestic production vis-à-vis the structure of domestic demand. This is one of the reasons why it is important to consider how this framework can be adapted to the specific conditions of different LDCs, as examined in Section E of this chapter.

4. Formation of human capital

Capital accumulation also encompasses the formation of human capital, which is achieved mainly through formal education (at the primary, secondary and tertiary levels), technical and vocational training, and on-the-job training.

Capital accumulation also encompasses the formation of human capital, which is achieved mainly through formal education (at the primary, secondary and tertiary levels), technical and vocational training, and on-the-job training. The bulk of formal and vocational training is financed by the State in both developed and developing countries. Education, vocational training and upgrading of workers' skills are thus key elements of government policies.

Human capital formation has received increasing attention since the 1990s as the development community has become more aware of the importance of human capital for long-term growth and development in developing countries. Consequently, greater focus has been placed on expanding spending on health and education in these countries, including the LDCs. This has been reinforced by the prominence given to education and health in the human development discourse (reflected inter alia in the Human Development Index of the United Nations Development Programme (UNDP)) and the MDGs. A critical consequence of this focus on human capital in developing countries has been the consistent increase in donor financing of health and education. Total ODA

commitments to the two areas in the LDCs soared from $2 billion in 1995–1996 to $7.8 billion in 2010–2011.[8] This has been accompanied by a growing allocation of national budgets to these areas, financed mainly by domestically mobilized resources.

Increased spending on education has led to continuous improvements in the LDCs' educational progress, which has allowed them to narrow the gap with other developing countries, particularly in primary education. The school enrolment ratio improved substantially between 1995 and 2010 at the primary, secondary and tertiary levels in the LDCs. Primary school enrolment has become almost universal, and the gap between LDCs and ODCs has virtually been closed (table 19).

Increased spending on education has led to continuous improvements in the LDCs' educational progress, which has allowed them to narrow the gap with other developing countries, particularly in primary education.

Although these positive quantitative developments have to be weighed against the quality of schooling and education, the result is that human capital accumulation has been accelerating in the LDCs. In principle this means that LDC populations are gradually becoming more prepared for the requirements of a modern production process, i.e., better skilled and more adaptable. A more educated labour force is more productive, learns more easily, is more open to new ideas and technologies and adapts more easily to new conditions. It also involves the presence of much better conditions than before for implementing the proposed policy framework. Since the ultimate goal is to create decent employment in sufficient numbers for all, the development of a dynamic private sector that can meet that goal will be greatly facilitated by the availability of a better educated and more adaptable labour force.

LDC populations are gradually becoming more prepared for the requirements of a modern production process, i.e., better skilled and more adaptable.

Despite these positive developments in education and training in LDCs, the issue of matching education and skills with available jobs — or what is often described as the "employability" of the labour force — is emerging as a key concern. The recent increase in LDCs' tertiary enrolment is certainly to be welcomed, but a significant part of that increase has occurred in private institutions with much higher user fees. Many students, including those from relatively poor families, invest a great deal of their own and their families' resources in order to acquire an education that holds out the promise of a better life.

There are, however, two problems: an absolute shortage of formal sector jobs relative to demand, and a skills mismatch resulting in severe labour shortages for some kinds of workers and a massive oversupply of others. Often this is not in spite of, but because of, market forces, since both markets and

Table 19. Indicators of human capital formation in LDCs and ODCs, 1995 and 2011

	Education level					
	Primary		Secondary		Tertiary	
	1995	*2011*	*1995*	*2011*	*1995*	*2011*
Gross enrolment ratio by education level (per cent)[a]						
LDCs	68.8	104.2	17.6	40.4	2.4	8.4
African LDCs and Haiti	62.8	103.1	14.0	34.4	1.6	5.8
Asian LDCs	93.0	108.7	30.6	50.7	4.6	12.5
Island LDCs	97.4	112.6	32.4	58.7	0.8	13.2
Other developing countries	104.8	109.0	50.9	71.1	8.4	23.5
Average years of schooling by education level[b]						
	1995	*2010*	*1995*	*2010*	*1995*	*2010*
LDCs	2.38	3.20	0.65	1.09	0.05	0.10
African LDCs and Haiti	2.46	3.24	0.62	1.01	0.03	0.08
Asian LDCs	2.15	3.07	0.75	1.34	0.09	0.17
Other developing countries	4.30	4.89	2.08	2.72	0.23	0.35

Source: UNCTAD Secretariat computations, based on data from World Bank, *World Development Indicators* online database (downloaded in August 2013), and data from the Barro-Lee dataset (Barro and Lee, 2013).
Notes: *a* Averages weighted according to school age population. Data refer to the inidcated year or to the closest year for which data are available; *b* Averages weighted by population. No data are available for island LDCs.

higher educational institutions tend to lag in their response to the demands of employers for some skills, and then to oversupply others. One result is that many young people are forced to take jobs that require less skills and training than they have actually received, and that are at lower levels than they might otherwise expect. This situation can create resentment and other forms of alienation, with adverse consequences for social stability. Another result is the emigration of qualified people — the so-called "brain drain" (UNCTAD, 2012). A special focus on employment policies for younger people and first-time job holders is therefore essential, as are labour market policies designed specifically to address these issues.

A special focus on employment policies for younger people and first-time job holders is essential, as are labour market policies designed specifically to address these issues.

Looking ahead, the main principle behind educational policies for developing productive capacities should be to achieve some consistency with the future labour needs of the economy. Given that the educational process encompasses several years, today's students will be seeking jobs in 3, 5, or even 7 to 10 years' time. Some idea of where the economy as a whole is headed for the next five to ten years will thus be needed to guide the educational system on the future needs of the labour market. This would minimize the mismatch between the skills and the knowledge of labour market entrants and the needs of that market. It would also significantly aid the process of capital accumulation in the LDCs by providing domestic enterprises with adequately skilled labour market entrants.

Some idea of where the economy as a whole is headed for the next five to ten years will be needed to guide the educational system on the future needs of the labour market.

C. Enterprise development and technological change

Enterprise development and technological progress are the second element of the policy framework for employment creation. As discussed earlier, enterprise development involves the development of productive capacities through entrepreneurial capabilities and technological progress. It is argued here that successful enterprise development will enable the LDCs to improve both the quantity and quality of employment creation and also embark on a technological catch-up with more developed countries. This was recognized in the IPoA (United Nations, 2011, para. 53), which emphasized that the private sector "is a key to sustained, inclusive and equitable economic growth and sustainable development in least developed countries".

The weakness of entrepreneurial capabilities has been identified as a major obstacle to the development of productive capacities.

Enterprise development is the process of building domestic production capacity through investment in new enterprises and technological progress and the introduction of new or improved goods and services; new or improved machinery, equipment and skills for production; and new or improved forms of organizing production. Ultimately, wealth is created by entrepreneurs who take the risk of borrowing capital in order to bring labour and technology together to produce goods or services for local and/or external markets. Whether countries succeed in developing dynamic and competitive enterprises depends to a large extent on the effectiveness of policies for mobilizing capital, creating virtuous supply and demand linkages, building the skills base of the economy, encouraging technological learning and the transfer of appropriate technology, and strengthening linkages.

Successful enterprise development will enable the LDCs to improve both the quantity and quality of employment creation and also embark on a technological catch-up with more developed countries.

The weakness of entrepreneurial capabilities has been identified as a major obstacle to the development of productive capacities (UNCTAD, 2006).[9] This weakness refers to the two main types of entrepreneurial capabilities. The first consists of core competencies, which are the routine knowledge, skills and information required to operate established facilities or use existing agricultural land, including production management, quality control, repair

and maintenance of physical capital, and marketing. The second comprises technological capabilities (or dynamic capabilities), which refer to the ability to build and reconfigure competencies to increase productivity, competitiveness and profitability, and to address the conditions of supply and demand in a changing external environment (UNCTAD, 2006: 64).[10] While enterprises are the locus of innovation and technological learning, they are embedded in a broader set of institutions that play a major role in these processes. These institutions are referred to as "domestic knowledge systems" that enable or constrain the creation, accumulation, use and sharing of knowledge (UNCTAD, 2007).

1. Enterprise development and the employment challenge: Firm size matters

In most LDCs the size distribution of enterprises is heavily skewed towards microenterprises and small enterprises, which typically operate in the informal sector.

In most LDCs the size distribution of enterprises is heavily skewed towards microenterprises and small enterprises, which typically operate in the informal sector. At the other extreme of the distribution are a small number of large firms, which are often either State-owned enterprises or large private firms, frequently owned or controlled by foreigners. These large firms tend to be found in the most profitable sectors, such as extractive industries, air transport and modern financial activities, where large size is needed to make capital-intensive investments. The "missing middle" refers to the weak or non-existent development of medium-sized domestic enterprises in the formal sector. In some cases even small-sized enterprises are rare in the formal sector of the economy. The missing middle in the LDCs — and in many other developing countries — is a result of the inability of small firms to grow and attain minimum efficient production sizes. Therefore, the dominance of large firms on the one hand, and the small size of most firms (the missing middle) on the other, partly explains the lack of formal sector job creation even during the recent boom period in the LDCs.

The "missing middle" refers to the weak or non-existent development of medium-sized domestic enterprises in the formal sector.

There are several reasons why microenterprises and small enterprises are unable to grow into middle-sized enterprises. Suboptimal size can be a constraint in itself, since it leads to lower productivity than that of larger firms, which affects profitability and makes it harder for small firms to expand the scale of production. Access to credit is another major issue, as small firms must often pay much higher interest rates even for working capital, let alone investment in fixed capital, and are constrained in the expansion of production even when there is sufficient demand for the goods or services they supply. These firms find it difficult to finance the acquisition of machinery and equipment and often cannot borrow for technology acquisition. They are also more exposed to various kinds of risk and market volatility. Weak technological capabilities and reduced access to knowledge are often combined with less developed organizational and managerial skills. All of this in turn encourages or even forces greater reliance of small enterprises on informal economic relations and family, kin or friendship networks, which only add to the legal and financial obstacles of becoming formal enterprises. As a result, they generally do not evolve into medium or large enterprises.

A typical feature of the LDCs in recent decades has been the expansion of low-productivity (informal) activities to absorb excess labour.

A typical feature of the LDCs in recent decades has been the expansion of low-productivity (informal) activities to absorb excess labour. Notwithstanding the difficulties of defining informal activities (which are also referred to as the "informal", "shadow" "parallel" or "underground" economy), they represent a substantial part of GDP. According to recent estimates, informal activities represent around 40.8 per cent of GDP in sub-Saharan Africa (Schneider et al., 2010). While the informal economy comprises a very heterogeneous group of activities in the LDCs, for the most part they can be characterized as subsistence activities. They enable those engaged in such activities to earn survival-level income at the cost of great hardship and sacrifice. The urban informal sector includes activities that rely on modern technology and generate as much income

as — if not more than — formal sector jobs — for example, the provision of IT-related services from home. However, the number of people engaged in such informal activities is relatively small.

Given that informal activities represent largely a survival strategy for the urban poor, they should be seen as traps from which workers seek to escape, rather than celebrated as evidence of the resilience of the poor.

Given that informal activities represent largely a survival strategy for the urban poor, they should be seen as traps from which workers seek to escape, rather than celebrated as evidence of the resilience of the poor. As suggested by the data presented in chapter 3, around 80 per cent of all employed in the LDCs are either self-employed or engaged in family work (unpaid work). The preponderance of microenterprises and small enterprises, and the large number of self-employed in the LDCs, points to a need for policies that will help enterprises grow in size, formalize and become capable of continuously upgrading their activities.

Policies aimed specifically at helping enterprises to grow in size can be divided into four categories: policies for formalizing firms, policies for financing firms, policies for strengthening the organizational and entrepreneurial capacities of firms, and policies for overcoming failures of information and cooperation.

Policies aimed specifically at helping enterprises to grow in size can be divided into four categories: policies for formalizing firms, policies for financing firms, policies for strengthening the organizational and entrepreneurial capacities of firms, and policies for overcoming failures of information and cooperation (policies for encouraging networking and clustering). Some of these are discussed in greater detail in chapter 5. If successful, these policies will enable microenterprises and small enterprises to grow into medium-sized or even large enterprises. Their growth will in turn generate employment for large number of workers and will thus be employment-intensive. The simple reason for this is that in order to reach the optimal size of production, these enterprises need to increase the scale of production using existing production techniques. The benefits associated with economies of scale will then induce these firms to grow further. At the same time, the creation of medium-sized enterprises will lay the groundwork for technological progress. Once medium-sized enterprises have increased the scale of production beyond the optimal point using existing techniques, they will be forced to innovate so as to maintain their profitability.

2. Technological change and the employment challenge: the choice of technology matters

Technological change is the process of introducing new or improved goods and services, new or improved machinery, equipment and skills for production, and new or improved forms of organizing production.

Technological change is the process of introducing new or improved goods and services, new or improved machinery, equipment and skills for production, and new or improved forms of organizing production. Technological change in the LDCs is associated primarily with the spread of new products, technologies and organizational strategies previously developed in more advanced economies. Its success depends on investments of various kinds (financial, organizational, educational, etc.) that lead to the development of competencies and capabilities at both the enterprise level and in society as a whole. In an open market environment, technological learning and upgrading by domestic enterprises is a prerequisite for becoming and remaining competitive in both domestic and external markets. Accordingly, successful economic development can be defined as the ability to create enterprises which are capable of learning and appropriating knowledge and in the longer term of generating new knowledge (Amsden, 2001). Hence, technological change in LDCs requires a greater capacity for learning and assimilation in domestic enterprises and the domestic knowledge system in which they are embedded.

Since technological learning and upgrading are critical for enterprise development and competitiveness, they will also have an impact on employment creation. The choice of technology is one of the most important determinants of the employment intensity of an economic activity. Modern technologies developed in advanced economies will be mainly of the labour-saving, capital-intensive type. The previous policy framework, which focused on the creation of the investment-growth nexus based on the open economy model, tended to

encourage investment in capital-intensive techniques in the extractive sectors. The result was limited learning and appropriation of know-how, and limited employment generation.

Yet another outcome of recent policies is the increased heterogeneity of technological development of sectors and firms in the LDCs. Most LDC economies have quite varied levels of technological development. At one end of the spectrum are the export sectors, which have to compete in international markets. Both the choice of technology and the rate of technological progress in these sectors are largely determined abroad and transmitted to the LDCs through the pressures of international competition and standards set in international value chains, rather than through domestic conditions. These pressures to adopt international technologies apply not only to exporters, but also to import-competing firms. Since enterprises whose products compete with imports are forced to be internationally competitive in order to maintain their domestic sales, technology choices (and capital-labour ratios) and other parameters of production are to a great extent determined exogenously.

Since technological learning and upgrading are critical for enterprise development and competitiveness, they will also have an impact on employment creation. The choice of technology is one of the most important determinants of the employment intensity of an economic activity.

This type of international integration leads to the adoption by LDCs of technologies that are not very far from the international technology frontier in their respective sectors and activities. Technological progress in these activities has been based on economies of scale and scope as a means of achieving higher productivity and profits, and is associated with growing labour productivity. The LDCs' export sectors typically operate with capital-intensive and high labour productivity technologies. This is generally the case with extractive industries and some service sectors, including not only those geared towards export markets (e.g. tourism), but also some sectors oriented towards domestic markets (e.g. telecommunications and parts of the financial sector). These activities form the so-called "modern" sector of these economies. Given the type of technology they use, they tend to have a very limited employment-generating effect.

The LDCs' export sectors typically operate with capital-intensive and high labour productivity technologies. Given the type of technology they use, they tend to have a very limited employment-generating effect.

As a general rule, the expansion of modern-sector activities reduces the labour intensity of economic growth (Patnaik, 2007). Some exceptions to this rule are labour-intensive manufacturing industries whose production is destined for exports. The LDCs' manufacturing export sector is included in regional and global value chains, and it must accordingly apply the international standards of quality and production processes in which those chains operate. Still, the segments of these chains that are located in LDCs are mainly the labour-intensive ones, which means that they have an important employment-generating impact on domestic economies. Commercial agriculture in LDCs — especially the farms that produce cash crops — is subject to pressures similar to those of other export industries in these countries. They are also likely to operate at productivity levels which are not significantly below international standards, although it can be surmised that they use more labour-intensive technologies than more advanced countries.

At the other end of the technology spectrum are subsistence activities, which operate with labour-intensive but low-productivity technologies. These technologies are well below the international technology frontier and generate very low earnings for their workers — many of whom are below the poverty line. This is typically the case of subsistence agriculture in LDCs. Many urban informal-sector activities also fit into this category. Some extractive-sector activities can also be labour-intensive and low-productivity. This is the case of some mining activities for which high international commodity prices induced production by less productive, marginal mines that could be operated only on a very small scale and with low-productivity techniques. Small-scale mining, often by informal miners using crude techniques and damaging the environment, is a growing phenomenon in many LDCs, especially in Africa.

At the other end of the technology spectrum are subsistence activities, which operate with labour-intensive but low-productivity technologies. These technologies are well below the international technology frontier and generate very low earnings for their workers — many of whom are below the poverty line.

The non-tradables sectors of LDCs usually operate with technologies that span the entire spectrum between the two extremes mentioned above. Some activities use technologies that are not far removed from the international technology frontier (e.g. modern services like financial services and telecommunications). These activities typically have a limited job-generating impact. Most jobs in the non-tradables sectors are thus to be found in such activities as informal services (e.g. retail trade, repair services, restaurants, transport, etc.), operating with technologies that generate low-productivity jobs and low wages. Other non-tradables sectors — such as those involving public service – are likely to use technologies that are situated somewhere between the two extremes.

There is a trade-off between remaining competitive in the tradable activities with modern, capital-intensive technologies, and choosing technologies that generate jobs in non-tradable and subsistence activities.

Given the current situation of technological heterogeneity, and the challenge of creating decent employment in sufficient quantity, the LDCs face a stark choice. There is a trade-off between remaining competitive in the tradable activities with modern, capital-intensive technologies, and choosing technologies that generate jobs in non-tradable and subsistence activities. How should an LDC that is trying to attain growth with employment in an open economy environment approach the choice of technology, production processes and technological development? Two different strategies should be followed: one for the modern sectors, involving the acquisition of advanced technologies from developed countries, and one for the other sectors, involving so-called "appropriate" technologies.

A substantial number of LDC firms and farms can learn and acquire technologies from other developing countries, rather than from advanced economies, or can develop and use home-grown technologies.

LDC firms and farms need to undertake technological learning in order to upgrade their productive capabilities. They do so primarily by acquiring more advanced technologies from abroad, generally from developed countries. In export-oriented activities, the technologies in use (largely by transnational corporations) are often not far below international standards. Exporting enterprises, as well as those engaged in import-competing activities, will thus have to continue to rely on technologies that are close to the technological frontier.

For firms and farms whose output is geared towards domestic markets, however, such advanced technologies may not always be appropriate. Domestic markets in most LDCs are small and, given lower income levels, patterns of demand are different from those prevailing in advanced economies. Hence, at least initially, they need technologies that are appropriate to their conditions. LDC firms are more likely to find such technologies in countries that are closer to them in the technology space. In other words, a substantial number of LDC firms and farms can learn and acquire technologies (such as capital equipment, organizational know-how and types of inputs used) from other developing countries, rather than from advanced economies, or can develop and use home-grown technologies.

There are several characteristics of technologies developed in other developing countries that make them more appropriate for the LDCs, at least in activities oriented mainly towards the domestic market.

There are several characteristics of technologies developed in other developing countries that make them more appropriate for the LDCs, at least in activities oriented mainly towards the domestic market. They are generally more labour-intensive, as they are developed in countries that also have surplus labour. They are also more geared towards meeting the basic needs of the large swathes of the population who cannot afford luxury goods and services. In addition, they are more appropriate, since they deal with problems that arise in similar conditions as in the LDCs, be they social, economic or climate-related. Moreover, capital equipment acquired from other developing countries is likely to be less costly than equipment imported from developed countries. Yet another desirable requirement of appropriate technologies is that they should make the greatest possible use of resources that are locally available in LDCs. The firms that use such technologies thereby strengthen the linkages with other domestic enterprises.

The choice of technology not only influences employment parameters, it also determines who will benefit from employment. Choosing appropriate technologies and local materials creates major employment opportunities for unskilled or semi-skilled workers and allows them to develop their own skills and knowledge over time. It is obviously desirable to develop technologies that give workers control over what they produce in a fulfilling manner that is not too arduous or monotonous and that also allows for a reasonable level of productivity.

South-South cooperation can be a vehicle for transferring appropriate technologies to the LDCs and also for speeding up their technological development.

South-South cooperation can be a vehicle for transferring appropriate technologies to the LDCs and also for speeding up their technological development. Although the transfer of technologies that have been developed in advanced countries will remain the focus of efforts in most LDCs for years to come, new, appropriate technologies developed for the South by the South can serve as a useful complement in the short term and perhaps as an alternative in the long term. Such technologies will be especially appropriate in the medical sciences, agriculture and food production, and alternative energy sources. There is already a substantial body of innovations by the South which address the specific issues of developing countries — issues that are frequently neglected by the North (Kaplinsky et al., 2009).

D. Structural change

Structural change is a central feature of the development process. It refers to changes in the composition of production, employment, demand and trade; in the pattern of inter- and intra-sectoral linkages; and in the types of flows of goods, services, knowledge and information among enterprises.

1. Structural change and employment challenge: the three-pronged approach

Structural change is a central feature of the development process. It refers to changes in the composition of production, employment, demand and trade; in the pattern of inter- and intra-sectoral linkages; and in the types of flows of goods, services, knowledge and information among enterprises (UNCTAD, 2006: 68). The relative importance of different sectors and economic activities in a national economy is transformed as a result of these processes. Generally, the weight of the primary sector in GDP decreases, while the shares of the secondary and tertiary sectors increase. In addition, there is a general tendency within the economy towards higher specialization of production. This means that production linkages within the economy become denser and more roundabout as a higher proportion of output is sold to other producers rather than to final users. In other words, the use of intermediary goods and services relative to total gross output tends to rise, as reflected in the increased density of the input-output matrix of the economy. This is a sign of evolution towards a more complex economic system with a higher degree of processing.

The classic pattern in today's developed countries and some advanced developing countries has been that new economic activities with higher productivity emerge and activities with lower productivity decline or are abandoned.

The classic pattern in today's developed countries and some advanced developing countries has been that new economic activities with higher productivity emerge and activities with lower productivity decline or are abandoned. These transformations have been accompanied by changes in employment patterns. More people are employed in manufacturing and services, while the number of people active in agriculture declines. There has also been a process of migration from rural to urban areas as more and more employment opportunities appear in cities and towns.

The recent experience of most developing countries, however, has tended to diverge from these classic patterns, which now seem to be more the exception than the rule (Heintz, 2010). The process of economic growth does not necessarily follow the standard Lewis-style pattern, whereby surplus

labour from the subsistence sector is drawn into the modern sector (Lewis, 1954). Rather, even when the activities of the modern sector expand, their employment-generating potential is often limited because technological choices (and thereby capital-labour ratios) are driven by global competition and thus largely determined exogenously. One of the characteristics of this different type of structural change is the transfer of labour from low-productivity agriculture to low-productivity service activities in urban areas. This entails a proliferation of low-productivity employment in non-tradable activities as workers move out of subsistence activities in agriculture, even at relatively low levels of per capita income.

The recent experience of most developing countries, however, has tended to diverge from these classic patterns, which now seem to be more the exception than the rule.

In many developing economies the services sector (tertiary sector) has recently been acquiring a greater share of GDP well before they reach the levels of per capita income at which this occurred in countries that are now developed. Various studies have suggested that this is true of a wide range of developing countries, and that the turning point at which the share of manufacturing output and employment starts to decline is now taking place at a much lower level of per capita income than hitherto assumed (Palma, 2006). This phenomenon is known as "premature deindustrialization".

One of the characteristics of this different type of structural change is the transfer of labour from low-productivity agriculture to low-productivity service activities in urban areas.

For the LDC group as a whole, the dominant pattern of structural change since the turn of the century has been a slowly declining importance of the primary sector, not in favour of manufacturing (as in the classic pattern), but in favour of mining and, in some cases, services. Examining the country-level data presented in annex table 5, from 1999–2001 to 2009–2011, the relative importance of the primary sector declined in 33 LDCs. The same number of countries had a growing mining and energy sector (including construction). The share of services in GDP also expanded in a majority (28) of LDCs over the same period. Manufacturing, by contrast, expanded by more than 2 percentage points only in the following countries: Angola, Bangladesh, Guinea, Guinea-Bissau, Lao People's Democratic Republic, Liberia, Madagascar, Myanmar and Yemen.

The most significant trend in structural change for the LDCs as a group, as analysed in chapter 1, is the slow decline in the share of the primary sector in GDP (chart 38). There has also been a very slight decline in the share of the tertiary sector and an increase in the secondary sector. However, the increase of the secondary sector is due to non-manufacturing industrial activities, whose share rose from 14.5 per cent of GDP in 1999–2001 to 22.0 per cent in 2009–2011. Manufacturing stayed the same, at around 10 per cent of GDP. This shows there has been very little structural change of the type that results in strong increases in productivity, incomes, technological intensity and high value added over the 10-year period.

The problem with the current process of structural change is that it cannot provide the surplus population released from agriculture with productive employment.

The problem with the current process of structural change is that it cannot provide the surplus population released from agriculture with productive employment. Unlike in the past, agriculture today is unable to employ more people since the general trend in the LDCs towards decreasing agricultural land per worker and a larger share of the population focused on fragile lands. In addition, the evidence from chapter 2 shows that the rate of urban population growth in these countries has been nearly three times faster than that of rural population growth. It follows that the main challenge is to provide the economically active population outside agriculture with productive employment. Unfortunately, however, current structural change has been based on growth in non-manufacturing activities in the industrial (secondary) sector, which is mostly capital-intensive. As a consequence, the informal sector has been absorbing the majority of those who were unable to find productive employment elsewhere.

The informal sector has been absorbing the majority of those who were unable to find productive employment elsewhere.

In short, the recent pattern of structural change in the LDCs has been disappointing in terms of employment creation and inclusive growth. It has resulted in a process whereby labour is released from low-productivity activities (mostly rural) only to be underemployed in other low-productivity activities (mostly, but not exclusively, urban, and in the informal sector). This shift of workers from one type of low-productivity activities to another explains why income poverty (the working poor phenomenon) is so prevalent in many LDCs, and why vulnerable employment accounts for around 80 per cent of total employment. For the LDCs as a group, then, there has been little structural change of the right type, namely, the type that results in productive employment and in substantial increases in productivity, incomes, technological change and higher value added activities.

Given the heterogeneity of the production structure of a typical LDC economy, with modern sectors at one end of the spectrum and subsistence activities at the other, an approach is needed that can accommodate this diversity and make sound proposals for employment creation.

The manner in which structural change is shaped in a given country depends on myriad factors, including the initial natural resource and factor endowments of the country, the state of external demand for its products, the international trade regime, regional integration processes in which the country participates, and so on. But government policies can also influence the process of structural change. The recent pattern of structural change in the LDCs is, in fact, a result not only of the above-mentioned factors, but also of the prevailing development strategy, together with its policy framework.

Because structural change is so critical for development and has such a major influence on the employment situation, Governments should ensure that the right type of structural change takes place in the LDCs. The first step in that direction is to recognize that economic activities are not all alike in their potential for further development of productive capacities. Since some of them result in more spill-over effects and create more linkages, it follows that production structure is not just a passive outcome of earlier growth but is also an active determinant of future growth potential. Steering structural change towards more dynamic activities is therefore crucial.

This Report has proposed a framework with a three-pronged approach to employment creation aimed at placing the economy on a jobs-rich development path. The three-pronged approach to employment creation addresses subsistence activities, tradables, and non-tradables.

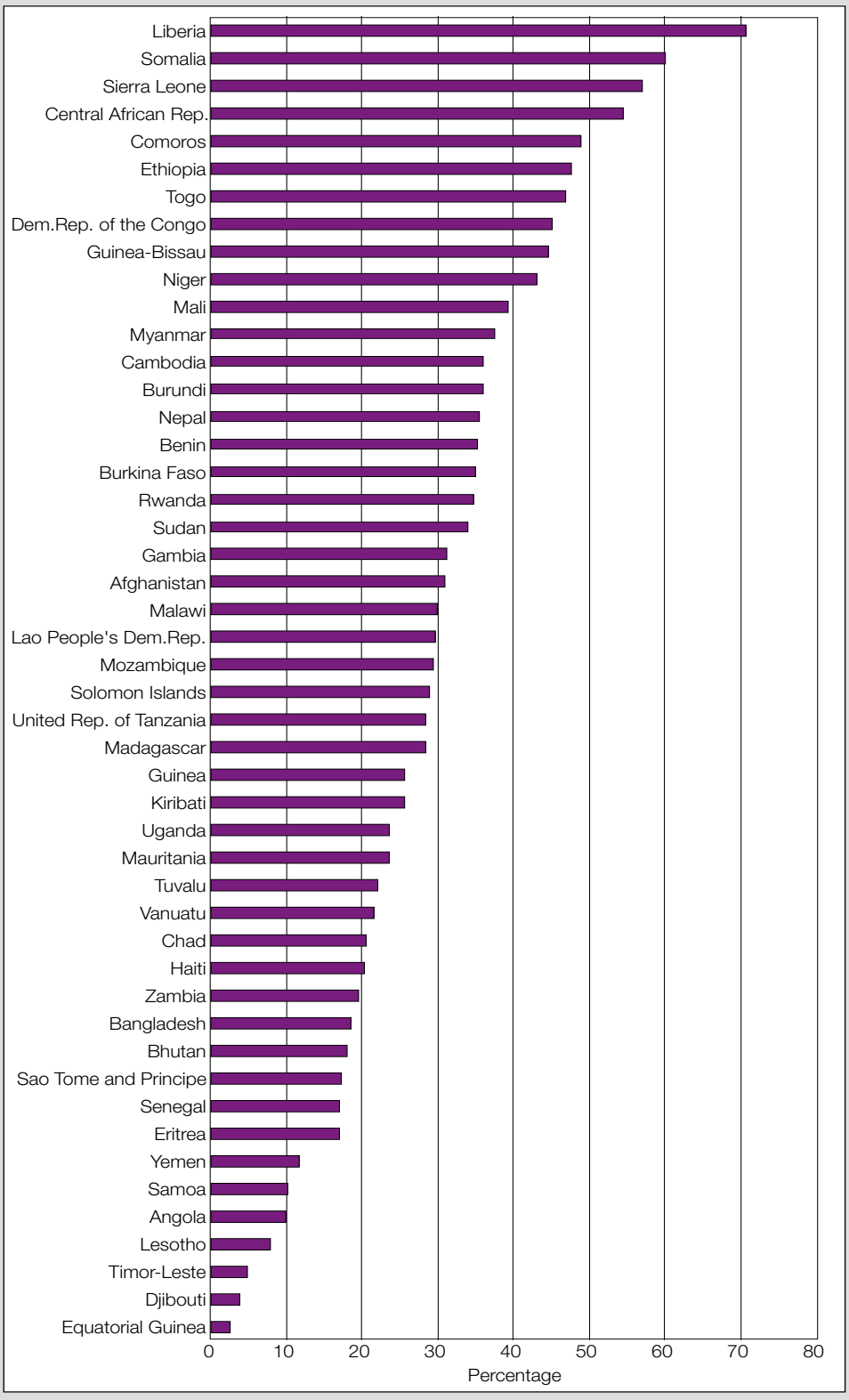
This Report has proposed a framework with a three-pronged approach to employment creation aimed at placing the economy on a jobs-rich development path. The approach is based on a pragmatic assessment of the challenges facing LDCs and on an explicit recognition that the key to inclusive development is not simply higher rates of economic growth but also a higher employment intensity of growth. Given the heterogeneity of the production structure of a typical LDC economy, with modern sectors at one end of the spectrum and subsistence activities at the other, an approach is needed that can accommodate this diversity and make sound proposals for employment creation. The three-pronged approach to employment creation thus addresses subsistence activities; tradables; and non-tradables.

The process of structural change should ideally be led by the consolidation and expansion of the modernizing core of the economy, composed of high-value added, knowledge-intensive and competitive activities in manufacturing, mining, mechanized agriculture and modern services.

It recognizes that the process of structural change should ideally be led by the consolidation and expansion of the modernizing core of the economy, composed of high-value added, knowledge-intensive and competitive activities in manufacturing, mining, mechanized agriculture and modern services. In terms of labour, structural change should ideally result in a transfer of workers from low-productivity, poorly paid work to more productive and better employment in other sectors (i.e., an intersectoral transfer of labour).

However, the expansion of the modern sector needs to be complemented by more jobs, and better jobs, in the remaining sectors of the economy. Given the prevalence of working poverty in LDCs, this will involve raising productivity in traditional activities. All possible options will have to be explored and promoted for improving livelihood opportunities and creating employment in labour-intensive activities in these other sectors.

Chart 38. Primary sector as a share of GDP, 2009–2011



Source: UNCTAD secretariat calculations, based on UNCTADstat database, June 2013.

The logic behind the three-pronged approach to employment creation is that an increase in agricultural productivity releases labour that has to be absorbed by the rest of the economy — i.e., by tradable and non-tradable activities. Since the tradables are subject to intense competition, the extent to which they can absorb labour is limited. In other words, the choice of capital-labour ratio tends to be exogenously determined for enterprises producing tradable goods and services. Non-tradable activities would accordingly have

to provide the bulk of employment opportunities both for new entrants and for workers released from agricultural subsistence activities.

Nonetheless, it is essential for policy to focus not only on employment generation, but also on productive transformation in each of these sectors and in the economy as a whole. The three-pronged approach proposed here emphasizes that employment creation is important, but that it should be pursued in parallel with the modernization of economic activities and an increase of productivity. The latter will ensure that not just the quantity of employment, but also the quality, improves.

The logic behind the three-pronged approach to employment creation is that an increase in agricultural productivity releases labour that has to be absorbed by the rest of the economy — i.e., by tradable and non-tradable activities.

The success or failure of the three-pronged approach will ultimately depend on whether it results in more employment creation and whether it fosters linkages in the national economy. More developed economies are invariably characterized by more dense economic structures where linkages are stronger and the production process more specialized or roundabout. This was recognized long ago by Adam Smith in his description of the process of specialization and his analysis of how it increases productivity.

Dynamic production linkage effects occur through both demand-side and supply-side relationships. For example, the multiplier effects of the export sector on the rest of the economy (demand side) will depend on the existence or absence of linkages with the rest of the national economy. If the export sector operates as an enclave within the economy, these dynamic effects will be largely absent. The effects on the supply side operate through positive externalities, economies of agglomeration, economies of specialization, and technological and knowledge spill-overs. Policies that strengthen these linkages can accelerate structural change, and with it the development of productive capacities.

Non-tradable activities would have to provide the bulk of employment opportunities both for new entrants and for workers released from agricultural subsistence activities.

2. Agriculture and the employment challenge: modernizing subsistence activities in rural areas

Modernizing subsistence activities is a sine qua non for increasing productivity and improving the livelihood of the majority of LDC populations. This is particularly important in an LDC context, since a large proportion of time spent at work is devoted to subsistence activities, and since a large number of people are engaged in such activities, particularly agriculture. Broadly speaking, agriculture in LDCs comprises both subsistence activities and commercial agriculture.[11] Agricultural development policies are likely to benefit both types of activities. In the case of subsistence agriculture, they are expected to have an impact on earnings, on poverty, but also on output levels. In the case of commercial agriculture, successful policies are more likely to have broader impacts on the creation of intersectoral linkages, enhanced food security, and expansion of outputs that are traded both domestically and internationally. The importance of both types of agriculture is analysed below in the broader context of rural development, which is based not only on agricultural activities, but also on rural non-farm activities.

Modernizing subsistence activities is a sine qua non for increasing productivity and improving the livelihood of the majority of LDC populations.

There are five main reasons why rural development is crucial for improving the employment situation in LDCs and why policies for employment and productivity need to target agriculture as a priority in the short term.

First, the LDC population is largely concentrated in rural areas. In 35 LDCs, more than 60 per cent of the population lives in rural areas, while less than half of the population lives in urban areas in only 5 LDCs: Djibouti, Sao Tome and Principe, Angola, Gambia and Haiti (chart 39). This means that the LDC labour supply is largely concentrated in rural areas. Policies for expanding jobs and increasing labour productivity and earnings thus need to target rural areas in the

first instance. It is in rural areas that the labour force comprises workers who are already, or who could potentially become, active in both agricultural and RNF activities. If an immediate impact is to be made on poverty and unemployment, rather than leaving these problems to be resolved in the long term through the "trickle-down" effect of growth in the non-agricultural sectors, agricultural growth will have to be stepped up considerably.

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Second, the primary sector (mainly agriculture) contributes the highest share of GDP in LDCs, as compared to other major groups of countries.[12] Primary activities account for over one fourth of GDP in the average LDC and in 29 of the 48 LDCs for which data are available (see chart 38).

Third, the productivity of rural activities is very low in most LDCs. The concentration of the population in rural areas — where the majority of the population in 43 LDCs lives — contrasts sharply with the contribution of primary activities to GDP (there are only four LDCs where the primary sector contributes more than half of GDP). This concentration is an indicator of very low productivity in rural activities, especially agriculture. As farm sizes are diminishing and farmers are being forced to cultivate more ecologically fragile land under increasingly uncertain climatic conditions, agricultural livelihoods have become less secure, more volatile and even less able to provide subsistence. This situation is accentuated by the heightened competition of subsistence agriculture with large-scale commercial farming, whether through more open trade or through changes in domestic property relations and land tenure patterns. The very low level of agricultural productivity is apparent not only within individual LDC economies, but also when compared internationally. Not only is there an agricultural productivity gap between LDCs and ODCs, but that gap has been widening. In 1990, the LDCs' cereal yield per hectare was only 61 per cent of that of ODCs. Two decades later, the proportion was just 37 per cent (chart 40). These very low levels of productivity, combined with the strong rural concentration of the population in rural areas, are the main explanation for the pervasive poverty in these countries (UNCTAD, 2004).

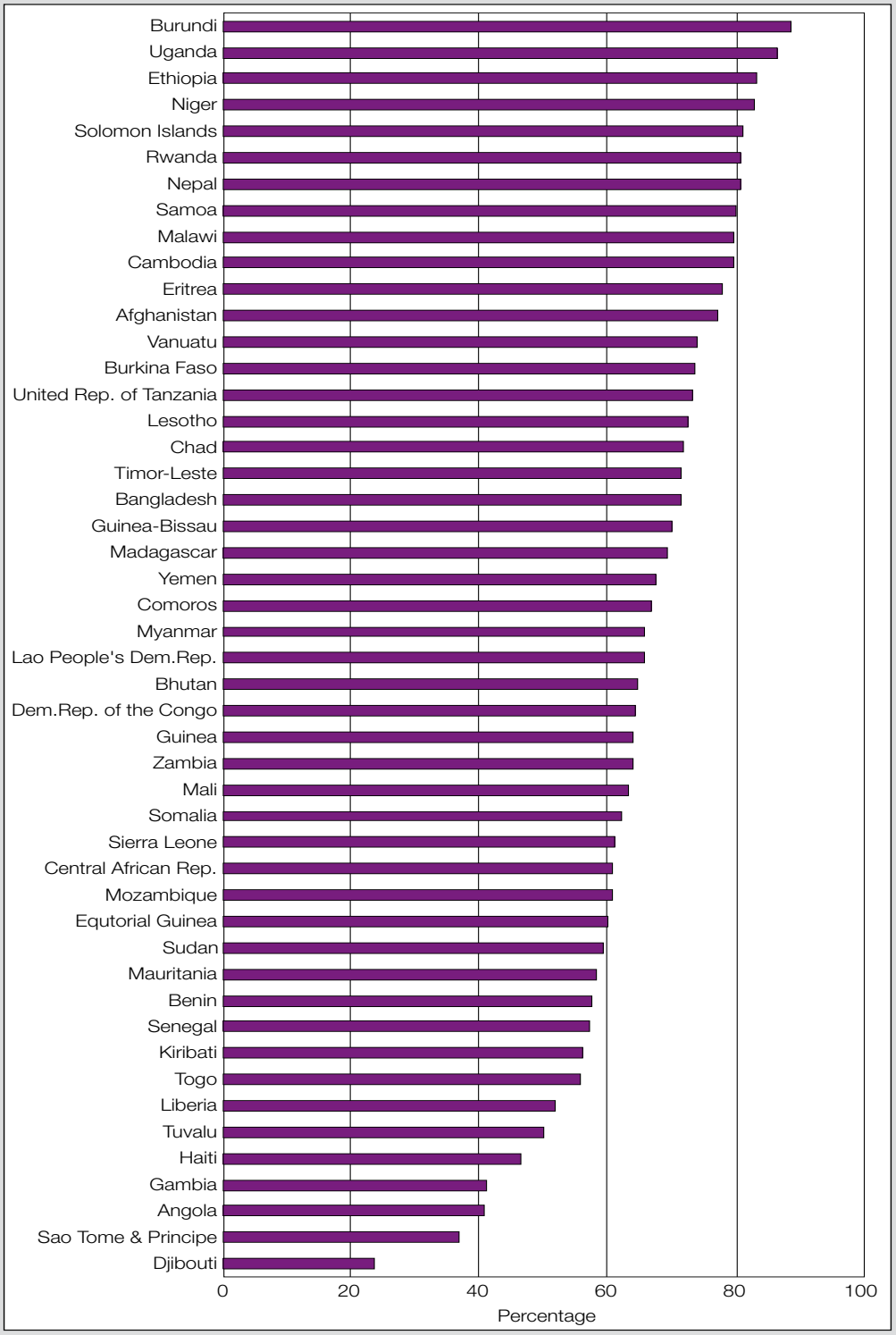
Many LDCs are now at a critical stage in which they not only must find productive jobs and livelihoods for the millions of young people who are entering the labour force each year, but also have to confront that task in a situation where the nature of the employment challenge is changing.

The fourth factor behind the importance of rural development to LDC employment is the current pattern of rural–urban migration in most of these countries. That pattern is driven more by expulsion forces (i.e., the dearth of gainful employment in rural areas) than by attraction forces (because of the lack of decently paid jobs in urban areas). Many LDCs are now at a critical stage in which they not only must find productive jobs and livelihoods for the millions of young people who are entering the labour force each year, but also have to confront that task in a situation where the nature of the employment challenge is changing. In the past, most of the new labour force was absorbed in low-productivity livelihoods in agriculture. Recently, however, more and more people have been seeking work outside agriculture, and urbanization is accelerating. Many LDCs have been unable either to increase agricultural productivity significantly or to generate productive jobs and livelihoods outside agriculture. In the absence of non-farm employment opportunities in rural areas, young people move to towns and cities in search of employment. This creates serious economic and social problems, such as urban poverty, growing or persistent informality, social dislocation and crime.

Many LDCs have been unable either to increase agricultural productivity significantly or to generate productive jobs and livelihoods outside agriculture.

Fifth, most LDCs are characterized by food insecurity, which means they are highly vulnerable to developments in international food markets.[13] They are immediately affected by the negative impacts of periods of high or rising international prices, as they have been ever since the international food crisis of 2008. As high or rising international prices translate into high or rising domestic food prices, the real earnings of workers, especially the poorer among them, are lowered (UNCTAD, 2008), which also worsens their standard of living . In an economy with uncertain export prospects, ensuring adequate food availability

Chart 39. Rural population as a share of total population, 2010–2012

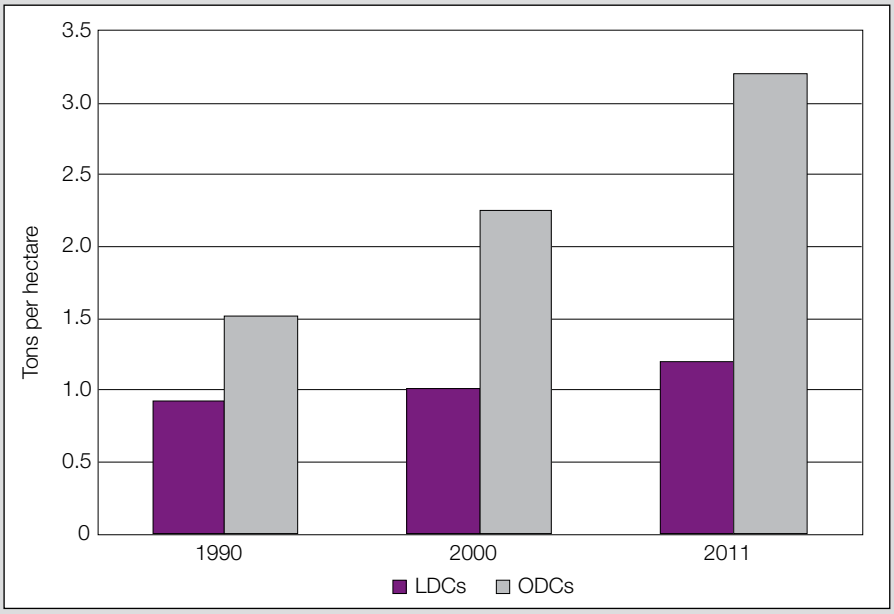


Source: UNCTAD secretariat calculations, based on UNCTADstat database, June 2013.

for the entire population — a crucial objective in its own right — calls for stepping up agricultural production, and food production in particular.

The ongoing analysis attests to the importance of rural activities — including in the subsistence sector — to employment generation, poverty reduction and more vigorous economic activity in LDCs in the short term. In future, as

Chart 40. Cereal yield in LDCs and ODCs, 1990–2011



Source: UNCTAD Secretariat calculations, based on data from World Bank, World Development Indicators online database (downloaded in August 2013).

agriculture and RNF activities develop, rural economic activities will make a vital contribution to the development of productive capacities and to the employment generation which this process gives rise.

Agricultural development has major employment-generating effects, both in agriculture and in the rest of the economy.

Indeed, agricultural development has major employment-generating effects, both in agriculture and in the rest of the economy. Strengthening linkages between agricultural and other activities also reinforces intersectoral flows of intermediate goods. The output of agricultural activities can serve as an input to incipient industrial activities, and especially to food processing industries. In fact, manufacturing activities that are not geared towards exports are highly concentrated in food processing and beverage industries. The output of industrial activities can also serve as input to agricultural production, e.g. in the form of fertilizers, agricultural equipment and machinery. Agricultural surpluses can thus be not only a prerequisite for competitive labour-intensive activities in the rest of the economy, but also an important addition to a country's exports.

The output of agricultural activities can serve as an input to incipient industrial activities, and especially to food processing industries. The output of industrial activities can serve as input to agricultural production, e.g. in the form of fertilizers, agricultural equipment and machinery.

Similarly, income growth in one sector strengthens demand for the output of other sectors. Higher incomes in rural areas cause the domestic market to expand, generating rising demand which can be satisfied (at least partially) by the expanding output of domestic firms in manufacturing and services. Rising income levels, combined with a growing population, will also create a greater demand for food. In other words, the economy will receive an "agricultural push" if rural incomes rise sufficiently and if strong linkages are created and maintained between agriculture on the one hand and non-farm rural activities and urban sectors on the other.

Rising agricultural production and productivity have the additional benefit of allowing LDCs to reduce food insecurity and ensure a more reliable food supply while also lessening their dependence on external sources of food supply. Although for many LDCs, the goal of self-sufficiency in food production is not immediately attainable, some progress towards food security is desirable in and of itself, regardless of the complementarities and synergies with industrial development previously described.

Agricultural development should cause the relative prices of food to fall. The supply of basic wage goods is crucial for the non-inflationary expansion of employment opportunities in the rest of the economy. Since wage goods generally consist of food items, manufactured consumer goods and basic services, food prices are major determinants of the cost of living of workers and of the competitiveness and profitability of labour-intensive activities in the national economy. Lowering the cost of food amounts to increasing the real wages of workers. This in turn can have a stimulating effect on the local economy through direct demand and multiplier effects and on the investment-growth-employment nexus as well.

Lowering the cost of food amounts to increasing the real wages of workers. This in turn can have a stimulating effect on the local economy through direct demand and multiplier effects and on the investment-growth-employment nexus as well.

In short, effective rural development policies with a particular emphasis on the modernization of agriculture are likely to create opportunities for employment in both rural and urban areas. To the extent that agricultural growth leads to a diversification of the demand pattern and hence of activities that can meet domestic demand, the employment-generating potential of an "agricultural push" strategy can be quite significant.

3. Tradable activities: the employment challenge in an open economy

The diversification and structural change of LDC economies obviously cannot be based solely on the development of agriculture. The experience of developed countries demonstrates the critical importance of developing manufacturing activities and related producer services, so as to benefit from synergies and increasing returns to scale and to provide employment for the younger population. Modernization of agricultural production processes generates a growing surplus of labour in rural areas, and that labour surplus then seeks productive employment in urban centres. Improving the prospects for subsistence workers of finding jobs in more modern activities is essential for the structural transformation of the economy. This is the second prong of the approach outlined in this Report, focusing on employment opportunities in tradables sectors.

The experience of developed countries demonstrates the critical importance of developing manufacturing activities and related producer services, so as to benefit from synergies and increasing returns to scale and to provide employment for the younger population.

Tradable activities play a dual role in the development process. The first is that of absorbing labour that has been freed up from the subsistence sector. The second is that of generating foreign exchange revenues, which in turn is necessary for importing essential goods and servicing foreign debt. The LDCs have been focusing on the tradables sector for the past 25 years, which has meant shifting resources to encourage exports and introducing policies conducive to export-led growth. This shift has generally been successful in increasing foreign exchange earnings. Export revenues rose vigorously during the 2000s, since both the volumes exported and the prices of exported goods expanded.

In the recent past, however, the role of the tradables sector in absorbing labour freed up from subsistence agriculture has been fulfilled to a much lesser extent. Where exports are based on natural resource extraction, the employment intensity of growth has been low. In countries whose tradables sector is dominated by export-oriented labour-intensive manufactures, by contrast, more jobs have been generated.

The classic route of transferring labour from subsistence or other rural activities to more productive jobs in manufacturing has been followed in only a handful of LDCs.

The classic route of transferring labour from subsistence or other rural activities to more productive jobs in manufacturing has been followed in only a handful of LDCs, some of them in Asia, as well as Lesotho and Haiti. Bangladesh, for example, has become the world's second largest apparel exporter, surpassed only by China. Manufacturing in some other Asian LDCs

has grown through participation in the manufacturing supply chains centred on China. The recent increase in China's labour costs, and the rebalancing of Chinese growth described in chapter 1, box 2, is likely to open up opportunities for labour-intensive export activities in LDCs. Hence, there is some potential for manufacturing to become one of the engines of employment creation in the LDCs in the not-too-distant future.

The recent increase in China's labour costs, and the rebalancing of Chinese growth is likely to open up opportunities for labour-intensive export activities in LDCs.

Clearly, the LDCs cannot afford to ignore the fact that they need foreign exchange to import capital goods, technology and other inputs required to build their productive capacities. They must also bear in mind the need to maintain or increase their export capacity. To be able to export, they may need to attract FDI, which typically chooses capital-intensive technologies that do not generate much employment. They can, however, use policies to encourage investment in export-oriented but labour-intensive activities, particularly in manufacturing, that can generate jobs while also contributing to export expansion and foreign exchange earnings.

The tradables sector comprises both export-oriented and import-substituting activities. It is true that the extent to which the LDCs can nurture the latter activities has been substantially reduced by trade liberalization. However, this does not mean that import-substituting activities are no longer feasible. They simply require different sets of policies and instruments geared towards the development of productive capacities, especially industrial policy and enterprise development policies, as analysed in the next chapter of this Report.

Given that the tradables sectors are less likely to provide an abundance of employment opportunities, employment creation in non-tradable activities becomes critical.

4. Non-tradable activities: the employment challenge in low-productivity activities

The final element of the three-pronged approach is to promote employment-intensive growth in non-tradables sectors. Given that the tradables sectors are less likely to provide an abundance of employment opportunities for the reasons outlined above, employment creation in non-tradable activities becomes critical. These activities include infrastructure and housing; basic services (education, health, sanitation, communication); technical services, repair and maintenance, as well as most transportation services; insurance services, property and commercial brokerage; personal, social and community services; public administration; and security and defence. Since these activities do not generally face international competition, the policy space for influencing outcomes in these sectors is larger than in tradables, and accordingly they offer much greater possibilities for increasing the employment intensity of growth.

Since these activities do not generally face international competition, the policy space for influencing outcomes in these sectors is larger than in tradables, and accordingly they offer much greater possibilities for increasing the employment intensity of growth.

Moreover, non-tradable activities grow as incomes grow. The share of food in the total consumption of an individual will normally decrease as income increases, leaving more space for non-food goods and services. Health and education become particularly more important as incomes grow. This means that the high growth in the LDCs over the past decade has to some extent created demand for more and better services. However, the demand for many of these services is currently met by activities taking place in the informal sector, with very low productivity and remuneration. Thus, the existence of an increasing demand for better services — a demand that is currently being matched by a supply of lower quality — points to a need for substantially upgrading the provision of many services in the LDCs.

Regardless of whether these activities are currently informal or formal, their future growth can be influenced by policies. The point is that services are mostly labour- intensive, which creates an opportunity for substantial employment creation in the LDCs. Given the importance of services for employment creation,

Governments should foster their development. For example, policies that incentivize the formalization and enlargement of enterprises in these sectors can result in rapid increases in productivity because of better use of economies of scale and scope. Increases in productivity then translate into higher incomes for workers and a broader tax base, thereby strengthening the domestic mobilization of resources. Governments can use their procurement policies, for example, to promote the development of small domestic enterprises. The use of labour-intensive techniques and domestic inputs should figure prominently among the requirements outlined in these policies.

Governments can use their procurement policies, for example, to promote the development of small domestic enterprises. The use of labour-intensive techniques and domestic inputs should figure prominently among the requirements outlined in these policies.

One essential driver of the non-tradables sector is public expenditure, especially (but not exclusively) in the social sectors. This is typically much more employment-generating than several other economic activities, and also has substantial multiplier effects. Spending on the provision of proper health facilities, for example, or ensuring good-quality and universal education, has great employment-generating potential. There is thus a strong case for pursuing a growth strategy that allows and encourages labour productivity increases overall. Such a strategy should also involve a significant expansion of public expenditure and in turn of income and employment opportunities in social sectors that have a positive impact on the standard of living.

One essential driver of the non-tradables sector is public expenditure, especially (but not exclusively) in the social sectors.

Given the greater policy space in non-tradables, that is one part of the economy on which policymakers can have the greatest influence. Specifically, they can try to put the investment-growth-employment nexus to work in the non-tradables sector, as has been described in section B. At the same time, it provides an example of how different elements of the policy framework can be combined to enhance the coherence and synergies of policies.

E. How to adjust the framework to conditions in different LDCs

The framework developed in this chapter should not be viewed as a one-size-fits-all solution for the employment challenge in LDCs. There is considerable room for diversity in its application, reflecting differences in each country's resource endowments, size, geographical location, production structure and export structure. Such diversity implies different starting positions and also different policy choices. There is some agricultural production, some manufacturing and some extraction of natural resources in all the LDCs, but the proportion of each element varies from one country to another.[14]

The framework developed in this chapter should not be viewed as a one-size-fits-all solution for the employment challenge in LDCs. There is considerable room for diversity in its application, reflecting differences in each country's resource endowments, size, geographical location, production structure and export structure.

As argued in chapter 1, the weakness of aggregate demand in developed countries will restrict the possibilities of strong export-led growth in the LDCs for some time to come. This requires a shift towards a more domestic-demand-led growth, particularly in economies that are large enough to sustain such a shift. This rebalancing of growth can be achieved with direct redistributive policies and public expenditure on more basic goods and services. However, many LDCs are small economies and are also very specialized in their production and export structure. As a rule, small countries lacking a broad base of natural resources have to develop manufactured exports at an earlier stage than resource-rich countries, where specialization in primary commodities persists to a much later stage of development. Larger countries, on the other hand, can shift away from specialization in primary commodities through import substitution.

Given the weakness of demand in developed countries, and the small size of domestic markets, an increase in regional and South-South trade is likely to be of particular importance for the smaller LDCs. Progress towards developmental

regionalism — a subject that was treated extensively in LDCR 2011 — and intensification of economic relationships between LDCs and other developing countries might help the LDCs during the current adverse economic conjuncture.

1. Fuel and mineral producers and exporters

The policy challenge is to ensure that higher prices of commodities and/or productivity growth in the extractive sector translate into greater domestic demand and more investment. Distribution of rents is thus crucial.

There are two characteristics of fuel and mineral exporters that must be considered when adapting the framework to their circumstances. The first is that the production of tradables is of an enclave type, with few linkages to the rest of the economy. These sectors have very low employment elasticity, resulting more often than not in jobless growth. The policy challenge in these countries is accordingly to ensure that higher prices of commodities and/or productivity growth in the extractive sector translate into greater domestic demand and more investment. Distribution of rents is thus crucial. Taxation systems in such economies should have two main aims: to create sufficient incentive for investors, and to secure a fair share of mining or fuel revenue for public use.

In addition, these sectors can help generate more and better employment only indirectly, which calls for strengthening their linkages with the rest of the economy. This can be accomplished by using some of the resource revenues to improve the enabling environment for business start-ups through well-targeted investment in infrastructure. Backward and forward linkages should also be reinforced, in particular by creating natural resource-based production clusters. These are sectoral and/or geographical concentrations of enterprises engaged in interlinked activities based on the exploitation and processing of natural resources and their supporting industries (UNECA, 2013).

The priorities for these countries should be private sector development organized around the extractive sectors with backward and forward linkages, and the investment-growth-employment nexus in non-tradables sector.

The second characteristic of fuel and mineral producers and exporters is that they usually have less of a financing constraint than other LDCs. The data in annex table 4, show that the resource gap of fuel-exporting LDCs is positive, which means that their savings rate is higher than their investment rate. Thus, financing public infrastructure, social services and the like should be relatively easy. However, the difficulty lies in managing the exchange rate due to the "Dutch disease" effects. The influx of foreign exchange from exports and foreign investment results in an overvalued domestic currency, effectively discouraging non-commodity exports.

In short, the priorities for these countries should be private sector development organized around the extractive sectors with backward and forward linkages, and the investment-growth-employment nexus in non-tradables sector.

2. Producers and exporters of agricultural products

Countries where conditions are auspicious for the expansion of agricultural and food production and exports should promote these activities by shifting the focus of public investment onto agriculture. Public investment should provide solid infrastructure to connect the producers with major centres of consumption.

Countries where conditions are auspicious for the expansion of agricultural and food production and exports should promote these activities by shifting the focus of public investment onto agriculture. Public investment should provide solid infrastructure to connect the producers with major centres of consumption (big cities and international markets). It should also encourage non-farm rural activities, especially those related to food processing and the provision of basic services.

In countries with large populations, it should be possible to combine increases in agricultural incomes with the development of domestic industries by encouraging domestic demand for intermediate and consumer goods produced by domestic industry. In such situations, industrialization can be driven by agricultural development rather than by exports.

In countries with smaller populations, the primary goal for agricultural and agro-industrial exports must be international markets. While this generates higher standards of competitiveness and quality of goods produced — and thus also entails a major role for the State in ensuring that the standards are met — recent developments are creating new opportunities for exports. One such opportunity will arise from the shift in Chinese demand for food from staples like rice to more protein-rich food obtained from livestock. A well-planned strategy to meet this growing demand could produce substantial payoffs in terms of both income and employment. Countries with small populations can also develop production for niche markets like organic food, flowers, horticulture and the like.

For larger countries the development of agriculture can be coupled with the development of domestic industry, enabling them to benefit from the complementarities and synergies between the two. For smaller countries, exporting agricultural surpluses and developing production for international niche markets are viable options.

In short, for larger countries the development of agriculture can be coupled with the development of domestic industry, enabling them to benefit from the complementarities and synergies between the two. For smaller countries, exporting agricultural surpluses and developing production for international niche markets are viable options.

3. Producers and exporters of manufactured goods

Countries that have already established internationally competitive labour-intensive manufacturing activities need to address three priority areas, each of which has contradictory impacts on employment creation. The first priority is to upgrade to more value added activities in areas where some industrial capabilities already exist. If an economy depends almost entirely on external markets for growth, its scope for employment creation is limited by the ability to benefit from demand expansion in other countries or by the ability to increase market shares. Both these options are limited in the short term, and in the longer term depend on investments in the expansion of productive capacities. Wages do not increase much in such economies, so domestic demand does not grow and employment creation is limited. Informal activities may persist and even expand in situations of relatively rapid economic growth. Industrial upgrading is thus crucial for these economies. If successful, however, it will most likely reduce employment creation since it would involve more modern technologies that generally increase the capital-labour ratio.

The first priority is to upgrade to more value added activities in areas where some industrial capabilities already exist.

The second priority for these countries is to cheapen wage goods, especially food. Since their competitiveness is based on low wages, cheapening wage goods will result in an increase in real wages, even if nominal wages do not increase. An increase in real wages can in turn stimulate domestic demand and help generate the investment-growth-employment nexus. Cheapening of food, however, requires substantial investment in agriculture. The idea would then be to promote development through an industrialization process linked in a balanced fashion to the development of the rural economy and agriculture.

The second priority for these countries is to cheapen wage goods, especially food.

Both of these processes will produce surplus labour. In order to match the number of persons released from agriculture and industry, the number of employment opportunities in services must be sufficiently dynamic. This calls for establishing the investment-growth-employment nexus in the non-tradables sector. In addition, some of the new employment opportunities will have to come from new manufacturing activities. In effect, enterprise profits from labour-intensive manufacturing exports can be invested in activities that represent backward linkages. The backward linkage dynamic is particularly important for newly industrializing countries, since their industrialization often begins with the assembly of inputs produced elsewhere. Pursuit of the backward linkage dynamic for these countries is therefore essential for achieving an industrial structure of any depth. Some of the additional employment may arise from the opportunities that will open up as Chinese unit labour costs increase (see chapter 1, box 2). As China becomes too expensive for some labour-intensive

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manufacturing activities, wider opportunities will be created for other developing countries. This may give some LDCs the chance to develop much-needed industrial capabilities and become exporters of that type of goods. It may give others the chance to increase their share of international markets based on their existing industrial capabilities.

In summary, the priorities for producers and exporters of manufactured goods should be industrial upgrading of the manufacturing sector, development of agriculture and creation of the nexus in the non-tradables sector.

In many developing countries, tourism is developed in a manner that resembles the enclave economies of major natural-resource exporters, and has negligible employment effects. A more promising strategy for SIDS would be to develop tourism as a leading sector with linkages to local enterprises.

4. Small island developing States

The structural characteristics of small island developing States make it extremely difficult to envisage an effective policy framework for employment creation. They are generally very small in terms of population and territory, have no natural resources that can be exploited and exported, and are generally located far away from major markets and developed countries. However, they do have a potential to develop services, such as tourism and health provision.

In many developing countries, tourism is developed in a manner that resembles the enclave economies of major natural-resource exporters, and has negligible employment effects. A more promising strategy for SIDS would be to develop tourism as a leading sector with linkages to local enterprises. The provision of local food, for example, could have strong employment effects on the local economy, while the provision of local cultural goods, such as music, arts and crafts, could nurture creative industries.

Another promising channel for employment creation is the provision of health and health-related services. Instead of "exporting" doctors and nurses through migration, they can try to attract clients from more developed countries.

Another promising channel for employment creation is the provision of health and health-related services. Endowed with relatively well-educated populations, especially in the health sector, SIDS have what is needed to position themselves as health tourism destinations. Instead of "exporting" doctors and nurses through migration, they can try to attract clients from more developed countries. Since doctors and nurses receive relatively high incomes, they can create demand for various types of goods and services that are available locally.

Creating linkages with a leading service sector is then a promising way to increase the employment intensity of economic activities in small island developing States.

F. Conclusions

The framework relates the three processes through which productive capacities develop to three main elements that must be borne in mind to formulate policies geared at job-rich growth...

The LDCs are likely to face an enormous employment challenge over the next two to three decades, as discussed in chapters 2 and 3. To respond to this challenge, their policymakers will have to find ways to stimulate employment creation. In addition, GDP growth rates in the current decade have so far been lower than in the previous decade, and forecasts suggest that this is likely to continue over the next three to five years. Since employment creation was inadequate even in the 2000s, the LDC employment challenge in the present decade is even more overwhelming.

The aim of this chapter was to articulate as clearly as possible a policy framework for linking employment creation with the development of productive capacities in the LDCs. The framework is based on the recognition that employment creation without the development of productive capacities is not sustainable. It relates the three processes through which productive capacities develop to three main elements that must be borne in mind in order for LDC

policymakers to formulate policies geared at job-rich growth. These elements are: the investment-growth-employment nexus; enterprise development and technological change; and the three-pronged approach to employment creation.

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Capital accumulation can take different forms, and in the recent past it included the investment-growth nexus, but not employment. This chapter proposes a framework that adds employment as a critical ingredient to the nexus. The focus is on setting in motion a virtuous cycle where investment boosts growth, and growth creates productive employment. Productive employment, in turn, implies increasing incomes for workers, giving rise to consumption that supports the expansion of aggregate demand. Sufficiently dynamic aggregate demand, for its part, creates incentives for new investment, repeating the cycle at a higher level of investment, growth, employment and income.

Enterprise development is the second element of the framework for maximizing employment creation. It involves the development of productive capacities through entrepreneurial capabilities and technological progress. It is argued here that successful private sector development would enable the LDCs to improve both the quantity and quality of employment creation and also to embark on a technological catch-up with more developed countries. The most important task in the LDC context is to create the "missing middle". Where technological change is concerned, policymakers need to adopt different policies and measures according to the three main sectors of the economy.

One of the most important tasks in the LDC context is to create the "missing middle". Where technological change is concerned, policymakers need to adopt different policies and measures according to the three main sectors of the economy.

Structural change is a central feature of the development process, and its form and pace will also affect employment creation in the economy. To place the economy on a job-rich development path, the chapter proposes a framework with a three-pronged approach to employment creation. It focuses on the consolidation and expansion of the modernizing core of the economy, composed of high value added, knowledge-intensive and competitive activities in industry, mining, mechanized agriculture and modern services. However, to compensate for the often low employment intensity of growth within the modernizing core, all possible opportunities for creating employment in labour-intensive activities in tradable, non-tradable and subsistence sectors should be explored and promoted.

Policymakers in each country should carefully examine the specificities of their economies and decide how to use the framework.

Finally, the chapter proposes ways to adjust the framework to different types of LDCs. As has already been noted, there is considerable room for diversity in the application of the framework across LDCs, reflecting differences in resource endowments, size, geographical location, production structure and export structure. Policymakers in each country should carefully examine the specificities of their economies and decide how to use the framework. The following chapter discusses the main policy lines required to set up the framework developed here in order to achieve employment-rich growth in the LDCs.

Notes

1 The concept of the developmental State in the context of LDCs has been dealt with extensively in UNCTAD, 2009.

2 There is little difference in this respect between African and Asian LDCs. Both groups display a similar investment ratio, very close to the overall average. In the island LDCs, by contrast, the rate is much lower: 17.1 per cent in 2010–2011.

3 China has been excluded from the total of other developing countries because its exceptionally high investment ratio (45.9 per cent in 2010–2011) and the size of its economy bias the group average.

4 The following paragraphs draw heavily on Stiglitz et al., 2006.

5 We have used the data for Africa because more recent estimates of the LDCs' infrastructure investment needs are not available. One older estimate, provided in UNCTAD 2006, suggests that LDCs would need annual infrastructure investment equivalent to 7.5 and 9 per cent of GDP.

6 There are no available data are for several LDCs, most of them island LDCs.

7 Further details on this issue are provided in section C of this chapter.

8 In constant 2011 dollars. UNCTAD computations, based on data from the Creditor Reporting System database of OECD-DAC.

9 The Least Developed Countries Report 2006 identified the underdevelopment of the entrepreneurial sector — one particular aspect of missing institutional development, along with a deficit of infrastructure and weak (domestic) demand stimulus – as the main constraints on the development of productive capacities (UNCTAD, 2006).

10 A useful list, originally drawn up by UNCTAD, identifies five major kinds of technological capabilities: investment capabilities, incremental innovation capabilities, strategic marketing capabilities, linkage capabilities, and radical innovation capabilities.

11 This section focuses on subsistence activities within agriculture, but without neglecting the role and importance of commercial agriculture and non-farm rural activities. Chapter 5 includes a discussion of policies for creating jobs in non-farm rural activities.

12 The primary sector is made up of agriculture, forestry and fishing, with agriculture the predominant activity. The bulk of primary economic activities take place in rural areas.

13 According to FAO, as of July 2013, 23 of the 34 African LDCs , along with two Asian LDCs and Haiti, — more than half of all LDCs — required external food assistance due to critical problems of food insecurity (http://www.fao.org/giews/english/hotspots/). Moreover, three fourths (26) of the 34 countries worldwide that required external food assistance were LDCs.

14 The classification of LDCs according to their structure and employment challenges is presented on p.xii.

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