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POVERTY REDUCTION

REGIONAL INTEGRATION AND HUMAN DEVELOPMENT: A PATHWAY FOR AFRICA

Regional Integration and Human Development: A Pathway for Africa

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List of Acronyms and Abbreviations

ADB	Asian Development Bank
AfDB	African Development Bank
AGOA	African Growth and Opportunity Act
AIDS	Acquired Immune Deficiency Syndrome
AMBDC	ASEAN Mekong Basin Development Cooperation
AMU	Arab-Maghreb Union
ARV	Antiretroviral
ASAIHL	Association of Southeast Asian Institutions of Higher Learning
ASEAN	Association of Southeast Asian Nations
AU	African Union
BID	Inter-American Development Bank
CAF	Andean Development Corporation
CAN	Andean Community
CEMAC	Economic and Monetary Community of Central Africa
CEN-SAD	Community of Sahel-Saharan States
CEPT	Common Effective Preferential Tariff
CES	Constant Elasticity Supply
CET	Common External Tariff
CGE	Computable General Equilibrium Model
CH_4	Methane
COMESA	Common Market for Eastern and Southern Africa
CO_2	Carbon Dioxide
EAC	East African Community
EAGA	East ASEAN Growth Area
ECCA	Economic Community of Central African States
ECOWAS	Economic Community of West African States
EFA	Education for All
EHEA	European Higher Education Area
EPA	Economic Partnership Agreement
F-gases	Fluorinated greenhouse gases
FEM	Mercosur's Education Fund
FOCEM	Mercosur's Structural Convergence Fund
FONPLATA	Financial Fund for the Development of the River Plate Basin
FTA	Free Trade Agreement
GDP	Gross Domestic Product
GHG	Greenhouse gases
GMS	Greater Mekong Subregion
HDI	Human Development Index
HIV	Human Immunodeficiency Virus

IDIE	Mercosur's Institution for Development and Education
IIRSA	Regional Infrastructure Integration Initiative
ILO	International Labour Organization
IMS-GT	Indonesia-Malaysia-Singapore Growth Triangle
IPR	Intellectual Property Rights
LAMP	Literacy Analysis and Measurement Programme (Paraguay)
LDC	Least Developed Country
LES	Constant Elasticity of Substitution
LLC	Landlocked country
MDGs	Millennium Development Goals
MERCOSUR	Common Southern Market
MEXA	Experimental Accreditation Mechanism
NAFTA	North American Free Trade Agreement
NEPAD	New Partnership for Africa's Development
NTB	Non-tariff Barriers
N_2O	Nitrous oxide
PAMAFRO	Andean Plan for Health in Border Areas
PASAFRO	Andean Regional Project to Control Malaria in Border Areas
PIDS	Integral Plan for Social Development
PRONAMA	National Literacy Mobilization Programme (Peru)
REC	Regional Economic Community
ROW	Rest of the world
RTA	Regional Trade Agreement
SACU	Southern African Customs Union
SADC	Southern African Development Community
SAM	Social Accounting Matrix
SMEs	Small and Medium Enterprises
UNASUR	Union of South American Nations
UNCTAD	United Nations Conference for Trade and Development
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNESCO	United Nations Educational, Scientific and Cultural Organization
VAT	Value Added Tax
WAEMU	West African Economic and Monetary Union
WB	World Bank
WHO	World Health Organization
WTO	World Trade Organization

EXECUTIVE SUMMARY

This report explores regional economic integration and its potential impacts on human development, with a focus on Africa. It assesses how contextual factors common to many African countries might condition the impacts of regional integration on human development, and draws on experiences in other continents. It supplements this qualitative analysis with simulations of regional integration processes for different regions in Africa, and economic integration of the whole of Africa. In doing so, it builds on a substantial body of work on regional integration in Africa undertaken by many institutions, notably the United Nations Economic Commission for Africa (UNECA).

Regional economic integration is much broader than efforts simply to liberalize trade. It can also include investments in regional infrastructure, harmonization of regulations and standards, common approaches to macroeconomic policy, management of shared natural resources, and greater labour mobility. Human development is about creating the conditions that allow men, women and children to live lives they value by expanding their freedoms and building their capabilities. The report discusses four main channels linking integration and human development: income, access to services, empowerment and sustainability.

The impacts of regional integration on human development are highly dependent on the age and gender of people affected by economic integration. They vary from country to country and from community to community, depending on many contextual factors. These factors include both 'hard' contextual factors that are difficult or slow to change, such as geography and climatic conditions, and 'soft' contextual factors involving policies that if properly designed and implemented, can shape institutions and capacities in the direction of inclusive growth and human development.

Africa is endowed with rich resources. African economies are growing quickly, subdued recently only by the impacts of multiple crises. Africa has minerals, oil, and a resilient labour force that in difficult circumstances delivers innovation and growth. Yet Africa also faces multiple challenges. It is highly fragmented, with a large number of landlocked countries and generally poor transport and communication infrastructure — particularly in central Africa. Africa is home to over two thirds of the world's Least Developed Countries (LDCs), 12 of which have no access to the sea. Economic policies and regulations have in some cases tended to enhance disadvantages rather than compensate for them. In spite of valuable progress on health, Southern Africa in particular continues to be hard hit by the HIV pandemic and affected by the prevalence of tropical diseases that hamper human capital accumulation and human development in general. The region has one of the largest proportions of unskilled and semi-skilled workers, and capacities tend to be low in both the public and private sector. In addition, youth unemployment is a huge challenge.

But these very same challenges attest to the potential of regional economic integration for the continent. Although Africa has made commendable efforts toward regional integration in recent years — including the adoption of the Accra Declaration to accelerate the economic and political integration of the African continent and the establishment of regional economic communities such as the Southern African Development Community (SADC), the Common Market for East and Southern Africa (COMESA) and the Economic Community of West African States (ECOWAS) — progress has been slow and difficult. Further regional economic integration could compensate for the disadvantage of being landlocked and the fragmentation that limits market size and denies economies of scale to many countries. Expanded integration could also create

opportunities for resilience by pooling capacities to respond to vulnerabilities. Although tariff reductions and the creation of customs unions across the region are steps in the right direction, deeper levels of integration involving investments in infrastructure, technological upgrading and policy harmonization are likely to lead to the largest human development benefits. This can further enhance competitiveness, productivity and employment, especially for young people in a region severely challenged in these areas.

Broader integration and cooperation in complementary sectors would not only support the economic potential of the region, but reinforce broad human development. If greater labour mobility is managed in a way that protects migrants and respects human rights — particularly of women and young workers — it would contribute not only to incomes but also to empowerment. If regional integration provides an impetus to better manage cross-border natural resources, this would support the notion of sustainability inherent in the human development paradigm.

Simulations undertaken for this report provide strong evidence of this potential. The simulations suggest that all African regions are better off with regional integration. Continental integration — as opposed to a subregional approach within Africa or integration in global markets — leads to significant increases in welfare across Africa, although the picture for Central Africa is less clear. However, the benefits are significantly enhanced if transport costs are reduced, turning potential losses from regional integration in Central Africa into gains. In contrast, global integration in the absence of regional integration may reduce welfare in African regions under certain circumstances.

Our analysis indicates that the average tariff revenue lost as a result of intra-Africa economic integration is relatively small, although some countries are more dependent on trade taxes than others. Further, in the longer term, the revenue lost can be partly compensated for through the dynamic effects of integration which leads to economic growth and welfare gains. These results suggest that concerns related to trade tax losses should not be a major obstacle to African integration and that international support helping Africa to bridge the revenue gap would make an important contribution to the integration process and to human development.

However, as expected, the simulation results indicate that important distributional issues arise with economic integration. The returns to labour are not equally distributed among skilled and unskilled workers, or across sectors. These issues can be overcome with appropriate policy actions. Existing regional integration initiatives are designed to address distributional issues across countries. One of the objectives of the Communidad Andina de Naciones (CAN) is to promote balanced development under equitable conditions through integration and social cooperation. Members started to discuss regional cooperation on health issues in the 1970s, and literacy programmes targeted at the poorest countries. The Mercado Común del Sur (MERCOSUR) has regional funds available for compensation for poorer members and bilingual border area schools to improve skills.

An interesting aspect of integration within Africa is the role it could play in industrial development. While Africa's integration with the rest of the world could unleash agricultural growth, Africa's integration with itself could potentially support industrialization. The reduction of tariffs on African agriculture exports in global markets would yield benefits for Africa based on its current set of endowments, particularly for rural areas. Higher rural incomes would allow individuals to invest in education and health services, thus

increasing human development. In contrast, as intra-Africa tariffs are higher, integration within Africa would support manufacturing and natural resources. This would benefit the growing number of agricultural and non-agricultural workers, including young people who have migrated to the cities, and potentially support and enrich urbanization and a sustained diversification from agriculture.

Given the potential benefits of further integration, why is the process proceeding slowly? UNECA has extensively analysed African regional integration, its economic potential, relative achievements and remaining challenges. The slow progress is attributed to a number of factors and challenges still facing African countries, including capacity and financial resource constraints; macroeconomic instability and economic fragmentation; numerous overlapping subgroupings; poor and inadequate infrastructure; the prevalence of disease, including HIV/AIDS; and conflicts and war. Our qualitative exercise suggests that integration benefits are likely to accrue unevenly, underscoring the difficulties to make progress on the ground.

Africa's integration agenda can be significantly strengthened if human development considerations are incorporated at the start. The following recommendations for African policy makers and regional actors outline a pathway toward African integration that seeks to maximize human development. Global initiatives such as Aid for Trade and the Enhanced Integrated Framework for Trade-Related Assistance for Least Developed Countries can play an important role in support of African regional integration and human development.

First, the benefits of integration for growth and human development will be magnified if accompanied by investments in infrastructure, both national and cross border. These investments allow people and inputs to move to more productive opportunities, and allow finished goods and services to reach broader markets. The need for infrastructure investment is particularly acute in Africa given the large distances that might be involved between areas of production and markets. Investments are needed not only in transport, but also power, water and communications. These are key considerations for enhancing competitiveness in the region.

Second, differentiated regulatory schemes and trade standards represent a drag on regional economic activity. Much can be gained by harmonizing frameworks and making all economic agents aware of their parameters. This is true for labour markets (and cross-border mobility) as well as markets for goods and services.

Third, regional economic integration allows for a new exploration of regional industrial policy. Because of market scale, larger labour pools, and diversified resource and production bases, regional policies that work together with existing comparative advantages — but also look to how these may transform in the future — stand a greater chance of success. This regional industrial policy could encourage skills upgrading for value added in agriculture and other manufacturing opportunities. The experience of the Association of Southeast Asian Nations (ASEAN) countries supporting small and medium enterprises (SMEs) and building an integrated economic space by unbundling production across countries provides a valuable reference for Africa.

Fourth, the process of economic integration will lead to adjustment costs and distributional impacts across countries. African countries need to build strong regional institutions and policies that go beyond the development of regional standards and monitoring. These institutions must have the instruments and resources necessary to protect the stability of the regional space from internal and external shocks. They must be able to look upward at global challenges and downward to national realities.

Fifth, economic integration will entail distributional impacts within countries, and not all impacts will be positive. Human development gains can be maximized and sustained with appropriate social policies. Social protection systems can play a key role in helping populations cope not only with shocks but also the risks that more open and competitive markets bring. While applicable to populations as a whole, social protection mechanisms are particularly important for more vulnerable groups, including young people and women.

Sixth, health and education policies play an important role in the context of economic integration by empowering citizens and bolstering productivity. Many countries in Southern Africa have particularly high rates of communicable diseases, which reduce productivity and growth, and ultimately well-being. Enrolment in secondary and tertiary (including vocational) education in Africa is particularly low. Regional integration could allow African countries to pool resources to build the human resources base and technological capacities that would allow Africa to sustain growth and remain globally competitive.

Seventh, enhanced regional integration provides a platform for strengthening cooperation on common environmental challenges and preserving the natural resource base that Africa's development and livelihoods depend on. African regional integration will have a positive impact on the continent's growth and thus lead to increases in greenhouse gases (GHGs), which will nevertheless remain at low levels. These results stress the importance of African countries joining efforts, capacities and resources, including those generated by growth resulting from regional integration, into ensuring that growth and development are sustainable. The support of development partners will be important.

Eighth, the international context will also play a role in the path toward African integration. A number of initiatives are underway involving African countries — for instance, Economic Partnership Agreement (EPA) negotiations with Europe and the broader World Trade Organization (WTO) Doha Round. The results of these negotiations have important implications for the future of Africa's trade and investment and the realization of the potential of regional integration. Broad-based multilateral negotiations that reduce protection to agriculture will reinforce the positive effects of African integration on human development. The EPA negotiations between African regional configurations and the European Union could reinforce efforts toward regional integration in Africa or lead to tensions that compromise the continental project. International support to Africa to bridge the relatively small revenue gap arising from the reduction of tariffs on intra-Africa trade would contribute to economic integration and human development.

Finally, further African integration requires strong political will and committed leadership. African leaders need to invest limited capacities and resources in regional integration initiatives with the greatest potential to improve human development, including those that support Africa-wide integration.

INTRODUCTION

In the aftermath of the global economic and financial crisis, many countries are reassessing how regional integration can contribute to boosting domestic demand, employment, economic stability, and development objectives. Regional integration efforts have been ongoing in many regions for several decades, with both theory and experience supporting its potential for economic development. This report examines how regional economic integration can contribute to human development, with a particular focus on Africa. It draws on the experience of regional integration in different continents, and also on estimations of the impact of different regional integration scenarios in Africa.

The report finds that regional integration holds considerable promise for supporting inclusive growth and accelerating and sustaining human development outcomes. South-South trade integration can strengthen domestic economies and make them more resilient, irrespective of whether those blocs integrate with northern markets. The benefits for Africa would extend beyond growth if the scope of integration is ambitious, both geographically and in terms of policies. Supportive policy approaches could include frameworks for investment in cross-border infrastructure; private sector development, economic policy coordination and labour mobility; and human development-focused policies addressing health, education and social protection for young people and women.

This report is particularly germane for the large number of Least Developed Countries (LDCs) in Africa. Many LDCs face a wide range of significant development challenges, which have been explored during the preparations for the Fourth United Nations Conference on the LDCs. This report, which will be launched at that conference, is intended to stimulate debate on the benefits of broad and ambitious regional integration for many countries across the world, including in Africa.

Chapter 1 considers the linkages between economic integration and human development across four dimensions: income, access to services, empowerment and sustainability. It argues that the human development outcomes of integration will be contingent on a number of context-specific factors, some of which countries have a greater degree of control over. These include factors that are fixed or slow to change such as geography and climate, as well as policies and investments on skills, youth employment, migration and social protection.

Chapter 2 explores how contextual factors in Africa condition the outcomes of regional integration on human development. Contextual factors discussed include geographical fragmentation; institutions and domestic policies; climate, nutrition and health; education, skills and frameworks for labour mobility; and the environment and management of common resources.

Chapter 3 constructs a number of Africa-wide scenarios for integration, including customs unions, the integration of African regions, Africa-wide integration, and African free trade with the European Union, United States, China, Brazil and India. This chapter also reviews the impact on human development of the model results. The results of country-specific modeling for five countries — Egypt, Kenya, Mozambique, Republic of Congo and Senegal — are used throughout the report to illustrate in more detail the implications of integration in specific areas such as youth employment.

Chapter 4 looks at experiences of regional integration within the South. It considers the Andean Community, ASEAN and MERCOSUR, and reviews how and to what extent these regional integration schemes have incorporated human development considerations.

The report concludes with a framework for action for Africa's policy makers and regional actors for a pathway to African integration that seeks to maximize human development outcomes.

1. REGIONAL ECONOMIC INTEGRATION AND HUMAN DEVELOPMENT

The process of regional economic integration can have significant effects on human development. The term 'integration' signals a process that is considerably broader than simply eliminating barriers to trade in goods and services between countries. Integration can also encompass harmonizing standards and regulatory frameworks; reducing restrictions on financial capital and labour mobility; adopting common approaches to fiscal and monetary policy; promoting peace and conflict prevention; and pooling investment in cross-border infrastructure for transport, power and communications. In addition to the breadth of integration, the depth of integration is a key factor in determining the outcomes for human development. For example, at greater degrees of integration countries may choose to adopt a common currency or agree to redistributive fiscal mechanisms between geographical regions. They may also agree to common approaches on health and education policy.

The definition of human development used in this report is drawn from the Human Development Report produced annually by UNDP. 'Human development' refers to enlarging people's freedoms to live lives they value.[1] For the last 20 years this has been proxied by the Human Development Index (HDI), which covers income and access to health and education services. Although human development has always been understood to include the pillars of empowerment and sustainability, data limitations have precluded their consideration in a global index. In recent years, expanded data sets have allowed work that reflects deprivations in other areas, such as shelter, energy and political voice. The concept of human development naturally entails a strong focus on distribution and equity, between countries and generations, and across gender and age groups.

This chapter describes some of the transmission channels from economic integration to different facets of human development.

1.1. Conceptual linkages

The decision to regionalize economic activity through an integration process will naturally have significant consequences for economic activity at the community and household levels, particularly for employment. Employment, whether in the formal or informal sectors, is the major determinant of household income and a key driver in strengthening capabilities and accessing opportunities to expand human development. However, economic integration will have impacts on other areas that affect the potential for human development. These linkages are depicted in Figure 1.1.

1.1.1 Income

While higher income does not necessarily equate with human development, it remains an important medium through which countries and individuals can expand their capabilities and opportunities. Many countries and

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1   For access to all global and national Human Development Reports and data see *hdr.undp.org/en/* (accessed 21 Feb 2011).

Figure 1.1: Human development and economic integration
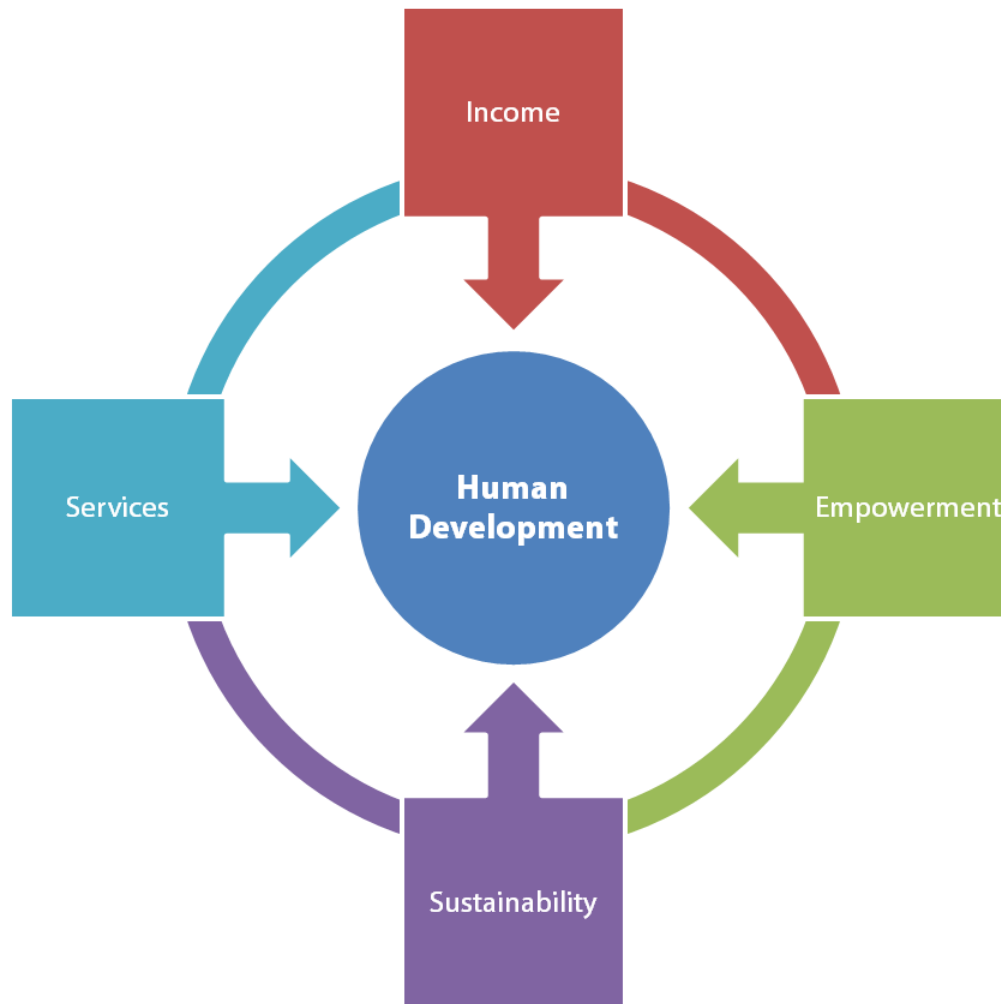
aid agencies use income poverty as an important proxy for poverty, whether through national or international poverty lines.

Income is driven primarily by employment and the productive capacities of people, moderated by the prices of goods and services that people demand. Regional economic integration will have an impact on employment. Standard economic theory predicts that utilizing existing comparative advantages will lead to a greater efficiency in resource allocation and higher growth. But the impact on aggregate employment is less clear, in both theory and practice. Trade can spur competition and entrepreneurship in traditional and new sectors and hence jobs. On the other hand, investment may occur primarily in capital-intensive sectors linked to natural resource extraction, leading to the phenomenon of jobless growth. Alternatively, and again dependent on the sector, labour may be displaced by the introduction of new technologies.

The economic crisis and its aftermath put industrial policy back under the spotlight. The enlarged size of regional economic blocs offers the potential for a different and more successful form of regional industrial

policy. Over time this may allow new dynamic comparative advantages to develop, enabling additional employment opportunities to open up in the region. Policies that aim to incentivize growth in particular areas, including those that are cross-border and bring benefits to multiple countries, may be more successful if supported by regional investments in infrastructure, labour mobility and skills, and common policies and regulation. These can also constitute effective drivers of competitiveness within the region.[2]

For human development, the quality of employment is as important as the quantity of employment. The interplay with economic integration, and moreover whether that integration is global or regional, is unclear, however. More competitive market structures may put pressure on the fulfillment of workers' rights, or could — through the introduction of standards across countries — encourage lagging governments to invest more in this area.

Finally, the employment effects of economic integration, both positive and negative, will not be uniform across geographical areas, sectors or types of worker. These differentiated employment effects will condition the impact on human development. In the region now covered by the Southern African Customs Union (SACU) for example, men from countries bordering South Africa have typically migrated to take up employment in the mining sector. This has not only left a large number of female-headed households in countries such as Lesotho, but also spread the transmission of HIV from sex workers to miners to home communities. On the other hand, male labour migration opened up opportunities for women's entrepreneurship in countries of origin due to women's increased representation in the workforce.

Youth unemployment is also a pressing global public concern, especially in the context of the recent economic and financial crisis. Youth unemployment is a particular challenge for many African countries because of their stage in the demographic transition. Vulnerable employment is particularly high in sub-Saharan Africa.

Whether growth and entrepreneurship resulting from regional integration will have a specific impact on youth unemployment is a key question. Are new businesses, supported by regional policy and infrastructure, likely to recruit young people or indeed be driven by young people? What is the role of public policy in creating incentives that benefit youth employment through integration processes, including in areas such as skills, mobility, and access to finance?

Prices are an important transmission channel from employment to human development as they determine the level of goods and services that can be acquired through employment-generated income. These goods and services include those deemed 'essential' by the majority of societies, such as housing, energy, food, education or health services, water and sanitation, but will also often include leisure activities and mechanisms that reduce risk, such as insurance. Lower prices for the goods and services that poor people buy increase their purchasing power and hence their overall welfare.[3] Similarly, higher prices for the goods and services that poor people produce but do not buy can also increase their income and purchasing power, although this link is not automatic.

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2   Competitiveness has been defined as "the ability of companies, industries, nations and supranational regions to generate—while remaining exposed to international competition—relatively high factor income returns and factor employment on a sustainable basis." (OECD 1995).

3   The price to which households are exposed in the markets may be slightly different from the border price. Lack of competition and rent-seeking behaviours, poor transport infrastructure, and underdeveloped retail channels are among the explanations for considerable increases in final consumer prices.

In a larger system of markets created by integration, the pressure on prices will be downward. This outcome is not automatic and ultimately depends on market structure and number of competitors/providers. If the market consolidates in the absence of enforced competition policy, monopolistic and monopsonistic behaviour can emerge, leading to higher prices.

Beyond absolute income levels to satisfy basic needs, relative income — inequality — is also important. People consider themselves poor in relation to others. Many countries (including industrialized countries) define poverty relatively, not absolutely. Therefore, the impact of regional integration on inequality should be taken into account. Inequality has increased markedly in most countries that have liberalized internally and externally in the last 30 years. Those with assets, particularly financial capital, have gained more from expanded markets and expanded opportunities.

1.1.2   Access to services

Economic integration can affect incentives around the provision of and access to services. Key among these services, especially with respect to employment, is education. But the productivity of individual employees and the labour force in aggregate, and hence the ability to take up expanded employment and entrepreneurship opportunities, relates to the availability and prices of potable water, sanitation, and health services. Incentives are altered at many levels: for individuals, national governments, local governments, private sector providers, and other non-state actors.

Integration may lead individuals to adapt their skill sets to take advantage of labour market opportunities. These opportunities may arise locally and nationally in growing sectors (through trade or investment), or in neighbouring countries, if labour mobility is a part of regional integration. While one would expect greater household investment in education, if growth is in unskilled or semi-skilled sectors (such as agriculture or assembly-type manufacturing) labour market entrants may choose to forego investment in skills upgrading. A key question becomes the role of public policy in supporting incentives for skills upgrading for instance, through public programmes to co-finance household investments in education.

Many LDC governments — particularly in Africa — rely heavily on trade taxes, which represent 21.1 percent of total national revenues on average (see Annex 1.1 for African countries' dependence on trade taxes). Economic integration usually entails the reduction of trade taxes and hence a reduction in resources available to governments. Tariff dependence is inversely correlated with income and it is a particular problem for the LDCs (see Annex 1.2 for LDCs' dependence on trade taxes). Tax reforms to replace lost revenue are not easy or quick and are also usually not synchronized to ensure a smooth transition. Institutional and technical capacity is needed for domestic resource mobilization, through personal income, sales and value added taxes (VATs), and corporate taxes. However, tax reform in itself has implications for human development and can put either a heightened or reduced burden on poor people. Sales and VATs can penalize the poor as they are regressive: the poor spend more of their income and save less relative to those with higher incomes.

This means that there is sometimes an initial downward pressure on budgets because of integration processes. This can be offset in the long run if growth and domestic tax capacity is enhanced. But in the short term it can mean the reduction in government provision of essential services, both for recurrent costs and capital investment. This reduction in services may be replicated at the local government level if service provision is decentralized. Increasing the efficiency of service provision can also compensate for fiscal losses. On the other

hand, economic integration can allow countries to increase corporate taxes collected from foreign companies as a result of enhanced negotiating strengths, helping to compensate for lost revenue.

Private sector providers and non-governmental organizations (NGOs) may increase provision to respond to market opportunities or to compensate for government lacunae. But markets are often imperfect and information flows weak, meaning that other providers may not have the information or incentives to respond.

There can be significant distributional consequences of reduced services. While a decrease in government provision may not have immediate gender implications, some households pull girls out of education first, whether for economic or cultural reasons. Analogous to income inequality, relative deprivation in access to services may also impact on human development. People may perceive that they have fewer opportunities than their counterparts in other areas.

Our analysis shows that the loss of tariff revenue as a result of intra-Africa integration is relatively small, although countries more dependent on tariff revenue will be more affected. Aggregating across the elimination of tariffs in all intra-Africa trade, economic integration is likely to reduce total tariff revenue by a little more than 6 percent. This low figure is explained by the fact that Africa trades little with itself and it sets higher tariffs on third country imports than on intra-Africa trade. To the extent that African integration increases welfare and Gross Domestic Product (GDP), integration helps recover part of the revenue lost. This suggests that tariff revenue losses should not become an obstacle to intra-African integration. Rather, it points to the need for international cooperation to assist Africa to bridge this gap to facilitate economic integration and human development outcomes.

1.1.3   Empowerment

Economic integration and trade has the potential to increase employment and contribute to empowering people. Decent jobs are about more than income: they can provide a sense of personal worth, of being able to provide for oneself and one's family, and being a contributing member of society. Expanded economic opportunities for women can empower women and contribute intrinsically to human development, and have multiplier effects across other aspects of human development, including nutrition and access to health and education. The empowerment of youth through employment is likely to contribute to a decline in negative social behaviour such as gang formation, violence and crime.

Empowerment can be decreased if jobs are not fulfilling or if workers rights are eroded because of asymmetric power relations in integration processes. Increased competition — whether regionally or further afield — can also contribute to increased risk and insecurity for companies and workers. This is compounded by a general lack of welfare systems, including social protection or insurance mechanisms. Public and private mechanisms to mitigate risk are more evident in European countries that have integrated.

Empowerment can also be increased through the opportunity to migrate and take up employment opportunities in other countries. Finally, integration with other countries can increase the incentives and pressure for economic and political stability as countries are locked into systems that require or benefit from stability. These systems may be more accountable to citizens, giving greater opportunities for participation, including in shaping the regional integration process itself.

1.1.4   Sustainability

In *Our Common Future* (1987), the World Commission on Environment and Development defined 'sustainability' as being able to meet present needs without compromising the ability of future generations to meet their needs. The definition remains prescient almost 25 years later, with growing concern over climate change, natural resource degradation and biodiversity loss. Indeed, there is a growing recognition that economic activity and advances in human development should take place within the limits imposed by the natural environment.

UNDP's 2011 Human Development Report will examine sustainability issues through the lens of inequality. Existing disparities among and within countries pose a considerable challenge to sustainability, particularly because extreme poverty can reduce the sustainable resource-use options available to poor people. Sustainability is acutely important in increasing energy access for populations currently not served or underserved.

Economic integration can create opportunities for utilizing and potentially over-exploiting natural resources. However, it can also contribute to improved stewardship and standards because of pressure to develop standards in a regional context and through regional institutions. Economic growth driven by regional integration can be undermined by the erosion of other capitals — natural, societal — leading to reduced human development. This can happen in the near and long term. It is in the longer term, however, that the human development opportunities for future generations may be undermined, raising the question of intergenerational equity.

1.2.   Contextual factors

Although many of the linkages are described above, the actual impacts of regional integration on human development will vary from country to country, community to community, and person to person. They will depend on the characteristics of the geographical areas, local communities, and existing institutions. This is why it is helpful to construct models that estimate how different factors interact at the country, regional, and Africa-wide levels.

There are two types of contextual factors. 'Hard' contextual factors cannot be changed or are very slow to change. These includes the initial factor endowments available to a country, its geographical position (including whether it has access to waterways or passable land routes), and climate. 'Soft' factors relate to the policies and investments put in place by governments, the existing institutional capacity to manage policy and programmes, and the incentives facing individuals and their consequent behaviours. Contextual factors common to many African countries, and how they might condition the impacts of regional integration, are discussed in the following chapter.

2.   THE CONTEXT FOR AFRICAN REGIONAL INTEGRATION

Africa is a vast and diverse continent, with a huge array of geographies, climates, languages and cultures. For every generalized characteristic there are numerous exceptions. Yet the countries and peoples of the continent face many similar situations and challenges with respect to regional economic integration that will shape the human development impacts of further integration. Africa's history is particularly affected by geographical fragmentation, weak institutional capacities and policies, and challenges related to climate, nutrition, disease and low skills development.

2.1.   Geographical fragmentation

There are 53 sovereign states in Africa with a broad range of languages and economic and social policies.[4] Many of these countries have very small economies: in constant 2000 dollars, the GDP of the median African economy is USD 5.2 billion. On average, each country has four neighbours, and 15 African countries are landlocked. Economic integration would allow small economic entities to benefit from the scale created by unified markets and improve resilience by leveraging common capacities to respond to individual vulnerabilities.

The effect of geographical fragmentation in Africa is amplified by the fact that African countries trade very little among themselves. Intra-African trade was 10 percent of Africa's total trade in 2009, a relatively small share compared with other developing country regions such as America (22 percent) and Asia (50 percent) (AU 2010). Several factors contribute to the small share of Africa's intra-African trade, including a colonial trade system designed to channel resources from Africa to Europe; poorly diversified economies that produce similar products across countries; pending trade policy reforms; poor intra-African infrastructure; and limited access to finance and regional payment mechanisms.

During the colonial period, trade revolved around a few primary commodities produced for European markets. Africa's current trade infrastructure still reflects this system as African economies continue to depend on markets that are thousands of miles away in Europe and North America. The development of intra-African trade requires a system with institutions and infrastructure geared toward regional markets. These institutions and infrastructure are lacking in most of Africa. As a result, Africa's trade policies and infrastructure are designed in such a way that it is often cheaper to trade with the external world than with neighbouring African countries. For example, in many African countries, it is cheaper to make telephone calls to Europe than to other African countries. In some countries, particularly in Central Africa, it is faster and cheaper to fly to Europe than to a neighbouring country.

Africa's trade pattern is different from what is observed in other regions. Generally, in other regions countries trade more with their neighbours. About a quarter of world trade takes place between neighbouring countries and half of world trade occurs between countries less than 3000 kilometres apart (Hummels 2007). On average, 88 percent of Africa's external trade is with partners located several thousands of miles away.

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4   Even in the Arabic-speaking Maghreb region, different dialects are spoken in different countries.

African countries have made important progress toward market integration through the Regional Economic Communities (RECs). But progress is uneven. The East African Community (EAC) is the most advanced REC, having launched a common market involving the free movement of factors of production — goods, services, labour and capital — in July 2010. The common market builds on a fully operational free trade agreement (FTA) and customs union. Restrictions on the movement of capital and labour are to be fully dismantled by 2015. The Arab-Maghreb Union (AMU), on the other hand, has made no discernible progress toward the creation of a free trade area among its members. Moreover, although the RECs have been able to reduce tariff barriers on intra-African trade, "other [non-tariff barriers] NTB and restrictive business practices are still wide-spread" (Borgatti 2010). The liberalization of trade in services is at a much more incipient stage. No RECs have initiated market integration in this area, although SADC concluded negotiations of a protocol aimed at the substantial liberalization of trade in services by 2015. The protocol has yet to be formally adopted by its governance mechanisms (AU 2010). Instead of the eight RECs recognized by the Abuja Treaty, there are 14 major regional economic groupings in Africa with significant membership overlaps. These overlaps have become a liability for deepening market integration through common trade policy instruments such as Common External Tariffs (CET) in customs unions, standards, etc.

The lack or weakness of hard infrastructure exacerbates the geographical constraint and keeps African economies apart (UNCTAD 2009). Hard infrastructure refers to physical communication infrastructure that links African countries with each other and the rest of the world. It includes roads, railways, ports, waterways and airports. Most African countries are still dependent on hard infrastructure inherited from the colonial time, which was not developed to foster intra-African economic relations. There has been under-investment in new infrastructure, with important country variations. South Africa and most northern African countries have better infrastructure than the rest of the continent. Therefore, even within Africa, there is a divide in terms of access to infrastructure such as electricity, telephony, roads and rail, with richer countries having better infrastructure.

In spite of political positions recognizing the need to strengthen regional integration, African countries have achieved limited success in terms of adapting infrastructure to this need. In many countries, even the infrastructure inherited from the colonial period is in poor condition due to lack of maintenance. For example, the 1,254 kilometre railway linking the Indian Ocean port of Dar-es-Salaam with the port of Kigoma on Lake Tanganyika is seldom used due to decay. When it was operational, this was the shortest route linking Central Africa to the busy Indian Ocean shipping lines. Exporters and importers from Burundi, the Democratic Republic of Congo and Rwanda now have to use a longer and more treacherous and expensive road option to and from the port of Mombasa in Kenya.

African landlocked countries (LLCs) are particularly affected by their geographical location.[5] African LLCs are not only dependent on their weak domestic infrastructure but also on the infrastructure and trade facilitation measures and policies of transit countries. This dependence is an additional constraint, particularly in the

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5   The continent has 15 LLCs which are home to 30 percent of the continent's population. This is a very high proportion compared to Asia and LLCs elsewhere (Europe, the Americas and Oceania), where only 3 percent and 4 percent of the population is landlocked, respectively. If the Democratic Republic of the Congo and Sudan are considered landlocked, the proportion of sub-Sahara African population living in landlocked countries increases to 40 percent (Ndulu et al. 2008). Europe has 15 landlocked countries but their total population is less than that of Ethiopia. Therefore, the problems specific to landlocked countries primarily affect African landlocked countries.

absence of effective regional policy coordination mechanisms available to countries to voice their concerns. The result is that African LLCs have higher trading costs than coastal countries. On average, export and import costs of African LLCs are twice those of non-LLCs in Africa. As a result, LLCs' vulnerability to transit countries' infrastructure and policies reduces their overall trade. On average, the ratio of export to GDP in African LLCs is 70 percent of the corresponding ratio in non-LLC African countries (Nkurunziza 2011).

Moreover, the limited range of traded products and their similarity across countries reduces the opportunity for intra-regional trade. Africa's LLC exports are dominated by cotton, coffee, cattle and minerals, which in part reflects the continent's natural factor endowments and agricultural products supported by the climate. These commodities are not particularly appealing to African consumers (Nkurunziza 2011). It is likely that African countries would increase their range of traded products if the physical and institutional links across countries were stronger. Currently, the top four intra-African exporters in sub-Saharan Africa are South Africa, Nigeria, Côte d'Ivoire and Kenya. These four countries have economies that are relatively diversified in comparison with most other African countries: they mainly export manufactured goods (UNCTAD 2009).

Developing intra-African infrastructure could generate substantial benefits for trade, economic growth and human development. According to some estimates, an investment of USD 32 billion in Africa's road network, the main mode of transport used to move goods from producers to consumers or shipping port, could increase intra-African trade by USD 250 billion over a period of 15 years. As expected, LLCs including Chad, Sudan and Uganda would benefit most as their trade would increase several times over (Buys et al. 2006).[6] In the 2010 Human Development Index these countries are ranked low in human development, with index scores of 0.295, 0.422 and 0.379 respectively. A similar study found that paving all the roads linking the countries forming the West African Economic and Monetary Union (WAEMU) would increase intra-WAEMU trade threefold (Coulibaly and Fontagné 2005). Chapter 3 provides further evidence of the importance of transport costs in explaining the low levels of intra-African trade.

In response to the need to develop regional and cross-Africa infrastructures, the New Partnership for Africa's Development (NEPAD) created an infrastructure development plan and is actively helping to put in place institutions to mobilize financial resources for infrastructure development. Through cooperation, the continent has developed a significant part of the Trans-African Highways Network linking Africa's capitals and major economic production areas; 75 percent of the highway's missing links have been fixed (UNECA 2006). The option of establishing trade corridors is being pursued. For example, the North-South Corridor Pilot Aid for Trade Programme is promoted by COMESA-EAC-SADC as a joint initiative. The objective is to reduce the time and costs of road and rail travel along two main corridors: the Dar es Salaam Corridor, which links the port of Dar es Salaam to the Copperbelt, and the North-South Corridor, which links the Copperbelt to the southern ports of South Africa.[7] In East Africa, the Northern Transport Corridor has operated for several years, linking the economies of Burundi, Democratic Republic of the Congo, Kenya, Rwanda and Uganda. Discussions are under way to transform it from a pure transport corridor to the Northern Corridor Economic Zone, which would cover parts of Burundi, Democratic Republic of the Congo, Kenya, Rwanda, Sudan and Uganda.[8] Accelerating

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6   Strictly speaking, Sudan is not landlocked. But its population and economic activities are located so far from the coast that its economy is similar to that of a landlocked country. Others have also considered Sudan as landlocked (see, for example, Ndulu et al. 2008).

7   From Aid for Trade at Glance 2009, p. 91.

8   For details see *http://eastafrica.usaid.gov/en/Article.1143.aspx*

the implementation of these initiatives and consolidating their achievements would make an important contribution to intra-Africa trade and trade performance and economic growth more broadly.

2.2. Capacities, institutions and domestic policies

While the absence or weakness of physical infrastructure limits the potential human development impacts of regional integration, the linkages are further undermined by weak capacities, institutions and policies. Capacities are weak in many national government structures, including those departments and agencies that deal with elements of economic integration: trade ministries, standards bodies, home ministries and financial sector regulatory agencies. For example, poor road and port infrastructure explains only a part of export delays. Global data shows that about 75 percent of delays in shipping are due to non-physical factors or administrative procedures that form 'soft infrastructure'. These factors include delays in customs clearance, cargo and road inspections, as well as other controls associated with moving goods within and across countries (Djankov et al. 2010; UNCTAD 2009). These administrative procedures result from domestic policies governing trade and integration and their implementation.

Considering Africa's geography, one would expect African countries to adopt policies that seek to minimize the negative effect of this locational challenge. However, in many countries, the negative effect of geography is compounded by domestic policy choices and practices that hinder rather than facilitate deeper integration. Indeed, there is often a gap between African countries' declared commitment to deeper integration and the actual implementation of this commitment. For example, complex and inefficient customs procedures, domestic transport policies that maintain or protect uncompetitive transport cartels, and numerous administrative procedures governing transport and trade impose unnecessarily high costs to trading. They increase the financial cost of trading and the time delays associated with the delivery of goods from their production point.

In Denmark, it takes three documents and two signatures to complete the requirements for shipping cargo abroad. In Burundi, the same process requires 11 documents, 17 visits to several offices located in different areas and 29 signatures. Whereas a Danish exporter needs five days to complete the documentation process and prepare his or her container to sail, an exporter in Burundi needs an average of 67 day just to move goods from the factory to the ship (Djankov et al. 2010). Some of the delays affecting Burundian exporters result from inefficiencies in transit countries since Burundi is landlocked. However, the inefficiencies illustrated in these contrasting examples also reflect the problems plaguing the organization of the trade and transport sectors in Burundi and many other African countries (see Annex 2.1 for a selection of the Cost of Doing Business indicators across regions, including Africa).

One would expect LLCs to adopt better trade policies relative to coastal countries that face fewer geographical constraints, but this does not seem to be the case. LLCs score lower in trade policies than coastal countries. Out of a maximum score of 6, LLCs score 3.5, while coastal countries score 4.[9] The score on economic policies is 3 for LLC, which is half of the maximum score. The median scores for political institutions are 0.5 and 5.0 for

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9   The computation of the score index is complex. It combines indicators of tariff levels, quantitative restrictions to trade, duty exemptions, the existence of state trading monopolies, exchange rate policy, etc. For more details, see Kanbur 2005.

LLCs and coastal countries, respectively, out of a maximum of 10 (Nkurunziza 2011). These indicators show that LLCs have not used policy to alleviate the burden of their geographical isolation. Similarly, the quality of policies in African coastal countries is lower than in other developing countries.

It is unclear why African countries have not aggressively pursued policies that deepen regional integration as a way of minimizing the constraints associated with their geography. One possible explanation is that deepening regional integration requires reforms that may be perceived as negatively affecting the interests of some powerful groups in society. When the potential losers from reforms are politically powerful, they resist change that threatens their interests. This is particularly true where the state is, to some degree, captured by interest groups (Ngaruko and Nkurunziza 2006). Trucking cartels are a good example. Due to the thinness of the transport market in many African countries, transport cartels have formed more easily than in Europe or Asia (Teravaninthorn and Raballand 2008). In the United States, political pressure from trucking cartels led the current government to ban Mexican truckers from entering the country, apparently in violation of the cross-border trucking agreement signed under the North American Free Trade Agreement (NAFTA).

Whereas the Mexico-US issue revolves mainly around the jobs that the American trucking industry would lose to Mexico's relatively cheap labour, opening up the transport sector in Africa erodes the rents resulting from abnormal markups traditionally enjoyed by cartels. This is particularly the case when cartels are politically powerful either because they are owned by people in power or simply because they are able to influence policy-making. This appears to be a factor in the high transport costs in Malawi relative to South Africa, for example. Conversely, in highly controlled sectors, the removal of protection tends to substantially reduce transport costs. After the liberalization of the transport sector in Rwanda in 1994, prices declined by 75 percent in real terms, illustrating the size of the rents enjoyed by those who controlled the previous system (Teravaninthorn and Raballand 2008).

Domestic policies related to trade in services also tend to be at odds with regional integration. This is particularly the case with labour mobility, covered below. There has been some progress in trade facilitation and the creation of sector-specific regional professional associations. Examples include the creation of transport corridors in Eastern and Southern Africa and the establishment by ECOWAS of ECOBANK, a transnational offshore bank operating in 29 countries in sub-Saharan Africa. Nevertheless, services trade liberalization per se is still fraught with difficulty. The supply of transport, health, and education services remain particularly highly protected.

Although most African citizens are aware of the advantages of regional integration, political considerations hamper the process in most parts of the continent. However not all barriers to integration are political. In some instances, integration is hampered by the lack of expertise and available resources. Overlapping membership of countries across RECs further adds to the capacity and resource constraints. According to a UNECA survey of regional integration in Africa, overlapping memberships make it difficult for African countries to pay their dues to various RECs; explain low, conflicting or duplicative programme implementation; and limit meeting attendance (UNECA 2006).

On the other hand, where trade facilitation measures are implemented, integration improves. For example, the introduction of the United Nations Conference on Trade and Development (UNCTAD) Automated System for Customs Data helped to substantially cut processing times at the borders of 42 African countries, resulting in faster and more plentiful traffic. Many countries are in the process of introducing trade facilitation measures

to improve their regional connectivity. As discussed earlier, the revitalization of the transport corridors and management institutions, established in different parts of the continent (e.g. Walvis Bay Corridor, Maputo Corridor, Northern Corridor, Central Corridor) could improve regional connectivity in Africa.

2.3. Climate, nutrition and health

More than 90 percent of sub-Saharan Africa's population is located in the tropics, compared with 3 percent of Organisation for Economic Co-operation and Development (OECD) countries and 60 percent of East Asian countries (Ndulu 2006). Africa suffers from its disadvantageous location through two channels. First, the fragility of tropical soils combined with irregular rains, frequent natural disasters and widespread plant and animal diseases weaken African agriculture while African countries continue to rely heavily on agriculture for their economic development (Sachs and Warner 1997; Diao et al. 2010). This leads to malnutrition, under-nutrition and hunger, which reduce resistance to diseases and have a long-term deleterious effect on human development. Integrating Africa's agricultural markets — one of the weakest links in Africa's current integration process — could help address hunger and its consequences for human development. More integrated agricultural markets would facilitate cross-border trade in food products, reducing food insecurity through higher supply of food at reduced price across countries.

Second, most African countries are overexposed to parasitic diseases that are particularly concentrated in tropical areas. Of the 48 sub-Saharan African countries that are almost entirely in the tropics, 42 suffer endemic malaria. More than 9 percent of the estimated 300 to 500 million clinical cases of malaria in Africa are in children under the age of five. Malaria is a crippling disease that even when mild weakens the human body, hampering productivity in the short term and affecting human capital accumulation in the long term. In addition to tropical parasitic diseases, the health situation has deteriorated to the point where diseases such as tuberculosis (TB), which was almost eradicated, are now spreading across the continent. TB was declared a public health emergency in the region in 2005. Moreover, HIV/AIDS is a leading cause of mortality in Africa despite the fact that the number of HIV-positive people on antiretroviral treatment increased eightfold between 2003 and 2005, from 100,000 to 810,000 (WHO 2010). Sub-Saharan Africa has the highest adult HIV rate in the world (see Table 2.1). Furthermore, 19 of the 20 countries with the highest maternal mortality in the world are in Africa. The African region's neonatal death rate is the highest in the world and death among children has consistently risen, from 23 percent in 1980 to 43 percent by 2003 (WHO 2010). Overall, the prevalence of a range of diseases in Africa has hampered human capital accumulation and human development in general.

Table 2.1: Adult HIV prevalence, per region

Region	Percent
Sub-Saharan Africa	5.2
South and Southeast Asia	0.3
East Asia	<0.1
Latin America	0.6
North America	0.4
Western and Central Europe	0.3
Eastern Europe and Central Asia	0.7
Caribbean	1.0
Middle East and North Africa	0.2
Oceania	0.3
Total	0.8

Source: UNAIDS Report on the Global AIDS Epidemic 2010.

There are two ways through which deeper regional integration could reduce the prevalence of diseases and their negative effects on human development. First, epidemics such as malaria, TB and HIV/AIDS generate transnational externalities that require cooperation among neighbouring countries. Transborder movements of TB- and HIV/AIDS-affected people and disease vectors such as mosquitoes — even in the absence of agreements on free movement of people — would frustrate one country's efforts to eradicate the diseases. To be effective, health policies must be coordinated and implemented at the subregional level. Similarly, the lack of regional coordination in setting and monitoring standards in the acquisition of drugs could lead to the proliferation of counterfeit drugs with devastating effects on public health. In this regard, the EAC member countries' initiative to jointly procure and import essential drugs not only ensures that the right products enter the market but also leads to lower costs.

Second, easing people's mobility within the region could offer access to better medical care across borders. For example, within the EAC, people from Burundi and Rwanda often travel to Kenya to seek better health care. South Africa's top-class health system also attracts people from across sub-Saharan Africa. Moreover, if the health sector is open to regional investments, companies from countries with more developed health care systems could open branches in countries with poorer health systems. This would benefit both the investors and the populations in recipient countries who would gain access to better health services.

In 2007 African countries adopted the NEPAD Health Strategy, which provides a framework for sustainably tackling the burden of disease in the continent with countries and RECs taking the lead in implementation. Several regions have cross-border programmes to address disease. Moreover, over 33 percent of African countries have increased their budget allocation to health to at least 10 percent of their budgets. The implementation of health programmes have been affected, however, by poor coordination of national and regional partnerships, lack of adequate resources and limited accountability in translating commitments into actions.

2.4. Education, skills and labour mobility

Knowledge-intensity is crucial to the competitiveness required to integrate into the global economy. Despite progress in the last decade in educational attainment, Africa still has one of the lowest adult literacy rates in the world. Many countries failed to increase their investment in education in step with increased demand from population growth. As a result, in some African countries, fewer than three out of 10 adults can read and write (UNESCO 2010). The combination of low levels of education, poor health and poor living conditions has restricted capacities to fully exercise the potential of human rights and citizenship. Moreover, limited integration restricts mobility of factors of production across borders, including skilled labour and capital, starving economies of the potential benefits of competition.

NEPAD supports the development of programmes for distance education in partnership with universities in the region, with a particular focus on teacher training and development. The Arusha Convention on the recognition of qualifications in higher education in Africa was adopted in 1981, but only 20 African countries have ratified it to date. More recently, within the framework of the African Union, governments adopted the Strategy for the Harmonization of Higher Education Programmes in Africa. However, weak political

commitment and problems of coordination have hampered the pace and depth of progress of cooperation on education in Africa.

Labour mobility remains one of the thorniest issues in regional integration despite its inclusion in the protocols and objectives of most African regional economic communities. Some RECs have taken steps toward facilitating the movement of natural persons. For instance, EAC and ECOWAS established a common regional passport that allows nationals from member states to travel within the region without a visa. SADC adopted a protocol with the same purpose but it has been ratified by only a handful of countries (UNECA 2010). Not all RECs have taken steps toward facilitating labour mobility. With the exception of EAC, which is tacking this issue in the context of the common market, labour mobility remains an important missing piece in African integration.

Table 2.2: Proportion of the population aged 15–24 who can both read and write

Region	1995–2004	2005–2008
World	87.1	89.0
Developing Regions	84.6	87.2
North Africa	79.3	86.1
Sub-Saharan Africa	68.6	71.9
Latin America and the Caribbean	96.2	96.9
Eastern Asia	98.9	99.3
Eastern Asia excl. China	99.4	99.5
Southern Asia	73.7	79.3
Southern Asia excl. India	67.3	75.4
Southeastern Asia	96.3	96.1
Western Asia	91.9	92.7
Oceania	73.9	73.0
CIS	99.8	99.8
CIS Asia	99.8	99.8
CIS Europe	99.7	99.7
Developed Regions	99.6	99.6
LDCs	65.3	69.9
LLDCs	68.1	71.8
SIDS	87.1	87.4

Source: UN Millennium Development Goals Report 2010

Due to domestic political factors, countries tend to reserve national jobs for their own citizens, potentially leading to a suboptimal allocation of resources at the regional level. In many countries, youth under-employment is high as a result of population growth and the failure to build economies that generate enough jobs. Moreover, more than three quarters of workers (75.8 percent) in sub-Saharan Africa were in vulnerable employment[10] in 2009, a rate significantly exceeding all other world regions except South Asia (ILO 2011). In these circumstances, it is politically difficult to allow foreigners to work in a country where a large number of nationals are jobless or under-employed. In Central Africa for example, citizens of neighbouring countries are required to produce visas when they cross borders despite the existence of integration agreements, including a monetary union.[11] In fact, although labour statistics

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10 ILO defines vulnerable employment as the sum of own-account workers and unpaid family workers. A high share of workers in vulnerable employment signals widespread informal working arrangements and workers usually lack social protection and social dialogue mechanisms. Vulnerable employment is also associated with low pay and difficult working conditions.

11 The Economic Community of Central African States (CEMAC) uses the CFA franc as their single currency.

The youth employment challenge: Kenya

Two thirds of the Kenyan population is under 25 years old. Providing jobs to the young is and will remain a difficult task for the Kenyan economy. Unemployment rates are high, peaking at 26 percent for females in urban areas. Youth face an even grimmer situation. Youth unemployment rates are systematically and significantly higher than average rates, sometimes even double. More than half of those seeking jobs are young people.

The life prospects for young Kenyans are challenging. Sixty percent of youth aged 15 to 19 years are full-time students, 30 percent work or perform different family tasks, 2 percent want to work but are unemployed, and 8 percent do nothing. As young people age, the challenges they face increase. For youth between the ages of 20 and 24 years, only 17 percent are full-time students, 9 percent are unemployed and seeking work, and those doing nothing reach over 9 percent. The pressure is particularly acute in urban areas.

Young people working for monetary payment work primarily as salaried employees, but 20 percent work in non-modern rural tasks or urban informal activities. Only 1 percent of youth receiving work remuneration perform apprentice activities. Young people aged 15 to 24 years represent an important proportion of those working as paid employees in some sectors, but in others they are practically absent. About one third of the paid workers in the fishing industry and in the group of miscellaneous service activities are young people. Youth are relatively important — between one fourth and one third of total paid employment — in hotels, other agriculture and trade services. However, youth are relatively absent (less than 10 percent) in finance, education, electricity-water, health and public administration. The education requirements of some of these activities mean that people actually enter into the labour market after their 20th birthday. Nevertheless, the proportion of workers aged 25 to 34 year, for example, is not large in these sectors because in addition to demanding entry requirements, progression based on experience is important.

Following culture and traditions, young people engage in different activities according to sex and place of residence. The rural young work primarily on farms, but almost one third works for a salary. Only one in ten rural youth works in informal activities. The urban young, in turn, primarily work for pay in formal and informal business and one third of urban youth work on their own or in the family business. Regardless rural or urban locale, one in ten females aged 15 to 19 years, and three in ten females aged 20 to 24 years, report 'homemaker' as their main activity, i.e. work in unpaid domestic chores.

Youth employment is also a gender issue. While most young people have non-salaried jobs, significantly more women than men find themselves in non-salary jobs: 38 percent women compared to 28 percent men. Having a salaried job is not a guarantee of a career: one third of young females with salaried jobs work in domestic services, and one tenth of young men also work in domestic services. Leaving aside domestic service jobs, young women find salaried job opportunities primarily in education services, selected agriculture activities, and in hotels and restaurants. Young men work in agriculture activities and in hotels and restaurants.

Integration could help young workers through several different channels. First, as integration tends to increase welfare and output, young people will benefit from participating in a more dynamic economy. Second, since one of the important employment effects of integration is the shifting of jobs from one sector to another, young people are perhaps better positioned than older workers to occupy those newly created jobs. This welcoming effect is positive, from a social perspective, if actions are taken to re-employ and retrained older laid off workers. Third, young people might more directly benefit from integration if the sectors where youth tend to concentrate are also the sectors benefiting more from integration. However, even in the most successful integration scheme, the challenge of youth employment will remain a difficult one, as attested to by the large proportion of young people who work in informal activities and the large proportion of females who work for pay in domestic services.

Note: See Annex 2.2 for details on Kenya's sector share in employment and impact of continental integration on employment, per sector.

in Africa are very approximate, youth under-employment remains one of the key challenges facing African societies. The political turmoil now spreading across North Africa and the Middle East started largely against a backdrop of grievances by unemployed youth in Tunisia in December 2010.

The difficulty of employing foreigners is not insurmountable. Easing labour mobility in Rwanda, for example, allowed the country to attract skills from Kenya and other countries within the region and beyond that were not locally available. This has had an overall positive effect on the Rwandan economy. If all the countries in the EAC could eliminate the barriers to labour mobility, the outcome would be a better allocation of human resources within the Community. In South Africa, the mining industry benefits from labour from other Southern Africa nations. But there is a downside to the type of migration in Southern Africa. Although many citizens of Southern African countries were able to access relatively well-paid employment in South Africa, their migration to South Africa resulted in dislocated families because only men moved to the mines, leaving their families behind. This differs from the classical brain-drain and brain-circulation phenomenon whereby trained Africans or entrepreneurs move with their families to settle or work for a number of years in other countries. In both cases, however, labour mobility generates resources that are partly sent home as remittances. Remittances are used to sustain or improve human capital in originating countries through their use to pay for school fees and health services, for example (UNCTAD 2009).

Well-managed labour mobility in Africa has benefited both the sending and host countries, and can provide intrinsic human development benefits for migrants themselves. Côte d'Ivoire, one of the world's top destinations for international migrants, provides a good illustration of the benefits of migration to host and sending countries. The country benefited from migration through the contribution of low-skilled foreign workers to bridging labour gaps in industry and agriculture, contributing to export-led growth and hence better social and economic conditions. Sending countries, such as Benin, Burkina Faso, Niger and Togo, benefited through the reduction of unemployment and poverty as well as the development of human capital thanks to remittances (World Bank 2008). In this regard, regional cooperation arrangements must consider labour mobility as a mutually beneficial arrangement. Host and sending countries should work together to ensure that migrant workers' rights are respected, including their access to social protection mechanisms such as health insurance and pension benefits in the countries where they work.

2.5. The environment and common resources

Africa's unique physical, economic and political geography poses many challenges to economic development and management of shared public goods. Political borders are often not aligned with economic and natural resources, which in the absence of effective coordination mechanisms at the regional level, poses challenges to the management of common resources. Take for instance the case of common water resources. Africa is home to more than 60 transboundary river basins, half of which are shared by three or more countries. This implies that their management requires regional cooperation. Lake Victoria, for example, is shared by Kenya, Tanzania and Uganda. The lake is the final recipient of human and industrial waste and eroded soils from natural and human-initiated processes in the three countries. Uncoordinated activities and policies in the three countries have damaged the lake, with long-term implications on its ecosystem. Damage includes ecological degradation due to pollution and sedimentation resulting from deforestation and soil erosion in Lake Victoria

Basin. Even at the national level, many countries have weak institutional systems, such as integrated water resource management systems that make water resources coordination at the regional level difficult.

Poorly managed water resources lead to hydrologic variability and limited water storage, leaving neighbouring economies vulnerable to floods and droughts. Moreover, pollution, erosion and overfishing reduce the quantity and quality of water-based resources, destroy critical habitats and, in some cases, spread disease and contamination. Instances of political conflicts over the use of common resources such as rivers, lakes and grazing land are recorded in some regions. Water-based conflicts particularly occur in regions with high variations in rainfall (De Stefano et al. 2010). These factors illustrate the need for effective regional mechanisms for managing environmental common resources and the conflicts associated with their exploitation. Well-managed water resources, on the other hand, constitute an important development factor. They are used to generate low-cost electricity, expand irrigated agriculture, support transport routes, and increase incomes and food security through sustainable fisheries.

A number of regional initiatives manage environmental resources as common public goods. Fish resources in Lake Victoria sustain — directly or indirectly — livelihoods for about three million people engaged in subsistence, artisanal and commercial fishing (EAC 2004). The common management of Lake Victoria resources was improved through the strengthening of national and regional capacity in water resource management in Kenya, Tanzania and Uganda. This included research and monitoring activities at the regional level, as well as the establishment of the Lake Victoria Fisheries Organization (World Bank 2009). Indeed, Africa is home to a diverse array of regional institutions promoting shared water resource management. They include the Nile Basin Initiative,[12] the Lake Tanganyika Authority[13] and the Mano River Union.[14] The objective of these institutions has expanded beyond the coordinated management of common water resources to include other common development initiatives in different areas. They include hydroelectric power generation and irrigation on the Kagera River; Congo Basin convergence plan on forests, genetic resources and non-timber forest products (NTFP); and green wall for the Sahara initiative. Many of these regional institutions are technically and financially weak, partly explaining their limited success. Strengthening them would contribute to accelerating the integration agenda.

2.6. Should Africa look outward, inward, or both?

Proponents of free trade often view regional integration as a barrier to globalization, arguing that tariff barriers around regional blocs hamper the free flow of goods between different regions and the outside world. According to this logic, rather than focusing on strengthening its regional market, Africa should pursue integration with the global economy. This view fails to acknowledge the role regional integration could play in integrating African economies into the global economy through scale economies and regional specialization, for example. Regional and global integration of African economies should be considered complementary rather than competitive (World Bank 2008). For example, deepening regional integration will improve Africa's

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12 The Nile Basin comprises Burundi, DRC, Egypt, Ethiopia, Kenya, Rwanda, Sudan, Tanzania and Uganda (Eritrea is an observer).

13 The Lake Tanganyika Authority comprises Burundi, DRC, Tanzania and Zambia.

14 The Mano River Union comprises Côte d'Ivoire, Guinea, Liberia and Sierra Leone.

transport and other trade infrastructure, reducing trading costs both within Africa and outside. This will strengthen African economies, enabling them to play a bigger role in the global economy.

Currently, the main forces for globalization are the WTO's Doha Round of Multilateral Trade Negotiations and the EPAs between the European Union and the African, Caribbean and Pacific countries. At the bilateral level, the major forces are the African Growth and Opportunity Act (AGOA) between Africa and the United States, and several cooperation initiatives between Africa and emerging economic powers from the South, including China, India and Brazil. Africa faces several options, which are not necessarily incompatible.

Current trends indicate an important shift in the pattern of Africa's trade. Africa's external trade with the European Union has declined from about 55 percent of Africa's total merchandise trade in the mid-1980s to 38 percent in 2009.[15] On the other hand, trade with non-African developing countries increased over the same period from about 4 percent to 38 percent. Despite the high cost of trade and the absence of specific formal trade liberalization mechanisms between Africa and its emerging partners, trade is increasing exponentially, primarily because the main products traded are not sensitive to tariffs and transport costs. China, India and Brazil are prominent among Africa's emerging trade partners. In 2007, for the first time in modern history, the share of Africa's total trade with the group of developing countries (mainly emerging economies) surpassed the share of trade with the European Union (UNCTAD 2010). As emerging economies' share in world trade increased, so did their demand for Africa's primary commodities, used to fuel these economies' growth. With China alone, Africa's trade increased from USD 10.6 billion in 2000 to USD 106.8 billion in 2008, a staggering 33.5 percent average increase per year (ACCICE 2010).

There is some fear that the current trade structure between Africa and emerging countries could replicate the North-South pattern of trade whereby Africa exports primary commodities and imports manufactured goods. While this criticism is not without merit, at least in the short term, it is relevant to note that emerging countries' interventions in Africa also establish the basic infrastructure that could allow the continent to develop its industrial sector. Countries like China are building industrial zones in several African countries that in the medium to long term should help Africa increase its manufacturing exports.

The European Union's proposal to negotiate reciprocal EPAs is likely to have a significant impact on regional integration in Africa. The EPAs are expected to progressively eliminate tariffs and non-tariff barriers on goods and services and address technical barriers to trade and other related matters. Proponents of EPAs argue that they will promote sustainable development and better integrate poor regions into the global economy by building on and reinforcing African regional integration processes and taking into account the level of development of each REC. But under pressure from EPAs, the regional integration architecture is on the verge of a substantial redesign.[16] For example, EPA configurations do not match the existing RECs' membership and the scope of EPAs goes far beyond existing levels of integration among African countries.

Chapter 3 reviews the implications for Africa of various paths toward integration and sheds light on the implications for human development of these various options.

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15 Over the period 1980 to 2009, trade with the United States stagnated between 10 percent and 20 percent of total merchandise trade.

16 See UNECA 2006.

3. ESTIMATING THE IMPACT OF REGIONAL INTEGRATION IN AFRICA

This chapter presents the results of an exercise that estimates the impact of alternative paths of regional integration on Africa. It considers the benefits that would accrue to different regions in Africa if they were to integrate within themselves, with each other in a continental market, and with the rest of the world. The model simulates the impact of reduced and harmonized tariffs, supplemented by lower transportation costs within the continent. The simulations therefore proxy the impacts of integration processes that extend beyond simple trade liberalization.

Estimating the impact of policy decisions that are likely to have a wide range of economic and social effects is a challenging task. We use general equilibrium techniques because they provide a comprehensive framework that includes most of the relevant inter-relations of market economies and take into account immediate and second-round effects. In real life, policy interventions are usually accompanied by a variety of other changes. The model isolates the impact of individual policy changes, assuming that everything else in the economy remains unchanged. This is perhaps both the major weakness and the major strength of the technique: it illustrates the likely effect of a single policy intervention.

The modeling technique relies heavily on changes in prices and their effects on supply and demand under simplified assumptions. Many of the obstacles and several of their important consequences are difficult to express in terms of price changes because information is simply not available. Furthermore, some processes and mechanisms are not amenable to inspection through the lens of price changes and changes in supply and demand. Many of these limitations are well known. For example, it is difficult to assess the impact of inadequate infrastructure on the price of exports or imports. Consumer preference for regionally, nationally or locally produced goods is also difficult to assess and does not easily translate into a price metric. It is difficult to gauge the extent to which integration can unleash competition and creativity and lead to significant increases in productivity.

Assessing how integration can interact with and impact human development is challenging. The first step in our probing strategy is to design a set of changes that integration can trigger in African economies. The second step is to trace the effects of changes in the economy to areas that provide insight about how integration can relate to human development. We look at the aggregate effect on welfare, sector activity, employment and wages, and the emission of greenhouse gases. Ideally, we would also look at how integration might enhance health, education, the quality of jobs, and the management of the environment; however these tasks are beyond the scope of the present exercise.

3.1 Estimating the scope and benefits of integration

Africa trades very little with itself. According to UNECA (UNECA 2010), between 2000 and 2009 Africa sourced a stable 9 percent of its total imports from African countries, while 8 percent of its exports were sold to African countries.[17] The data feeding our modeling estimations confirm the low profile of intra-African trade, which in

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17 See tables 4.1 and 4.4 in pages 77 and 82 of UNECA ARIA report 2010.

Modeling integration

The estimations use the MIRAGE computable general equilibrium models and the GTAP and MacMap world trade data sets. Country estimations use the DIVA model and social accounting matrices specially adapted for this study. The GTAP (Global Trade Analysis Project) database is a global database that includes information on bilateral trade, transport and protection linkages among 112 regions for more than 50 commodity groups for the year of 2004. The MacMAP (Market Access Map) database covers market access by importing country, product, exporting country, and instrument of protection. It includes all preferential schemes and regional agreements among all the countries considered individually. The commodity coverage includes 5111 products (Harmonized System at the 6 digit level, HS6), with market access trade for 163 countries by 208 partners. Data corresponds to the year 2004. From this data we use applied tariffs, which are different from WTO bound or nominal tariffs and correspond to the actual payment of tariffs when goods cross borders. The MIRAGE model was designed to assess the impact of globalization on countries and regions around the world. The main features of the model correspond to those of the new generation of CGE models closely linked to social accounting matrices. For the purpose of these estimations we aggregated the data to 28 regions/countries and 27 commodity groups. The DIVA model is an adaptation of the MIRAGE that seeks to better reflect the operating condition of African economies. The degree of detail and final structure of the social accounting matrices used in the country estimations depend on data limitations in countries and the different trade and economic conditions of countries.

The MIRAGE and DIVA models are recursive dynamic models that use the equilibrium condition achieved in the prior step to arrive at the next equilibrium. The modeling considers the current accounts of regions and countries as exogenous and lets the exchange rate adjust the economy to the predetermined real current account deficit or surplus. The public deficit or surplus is kept fixed and equal to that observed in the base year. The models thus adjust the sum of taxes/subsides from household revenue to match the predetermined public deficit position. The dynamics in models depends on exogenous variables, such as the growth rate of the population and the population that is of working age, which means that the solution does not depend on forward-looking variables, such as investment or productivity. The global model features three factors of production: capital, land and natural resources. There are two types of labour distinguished by the combination of sector and type of occupation that define workers, which broadly correspond to what we call basic skills (those suitable for agriculture and manual tasks), and more elaborated skills (those required for industrial and service tasks). The model solves for the total payments of wages by a sector based on the change in sector activity and the relative wage rate. Depending on the availability of data, country models attempt to distinguish households by income level and place of residence, rural or urban, and to distinguish labour categories by sex, education, and place of residence.

For further details on the models see Appendix B and
www.undp.org/poverty/focus_trade_ip_migration.shtml

GTAP data represents only 10 percent of Africa's total trade (see Annex 3.1). This 10 percent figure is the lowest proportion of intra-regional trade in the world. It attests to both the continent's richness in natural resources and its lack of industrial development, both of which make the intra-Africa trade in certain goods appear relatively small. History provides another reason for this low intra-regional trade figure.

Furthermore, the 10 percent average figure masks wide and diverging proportions of intra-African trade across countries, regions and sectors. Southern Africa sells one fifth of its total exports to African markets, half of that to the Southern Africa region itself. In contrast, only 3 percent of Central African exports are shipped to Africa (see Annex 3.1). A more disaggregated view shows that a significant proportion of African exports of food, natural resources and heavy manufactures go to Africa itself, but only a small proportion of African exports of services and agricultural goods (such as flowers) are sold in African countries (see Annex 3.2).

For some exports, African countries count only marginally, e.g. vegetables, flowers and fruits, sugar, natural resources and non-metal manufactures. For others, such as wheat or (non-)metal products, African purchases represent almost half of total exports, while African markets account for about 70 percent of total exports of cereal grains (see Annex 3.3).

A significant proportion of Africa's total trade goes unrecorded. Important trade and migratory movements historically occurred in areas that later became fragmented by the establishment of national borders and accompanying barriers such as tariff and control systems. This trade plays a critical role in the distribution of a variety of commodities, including food and medicines, locally or regionally produced goods, as well as merchandise brought from outside Africa (UNECA 2010). The size of informal trade and its growth are difficult to quantify, but judging by the size and growing importance of the informal economy in Africa, there is likely sizeable and perhaps growing integration invisible to official figures. The human dimensions of this integration or re-integration are just starting to be unveiled through detailed studies. This type of trade provides livelihood opportunities across regions and involves significant gender dimensions, as many women constantly cross borders to trade a range of products. One estimate suggests that 4 to 5 million women in West Africa are engaged in the collection, processing and marketing of shea nuts and butter (Plunkett and Stryker 2002).

The modeling data confirms the view that high trading costs keep intra-Africa trade low (UNECA 2004, 2006, 2008, 2010; UNCTAD 2009). On average, the cost of trade tends to be higher for intra-Africa trade than for Africa's trade with the rest of the world. African exports confront an average applied tariff three times

The gender dimension of informality: Republic of Congo

Seven out of every ten workers in the Republic of Congo are informal. Similar numbers are seen in other developing countries. An informal job might be the only option for the majority of young Congolese: eight out of ten young workers are informal. Half of all informal young workers are employed in agriculture and the other half is employed in trade activities. About 40 percent of formal young workers are employed in services, 16 percent in construction, 10 percent in trade, 8 percent in production and manufacturing and 4 percent in agriculture. The increase in trade that integration might spur could directly impact a good proportion of the formal labour force.[a]

The majority of formal paid job opportunities for youth — 77 percent — are captured by males. Females dominate youth employment in the education and health sector, where they fill 74 percent of the jobs available to young people; however, only about 10 percent of females in paid formal jobs work in this sector. The majority of females work in services, where they are outnumbered two to one by males. Women fill 17 and 8 percent of the paid formal jobs in agriculture and manufacturing available to youth, and these two sectors account for 7 percent of the formal paid jobs held by female young workers.[b]

To the extent that the country simulation results indicate that output might expand in manufacture and services, integration may contribute, albeit modestly, to alleviating the difficult employment situation in Congo. Advancing the employment opportunities of women and young females needs strong human development policies.

[a] Data from SAM.
[b] Own calculations based on Enquete Emploi 2009, Centre National de la Statistique et des Etudes Economiques (CNSEE), Brazzaville.
Note: See scenario 4 in Appendix A.

higher (0.06 percent) than the tariff they pay to enter other markets (0.02 percent). These average tariffs are low, which means that the absolute difference is small and should not have much impact on trade, but the disparity signals strong differences in the ease with which African exports enter markets.

Part of the difference in tariffs stems from the particular mix of exports. Africa-to-Africa exports of non-food manufactures and natural resources experience a higher tariff than the same exports to the rest of the world. The difference is smaller for agriculture goods and even negative for manufactured food as Africa-to-Africa exports pay a 0.10 percent tariff on average compared to a 0.17 tariff when exported to other countries. At least in the case of light manufactures, low tariffs are partially explained by special arrangements, such as AGOA and the Cotonou Agreement, which have reduced tariffs. Further sector details unveil strong protection in world markets for some key agriculture products such as sugar, oil seeds, rice and meat, where world tariffs are significantly higher than African tariffs. It also portrays the unfavourable terms in which African exports enter African markets compared to world markets in product lines such as cereals, leather, chemicals and textiles, among others (see Annex 3.4) and underlines the potential of regional integration for human development.

Transport costs also tend to be higher for exports to African countries compared with exports to the rest of the world. Most trade with the rest of the world follows maritime routes. Trade within Africa, however, usually involves surface transportation. The well-documented dire state of roads and hinterland border facilities in Africa raises the cost of transporting goods across borders (World Bank 2009; UNECA 2010). Weak infrastructure affects transportation workers, who work under conditions of risk, and small-scale traders, many of whom cross borders and carry products with them. The measure we use in the simulations to account for transport costs is the share of transport costs in the total value of exports. This measure is not perfect — for one thing it does not take into account distance. Nevertheless, it gives a sense of the fact that African exporters tend to face higher costs when sending goods to African countries than when sending them to other regions. This measure is readily available in the GTAP database and is extensively used in the modeling of trade.

The share of transport costs in export value varies extensively, as many factors determine their importance in the final export price of the good. However, the world trade average is small at only 3.7 percent. In contrast, African exports to African markets bear transport costs that on average represent 7.7 percent of exported value. It also unfavourably compares to the cost when African goods are shipped to the rest of the world, which on average is 5.4 percent. There are instances where the share of transport costs in export value is higher when exporting to non-African countries. In the case of vegetables, flowers and fruits, for example, it is 50 percent more expensive to export to the rest of the world than to other African countries. When exported to Europe, for example, these items are likely to require elaborate technologies required for shipping over long distances, e.g. temperature-controlled aircraft. The share of these goods in intra-African trade is only 6 percent. Products that require less expensive transportation technologies tend to be more intensively traded within Africa. Metal products, minerals, leather products, and wheat, rice and cereals have transport cost shares with a larger than 2 percent point disadvantage, approaching a 9 percent difference in the case of non-metal products. Regional differences are evident too, and these are important to interpret the simulation results. While the highest average transport costs are in East and Southern Africa, the largest differences correspond to North and Southern Africa.

3.2   The modeling of integration

Low trade flows and high trade costs suggest there is room for fruitful African integration. The expansion of intra-Africa trade flows and the creation of new trade linkages are likely to open economic and development opportunities. Integration is expected to facilitate labour mobility, enhance incentives for investing in skills, and improve the feasibility of human development investments in education and health. It will not, however, radically transform Africa in a short period of time. African countries should continue to take advantage of export opportunities throughout the world; the sheer size and purchasing power of those markets mean that they are likely to outweigh even the most impressive growth of intra-African trade. What we attempt to gauge are the benefits and costs of pursuing African integration, to inform the debate of how priorities can be aligned.

Trade expansion requires a reduction in the costs of trading within Africa. To probe the effects of integration on the economy and on development we designed a quantitative estimation exercise that seeks to answer two questions: what is the relative impact of various instruments (e.g. tariffs, transport costs) for integration; and which path to integration (e.g. continental, regional, etc.) provides the highest development pay-off? To assess the impact of various instruments for integration, we experimented with three trade costs options and attempted to capture instances where costs are amenable to change by policy decisions refering to applied tariffs; institution building or common external tariffs (where suitable); and investments related to transport costs. To assess the preferred path to integration, we considered the different scenarios in Table 3.4.

3.2.1   The regional, continental and global integration paths

i) Regional and continental integration paths

Africa has pursued integration to date in three directions. First, it has integrated with neighbours and with more distant countries for a variety of reasons, including economic and trade links, historical background, cultural affinity and security issues. Second, it has initiated a process to build continental — or Africa-wide — integration by defining a vision, creating institutions and investing in efforts to rationalize and enlarge subcontinental regional integration. Third, Africa has increased economic ties with major global partners and increasingly participates in global forums defining rules for international trade and investment. What are the comparative benefits and costs of these three directions of integration? How does each relate to human development?

Table 3.4: Paths towards integration, different scenarios

Africa scenarios	*Continental Africa*: refers to integration covering all African countries in the GTAP database.
	Regional: refers to integration within the five GTAP African regions (see Annex 3.5 for details).
Global scenarios	*Leading partners and multilateral*: refers to integration with the European Union and the United States, and according to the Doha mid-2008 draft modalities.
	Emerging economies: refers to integration with Brazil, China and India.

Note: See Appendix B for details.

Figure 3.1: The impact on welfare of eliminating applied tariffs in all Africa and in each of the five regions. (Average percent change 2012–2020)
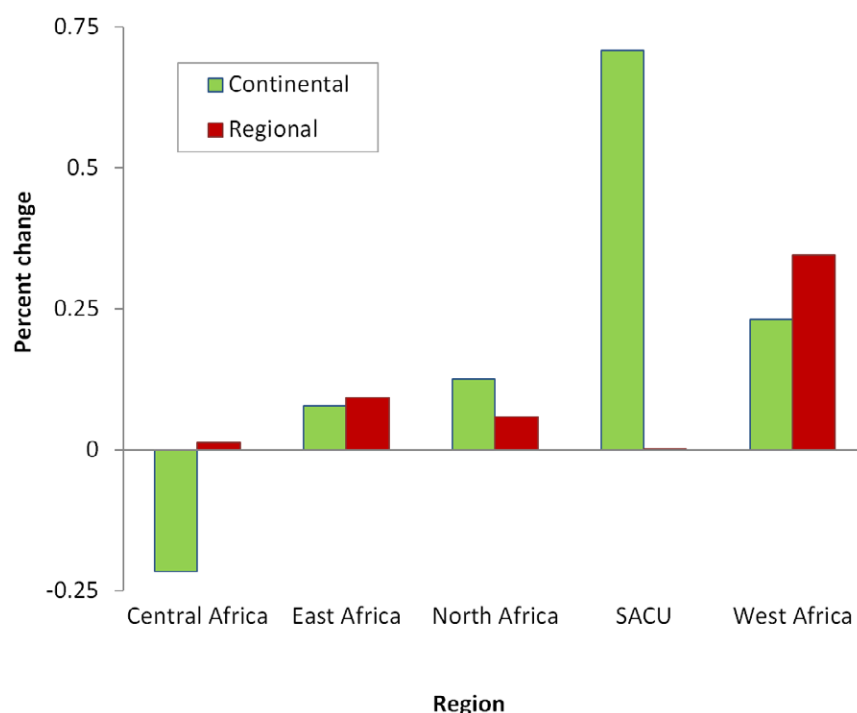
Source: See table in Annex 3.6

Our analysis shows that African economies are likely to benefit most from more ambitious integration schemes. First, the welfare gains are clearly bigger. But second and equally important, benefits tend to be distributed more evenly. Deepening integration to include infrastructure calls for detailed discussions on costs and benefits, but acknowledging the higher rewards such actions might bring to all participants can help facilitate discussions.

Results of the estimation exercise on a summary economic indicator, welfare,[18] suggest that on average African countries gain more with Africa-wide integration than with a regionalized approach. If integration only includes the elimination of applied tariffs the average increase in welfare is 0.19 and 0.10 percent annually in the continental and regional paths, respectively. It is not surprising that the continental approach brings higher benefits: even if regions primarily benefit from the removal of tariffs with regional partners, they will also benefit from the removal of tariffs with other partners. However, averages mask significant differences in gains and costs. While Africa-wide integration increases welfare in most cases, it decreases it in Central Africa. Moreover, the increase in welfare in the SACU region is significantly larger than any other increase.

18 We proxy the change in welfare through consumption and estimate its change by the equivalent variation. Equivalent variation in this context refers to the change in consumption that would have to take place in order to achieve the same level of utility before the policy shock. See the Appendix B for further details.

If SACU is excluded, the average increase derived from Africa-wide integration is smaller than the increase prompt by regional schemes. In contrast, integration along the regional path brings higher welfare benefits for Central and West Africa, comparatively lower benefits for the North and the SACU regions, but equally comparable gains for East Africa. Clearly, Africa- wide integration implies a complex negotiating framework to accommodate differences in gains and compensation and/or equalization measures.

Integration in Africa should involve homogenization of trade costs. If infrastructure investment with an integration vision is added to the elimination of applied tariffs in such a way that regional costs come down to the lowest pre-simulation cost in each region, the welfare benefits are likely to be higher. Given that continental integration means reducing transport costs to the lowest of the regional minimums, the absolute and comparative impact on welfare is likely to be stronger. Simulation results confirm these expectations. On average, continental integration increases welfare in regions by 1.01 percent each year, while regional integration schemes increase it by 0.48 percent. What is perhaps more important is that homogenizing transport costs throughout Africa decreases the unevenness of the results of continental integration. Welfare in Central Africa now increases and the benefits to the SACU region are more closely aligned with the benefits to other regions. Underscoring the importance of infrastructure investment with a regional scope, the Africa-wide simulation delivers larger welfare benefits than regional integration for all regions.

Figure 3.2: The impact on welfare of eliminating applied tariffs and reducing transport costs in all Africa and in each region. (Average percent change 2012–2020)
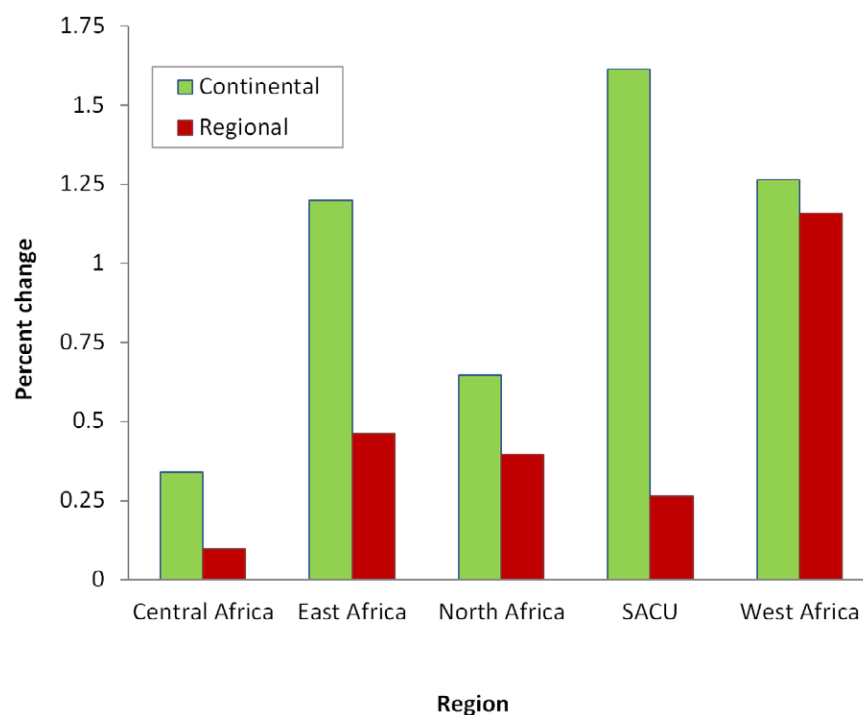
Source: See table in Annex 3.6

The impact of integration on Least Developed Countries (Ethiopia, Malawi, Mozambique, Senegal, Tanzania and Uganda)

The impact of integration poses particular challenges to the poorest countries, for their weak productive capacity and infrastructure conditions might preclude them from taking advantage of integration opportunities. If integration is accompanied with regionally conceived investments these countries may obtain significant benefits. This report has highlighted the importance of going beyond the immediate region and deeper into transport cost reductions to reap the benefits of integration for Central Africa, a region that includes six LDCs. Looking at the results of integration for the six Least Developed Countries individually included in our data reveals a similar picture. African continental integration that includes transport cost reductions is likely to increase welfare, GDP, exports and imports for these countries. Partly explained by the limited initial base but also underlining the importance of potential benefits, the increases in these aggregate variables is stronger than the increase in other African countries.

African continental integration will tilt employment in favor of non-agriculture activities while leaving aggregate employment unchanged in these six LDCs. The change in returns to factors of production will give a small edge in favor of capital over land or natural resources, but also over labor, raising concerns about the income distribution impact of integration.

The impact on labor markets is mixed: workers with basic skills receive higher increases in wages than workers with high skills but, among those with basic skills, it increases more the wage of workers in non-agriculture activities. This result, consistent with the change in employment, calls for measures to reinforce the productive capacities of workers in the agriculture sector and improve their consumption levels.

Note: Results commented here correspond to the simulation of Africa integration involving tariffs plus transport cost reduction. See Appendix B for details of the global model and the scenarios.

Once tariffs and other cross-border costs are eliminated in regional schemes, the next steps involve building infrastructure and creating customs unions. These two actions, which may be implemented simultaneously, result in average changes in welfare that are almost identical (0.48 and 0.49 percent) but differ from one region to another. Welfare in Central Africa declines, as discussed, with the tariffs-only integration, but derives equally modest gains from customs union and transport cost reductions. North Africa benefits comparatively more from a customs union. East and West Africa benefit more from adding transport reductions than from the adoption of a single unified external tariff. In SACU, welfare only increases with transport cost reductions.

The enlargement of regional schemes such as the tripartite initiative attests to the real possibility of Africa-wide integration. To elucidate the effects of such an initiative we simulated a tariff plus transport cost reduction scenario involving its participants. [19] Participation in the initiative results in increases in welfare that are better than integration in the immediate region but fall short of the gains delivered by Africa-wide integration. Results also indicate that the non-participating region of West Africa does not visibly benefit from the integration but nor does it lose. In North Africa, Egypt's participation and the benefits it receives, not shown, are insufficient to compensate for the reduction in welfare elsewhere in the region.

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19 The tripartite refers to an initiative by the East African Community, the Common Market for Eastern and Southern Africa and the Southern Africa Development Community to establish a free trade area among encompassing member states of the three communities and cooperation in other areas such as regional infrastructure project.

Figure 3.3: The impact on welfare of eliminating applied tariffs, reducing transport costs and establishing customs unions in each African region. (Average percent change 2012–2020)
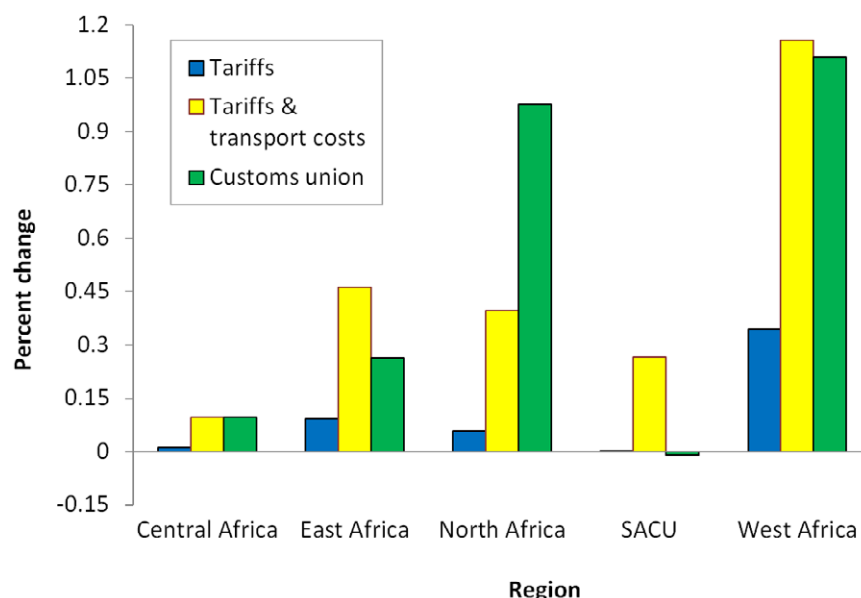
Source: See table in Annex 3.6

Figure 3.4: The impact on welfare of eliminating applied tariffs and reducing transport costs in a continental, tripartite and each region schemes. (Average percent change 2012–2020)
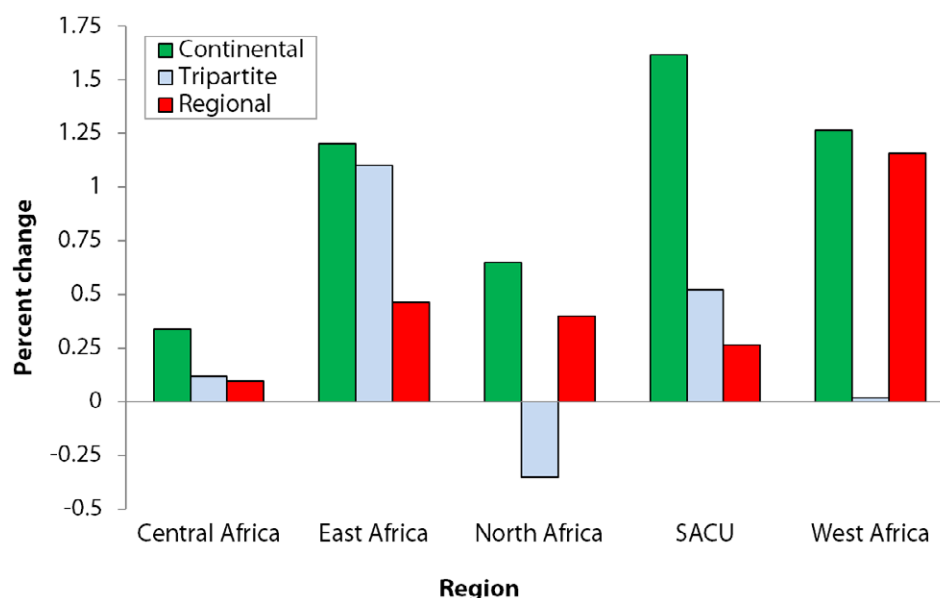
Source: See table in Annex 3.6

ii) Global integration paths

African economies are engaged in various integration schemes with important global trade players, as parties to bilateral agreements or through special unilateral programmes such as AGOA and EPA. To explore the comparative benefits of these strategies we ran simulations eliminating bilateral applied tariffs between African countries and the European Union, the United States, Doha, Brazil, China and India. Results suggest that continental integration, including tariff elimination and transport cost reductions, still has the largest positive effects on welfare.[20] The scenario with the next largest impact on welfare is integration with the European Union. On average, welfare increases in African regions by 0.57 percent. A significant proportion of the increase in welfare is attributable to the strong positive effect on SACU. If SACU is excluded, the average increase in welfare drops to 0.36 percent, making it the third largest in benefit impact after the average impact of regional integration schemes. The next largest effect among global integration schemes is that of Doha, with most visible effects on West and North Africa. The model suggests that integration with the United States, China or Brazil result in welfares loses, while integration with India increases welfare by an average 0.09 percent. Gains and losses distribute differently across African regions. The most notable differences are the reductions in West Africa's welfare under the United States and China scenarios and its increase in the India scenario.

At first glance, the figures quantifying the impact of the different integration paths appear to provide relatively minor benefits to the economy. The strongest increase in welfare — resulting from Africa-wide integration in the form of tariff elimination and transport cost reductions — register only as an increase in welfare of an average of 1.06 percent per year. However a closer look at the figures suggests that this is a valuable contribution. The benefits of integration strengthen and accumulate over time. A 1.06 average increase over the nine years simulated in our exercise adds to an increase of about 10 percent in welfare. The modeling exercise features small shocks but the actual costs to trade on the ground are likely to be significantly larger, making potential gains also larger. The integration of African markets and integration with global partners, when accompanied with investments in infrastructure for trade and human development, can significantly reduce those costs. Potential gains are certainly important.

Moreover, Africa regional and continental integration, when contrasted with global integration, are more likely to spur broader continental cooperation efforts in areas that reinforce human development gains. For instance, the sharing of common resources and environmental problems could provide incentives for cooperation on the environment and cultural, historical and language affinities provide opportunities for increased labour mobility.

3.2.2   The impact on human development

There are multiple links between human development and integration. Modeling exercises cannot proxy the fundamental proposition of human development and how this relates to integration and trade. Moreover, it is difficult to assess the impact of integration on the less measurable elements of human development, such as empowerment and sustainability.

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20 Practically, we assumed a reduction of 5 percent in transport costs on African bilateral trade within the FTA and with the major partners outside the continent.

Figure 3.5: The impact on welfare of eliminating applied tariffs and reducing transport costs in all Africa and Rest of the World. (Average percent change 2012–2020)
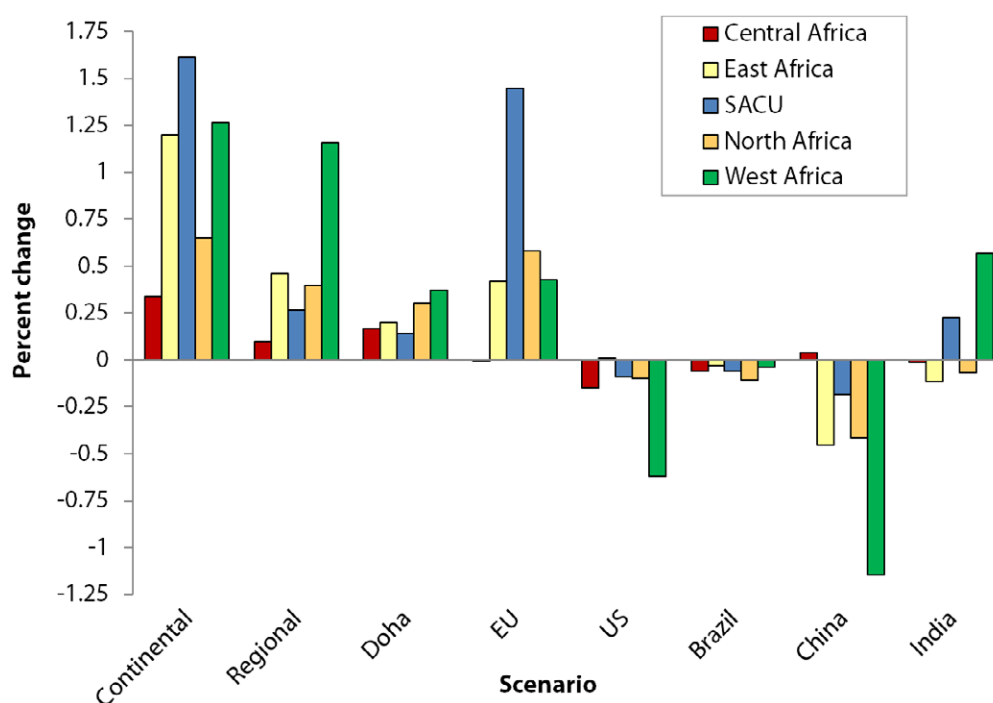
Source: See table in Annex 3.6

In the preceding chapters we discussed how integration can relate to human development by addressing its links with the quantity and quality of work and political inclusion, discussing its interplay with institutions in health and education, and examining how policies, institutions and outcomes can better be aligned with the stewardship of natural resources.

In this chapter we attempt to provide quantitative estimates from our global model to illustrate the potential impact on some dimensions of the economic and social structure of countries that relate to the pillars underpinning trade, integration, and human development. We discuss how integration affects the sector composition of production, how it can affect poverty, and how it might impact distribution. Distribution is addressed through a discussion of integration-induced changes in employment, wages and, more generally, in rewards to factors of production, which further informs the possible impact on distribution and the living and working conditions of the poor. The links between integration and sustainability are beyond the scope of this study. However, to illustrate how changes in income and the sector composition of production can affect the environment we briefly discuss the impact of integration on emission of four GHGs: carbon dioxide (CO_2), methane (CH_4), flourinated greenhouse gases (F-gases) and nitrous dioxide (N_2O). We complement this discussion with the results of our five country modeling studies and look at the effects on household distribution of income (or expenditure in consumption), and on wages and employment by workers skill and gender.

i) The impact on poverty

To the extent that integration increases GDP and welfare in most individual and groups of African countries, it widens the scope for poverty reduction. To what degree poverty can actually fall is difficult to ascertain a priori. The reduction in poverty that any country can extract from a given increase in the rate of growth depends on many factors, including the initial economic and institutional conditions of the country, the sector composition of growth, its demand for employment, its linkages with the rest of the economy, and the policies that accompany such increase, among others. Estimates of how significantly a change in income reduces poverty are available for a number of countries. Here we apply the elasticity estimates of Bchir and Chemingui (2000) to map out the model results on income on poverty (see Annex 3.9). We limit the discussion to the tariff plus transport simulation, to the incidence of poverty indicator, which is the proportion of the population that survives under a given poverty line, and selectively use the 1 and 2 dollar a day international poverty lines for different countries. We report results for 11 African countries.

Africa-wide integration reduces poverty in 10 of the 11 countries examined. The largest reductions are in Zimbabwe (-3.8 percent), Tunisia (-2.2 percent), and Senegal (-2.1 percent). The smallest reductions occur in Uganda (-0.4 percent) and Egypt (-0.2 percent). In Uganda, the small degree of change is attributed to its low income elasticity of poverty, while the driver of the change in Egypt is the small increase in GDP. Only in Nigeria does the incidence of poverty not decrease (the incidence of poverty increases marginally, by 0.04%); the driver of the increase is the negative change in GDP.

Scenarios simulating integration in the five African regions map out to reductions in poverty in eight countries and small increases in five. The reduction in poverty is strongest in Tunisia, Senegal and Botswana. In Tunisia and Senegal, the strong reduction in poverty is due to both a relative strong increase in GDP and high elasticity, while the strong reduction in Botswana owes more to a strong increase in GDP and a moderately pro-poor growth dynamics. In contrast, Uganda is only able to weakly reduce poverty out of a relatively strong increase in GDP. Finally, three countries increase poverty due to the fall in income induced by regional integration.

The tripartite initiative produces changes in poverty that tend to benefit participant countries. Thus, Botswana, Malawi, and Zimbabwe, strong beneficiaries of the tripartite scenario, experience the largest reductions in poverty. Tunisia, Morocco and Senegal reduce poverty only weakly. While Nigeria continues to experience marginal increases in poverty, poverty in Egypt is now portrayed as rising.

ii) The impact on employment

Integration affects employment in varied ways depending on the partners involved and the type of integration pursued. Even though integration results in significant gains in welfare and output, the impact on employment is conditioned by the fact that integration affects employment in sectors in opposite directions. Accordingly, our simulation exercise suggests that Africa's integration triggers visible changes in relative employment, consistent with the effects of a policy shock with potentially important consequences on the structure of production. The consolidated effect on aggregate employment, however, is small, with a small shock and with several of the sector employment effects offsetting each other. To focus on the potential impact on human development, we track the consequences of changes in the sector distribution of output on employment and concentrate on what happens in agriculture and non-agriculture sectors as a whole, including services.

Figure 3.6: The implied impact on poverty of tariff and transport cost reductions in continental integration and the tripartite initiative.
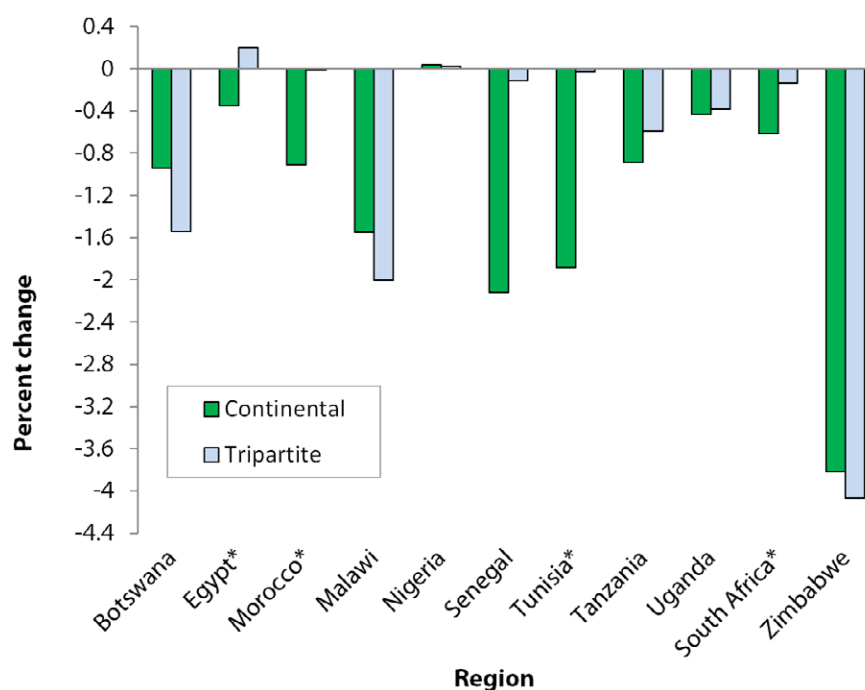
Note: Poverty refers to the proportion of poor assessed by USD 1 poverty line, except for (*) where the
USD 2 poverty line was used.
Source: See table in Annex 3.8

African regional integration tends to increase employment in non-agriculture sectors and decrease employment in agriculture. The effects are clearly stronger in the Africa wide scenario than in the average of regional scenarios. The reduction in export costs makes African exports of non-agriculture goods in particular more competitive in African markets, which results in increases in output and employment. This is a welcome effect for the long-term perspectives of African economies because wages tend to be higher in non-agriculture activities. Additionally, increases in non-agricultural production encourage migration to urban areas, where job opportunities are more abundant and services can be provided at a lower cost. However, it also implies short-term adjustments with costs that should not be borne by the poor; it implies assistance is needed to undertake the training necessary to obtain the jobs just created in the cities.

On the other hand, integration with global markets has mixed results. The elimination of applied tariffs and a further reduction in transport costs makes African exports of agriculture products to the European Union more competitive, increasing employment in those activities. As production shifts to agriculture, employment declines in the rest of the economy. Integration with the United States generates a result similar to African integration, but the composition of the increase in employment in the rest of the economy is different because in the case of the United States it rests on textiles. Integration with other important global market

Impact of African integration in youth employment: Kenya

Kenya faces a difficult youth employment situation and integration might help. The results of the Kenyan country model suggest that while integration will not be the single magical solution, it can be part of the answer. Adjustments in agriculture production mean that output might increase for some activities where youth are highly visible, such as fisheries, where more than 80 percent of the workers are young people. Integration will tend to favour manufacture and services activities and youth are an important source of labour power in some of these activities. Examples include increases in textile and clothing or in financial and trade services — activities where the youth represent about one third of total occupation.

Adjustments, however, might also decrease output in sectors with a significant presence of young workers, such as sugar cane production, where one fifth of the workers are young people.

Because a large proportion of young people work in non-salaried jobs, much of the impact of integration will be indirect, in the form of a more dynamic economy. To potentiate the impact of integration on youth employment, policies must be designed and implemented to assist micro and small businesses and enhance education, vocational training and human development in general.

Note: See scenario 4 in Appendix A. Source: Own calculations based on Kenya integrated household budget survey 2005/06. Kenya National Bureau of Statistics, Nairobi.

Figure 3.7: The impact of African and global paths to integration on Africa's relative employment. (Percent point difference of average percent change in employment)
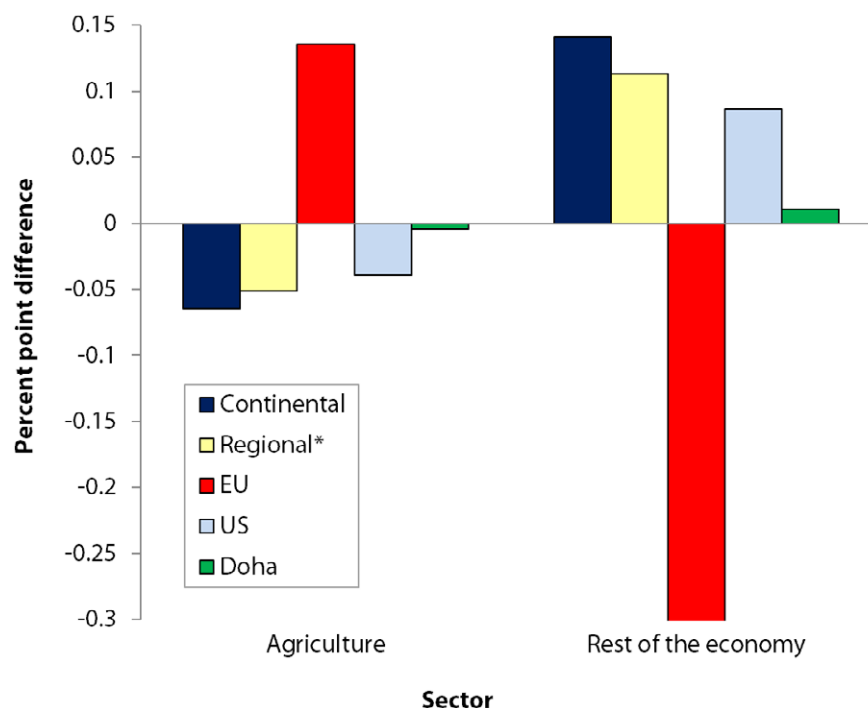
*Note: * denotes averages.*
Source: See table in Annex 3.9

players and the Doha tariff and subsidy reductions generate changes that alternatively incline the balance of employment toward agriculture and non-agriculture sectors, but the magnitude of the effects is small.

In sum, while African integration clearly increases relative employment in non-agriculture activities, integration with global markets have a more nuanced effect, also on relative employment, increasing non-agricultural relative employment in several instances but favouring agriculture activities in other important integration scenarios, namely in the case of the European Union.

iii) The impact on the sector composition of production

Increasing the role of trade in economic activity has the obvious effect of increasing the share of sectors active in international markets and perhaps decreasing the relative importance of domestic production in sectors where imports might become more important. Integration within Africa results in changes in the relative importance of sectors that at first glance, look similar to results from integration with global partners, for either of these schemes will tend to expand the activity of some exporting sectors. A closer look, however, reveals differences between the African path and the global path.

While Africa integration favours manufacturing sectors, light and heavy, integration with the European Union favours manufacturing food and some agriculture sectors. On the other hand, integration with the United States comparatively favours sectors that decrease under Africa's integration, or increases the importance of textiles more significantly than African integration does. These results suggest that African integration can potentially build a stronger base for diversification and economic growth.

The pattern by which Africa's continental integration tends to enhance the relative importance of manufacturing activities, light and heavy, does not map homogeneously to the five African geo-economic regions. Africa-wide integration increases the share of manufacturing activities for the West, East and North African regions. Sector changes in these regions are the driving forces in the changes seen at the scale of the entire continent. However changes in the remaining two regions follow a different logic. In the case of SACU,

The distributional impact of integration: Egypt

Our analysis suggests that Egypt's GDP will fall with continental African integration but the country will derive benefits from higher private consumption as a result of changes in prices and an increase in trade. The structure of production will shift away from mining and agriculture towards manufacturing and services.

The impact on human development is mixed. In a context of rising wages and consumption, integration will further add to human development by improving the distribution of income within both urban and rural areas. It will also worsen, however, the rural/urban divide, as income in urban areas will rise more than in rural regions.

The result pointing to a better distribution of income in rural and urban areas is partially driven by the strong increases in the wages of basic skill workers and the relatively weak increases for high skill workers. But not all aspects of the income distribution will improve. The gender dimension of wage changes is such that the male/female wage gap widens, particularly among high skill workers.

These results confirm the importance of accompanying integration with strong human development policies.

Note: See scenario 4 in Appendix A.

Figure 3.7: Change in the composition of output with global partners, tariff plus transport cost reductions (Difference in the share of sector in total output)
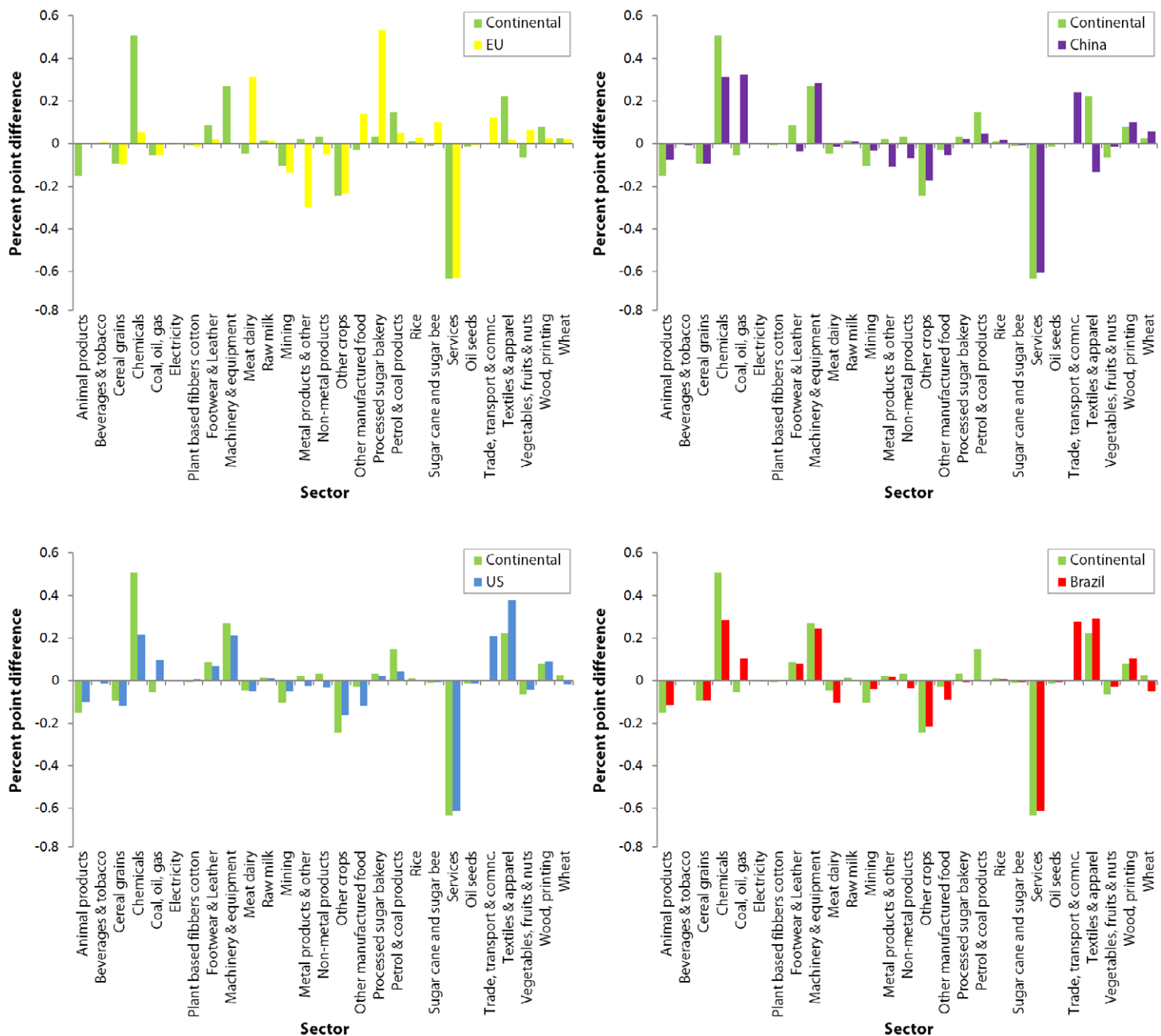
Note: * denotes averages.

Source: See table in Annex 3.9

Figure 3.7: Change in the composition of output with global partners, tariff plus transport cost reductions (Difference in the share of sector in total output)
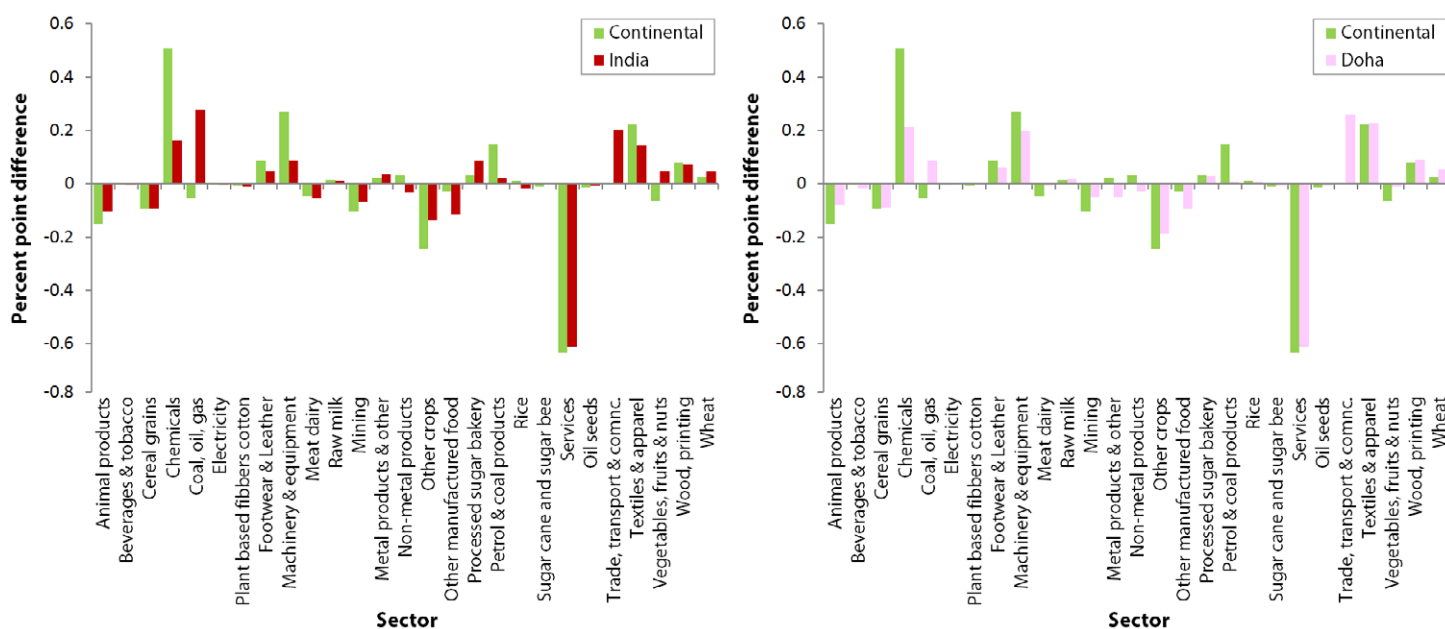
Note: * denotes averages.
Source: See table in Annex 3.9

the impact on manufacturing is more diversified, with some changes offsetting others. For example, while the share of machinery and equipment increases by about 0.3 percent points, the share of metal products and other manufacturing falls by about 1.0 percent point. For Central Africa, the share of manufacturing in total activity remains unaltered; the most visible changes are a strong increase in the share of coal, oil and gas, and a moderate increase in the share of animal products. The most visible reductions are those in other manufactured food and in other crops.

Integration within each region also tends to favour manufacturing, light and heavy, and follows a pattern that is similar to continental integration. The similarity is particularly clear in the case of East Africa. In the other four regions the changes in production tend to increase the share of manufacturing.

iv) The impact on factors of production

Integration in Africa changes the allocation of factors of production and the market returns to these factors. In general, changes in returns to factors will be friendlier to human development if wages increase more than returns to land, capital and natural resources; market wages of unskilled workers increase more than those of skilled workers; and market returns to low-skilled workers in agriculture increases more than their counterparts in the rest of the economy. In terms of development pathways, the long-term sustainability of Africa's development is arguably better served by changes increasing the return to capital than the return

The distributional impact of integration: Senegal

Senegal will benefit from engaging in an integration strategy that reduces the costs to trade. As income and trade increase, the opportunities for human development improve. Integration will favor mining and agriculture activities relative to manufacturing in Senegal. The bust to agriculture is a welcoming effect, as it brings a stronger impetus to rural areas, where many of the poor live. Accordingly, average income in rural areas increases more than income in urban areas, without significantly changing the within-area distribution. The economic changes that follow integration, however, do not impact all urban areas equally. The increase in income in the Dakar urban area is significantly stronger than the increase in other urban areas.

This suggests that appropriate policies may be needed to enhance the competitiveness of urban areas other than the capital city of Dakar.

The impact on labour does not help improving income distribution. While wages of low and high skill workers both increase, the increase is stronger for high skill workers. These results suggest designing and implementing policies that simultaneously reinforce education and vocational programs to alleviate the pressure on the small pool of high skill workers and enhance their productivity.

Note: See scenario 4 in Appendix A.

to natural resources, as this could encourage manufacturing activities and movements up the value added ladder and diversify economies. The link between the change in the relative return of land and capital and human development is less clear, as it depends on the distribution of land in countries, access of the rural poor to land and land quality.

Considering only the tariffs plus transport cost scenarios, simulation results suggest that Africa's integration tends to increase the return to capital relative to land and natural resources (see Annex 3.11). This is an incentive to allocate resources to activities that can help diversify the economy and enhance its competitiveness. In close correspondence with the characteristics of labour abundant countries, integration increases the relative return of labour over capital, an effect that should be noted for its positive impacts on the distribution of income. Somewhat surprisingly, Africa's integration changes relative wages in favour of high-skill workers

Rural and urban impact of integration: Mozambique

Mozambique features an intensive trade relation with South Africa and important trade flows, formal and informal, with neighboring countries. Integration with continental Africa and infrastructure investments that reduce the cost to trade will increase consumption and GDP. It will also increase activity in the service sector and decrease it in agriculture and mining. Output in the manufacturing sectors will fall slightly but its relative weight in the economy will increase.

Accordingly, continental integration could reinforce the urban bias in Mozambique, as income in these areas will increase more. Income in rural areas might worsen slightly,

as increases in consumption are smaller for low income households. Distributive policies will need to accompany the integration process.

The positive impact on urban areas, on the other hand, is reinforced by the finding that the increase in consumption is likely to be stronger for low income urban households. Consistent with the impact on urban household income, the increase in wages is slightly better for workers with basic skills than for those with high skills.

Note: See scenario 4 in Appendix A.

and against low-skill workers in the short term. In the long term, increasing the relative wage of skilled workers may create incentives for the acquisition of education, hence reinforcing the long-term development perspectives of African countries. Moreover, the provision of a strong and equitable education endowment for the population requires much more than a change in relative returns in favour of more educated workers. Changes in incentives must be accompanied by a strong education strategy. Finally, the change in wages among low-skilled workers favours those in non-agriculture activities, which is consistent with the overall shift of the economy toward non-agriculture activities that African integration is likely to unleash.

Contrary to the African integration path, joining global markets tends to increase the return to land relative to capital. As in the above discussion on employment, such changes create incentives that tend to enhance productive capacity and create jobs in areas where jobs are needed. This is of course welcome. However, the long-term implications of such changes are not as clear. African countries need to build productive strength in manufacturing and services to support higher incomes and progress in human development. Similar to the African integration path, integration with global markets increases the relative returns of labour over capital, suggesting that reducing the costs of trade changes incentives in Africa to more intensively use relatively abundant factors, regardless of the partner. The emphasis on agriculture in the European Union scenarios translates into a clear increase in the relative wage of low-skilled workers over those of high-skill workers.

Figure 3.9: Returns to factors of production, Africa-wide and global paths to integration (Percent difference of the average percent change in the return to factors)
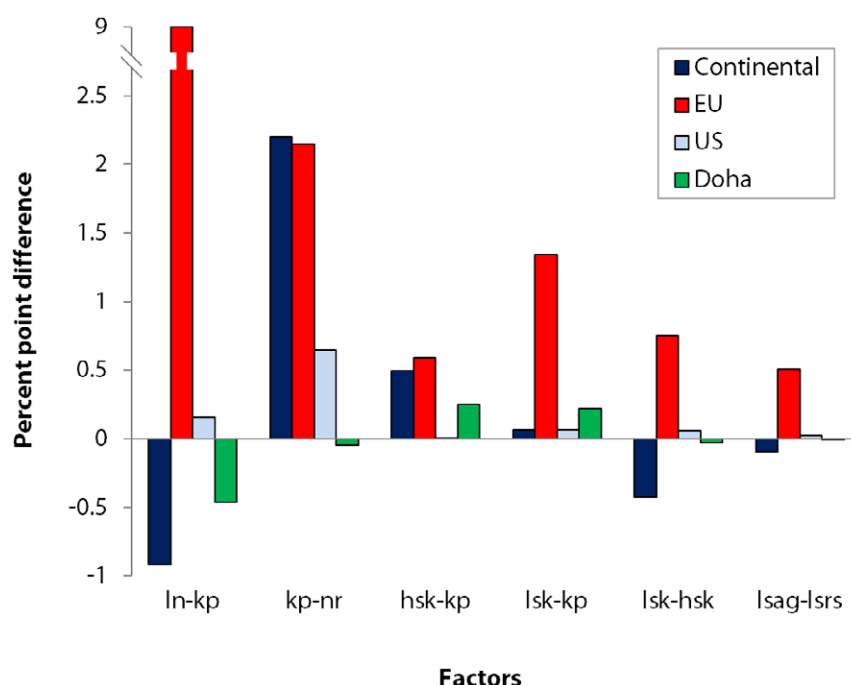
Source: See table in Annex 3.11

Within the low skilled, wages of agriculture workers improve over those in the rest of the economy. These changes reflect the underlying changes in sector activity and tend to improve the distribution of income.

Regional integration opens up opportunities to deepen human development, but tailored policies are required for each country and region to ensure that this happens. This includes policies on re-skilling and access to tertiary/vocational training, as well as social protection mechanisms to safeguard people through the changes brought about by integration.

v) The impact on GHG emissions

Different integration schemes result in a range of changes in GHG emissions. Factors influencing the changes in GHG emission levels include the impact of integration on GDP, the initial economic conditions of the region and the impact of integration on the sector composition of economic activity in countries.

GHG emissions are relatively low in Africa. To the extent that integration increases GDP in Africa, GHG emissions are also likely to increase. The results we obtain point to annual increases or reductions that are quite visible (see Annex 3.8). The changes by region, scenario and gas range from -7.3 to 26.4 percent. But even after the strong increases, the emission levels remain low.

If we concentrate on the tariff plus transport simulations in all of Africa, the own regional integration, the integration with the European Union and integration with the United States, we could see that Africa-wide

Figure 3.10: The impact on GHG emissions in African regional integration (Average percent change in emissions)
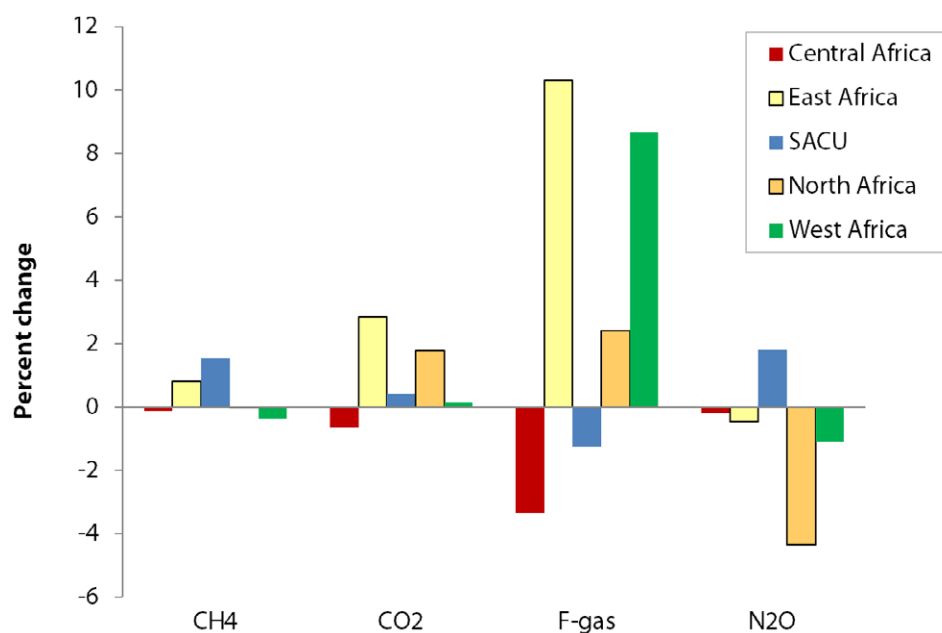
Source: See table in Annex 3.12

integration tends to bring the strongest increases in gas emissions, while integration with the United States has the smallest impact on the emission of gasses.

Our estimates show that Africa-wide integration increases annual emissions of CO_2 and N_2O by about 10 and 8 percent respectively on average. On the other hand, emissions of CO_2 decrease by about 4 percent in North Africa and emissions of F-gases fall by about 3.5 percent in Central Africa. The impact of African regional integration on the same region has a more contained effect on emissions. The largest annual increase is in F-gases in West Africa (approximately 2 percent), followed by North Africa (approximately 1.5 percent), while the most significant reduction is in N_2O, also in North Africa (approximately -3 percent).

Integration with the European Union raises annual emissions of CH_4 by about 27 percent and those of CO_2 by about 16 percent in the SACU region. Besides these two very large increases, the effect on GHG of integration is downward, notably in the case of CO_2 in North Africa and F-gases in West Africa, where they fall by about 6 and 4 percent, respectively. Integration with the United States reduces emissions in most cases. Reductions tend to be small, but in a handful of cases the annual fall can be of around 1 percent. The most significant reduction is in the F-gases in West Africa, where annual emissions are likely to drop by 2 percent.

These simulations do not address other important environment challenges for Africa, including local air pollution, water contamination, land degradation, and climate change (UNEP 2006). Nevertheless, the variety of effects and the relative importance of the changes suggest that African leaders, assisted by the development community, should pay more attention to the management of the environment. Either of the alternative integration paths is likely to bring challenges that must be confronted. Although the discussion here addresses the impact on different regions, it is well recognized that environmental challenges — particularly GHG emissions — have no borders. Solutions will require cross-national cooperation.

4. THE EXPERIENCE OF DEVELOPING COUNTRIES WITH REGIONAL INTEGRATION AND HUMAN DEVELOPMENT

In the last few decades, support for regional integration initiatives across the world has grown. Increased political support, the contribution of regional integration toward peace and security, and growing private sector demand for regional trade are all cited as contributors to this development. The stalemate in multilateral trade negotiations provides further incentive for countries to follow a regional path to economic integration. Proponents of regional trade agreements (RTAs) argue that the political pay-offs of RTAs are as important as economic pay-offs, although the former are difficult to quantify.[21]

Can the increased positive economic effects of regional integration bring about enhanced human development? This chapter reviews how other developing regions have dealt with the challenge of incorporating human development considerations in the design and implementation of regional integration schemes.

4.1 An exploration of ASEAN, CAN and MERCOSUR[22]

On average, a WTO member country now has agreements with more than 15 countries.[23] Nearly all countries belong to at least one RTA; there are only 12 countries that are not recorded as party to an RTA, and many of these are small islands.[24] While there is some empirical evidence that can illuminate the implications for human development of RTAs, most of it relies on traditional economic indicators that do not necessarily address wider human development dimensions. Because RTAs are mainly conceived as mechanisms to maximize economic gains (through trade channels), an assessment of the functioning of RTAs from a human development perspective is not without challenges. A possible approach is to review initiatives in key human development dimensions — such as health, education and the environment — and their role in the integration process.

This section explores the integration records in ASEAN, CAN and MERCOSUR. We examine these integration schemes through arrangements made in four areas that are important for human development: trade and investment, health, education and the environment. We assess how and to what extent ASEAN, CAN and MERCOSUR have integrated these considerations and achieved improved human development outcomes.

These three agreements represent a range of integration arrangements among developing countries with divergent levels of institutionalization. They all attempt to tackle common economic and social problems, including challenges of social inclusion, equality, citizenship and economic competitiveness and thus can

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21 Several countries with political rivalries have set aside their differences and come together to work under the umbrella of a regional integration arrangement. France and Germany fought several wars in the past, and Argentina and Brazil as well as Indonesia and Malaysia have had border disputes. But they have all now set aside their differences and are moving toward greater economic integration.

22 This and the following sections draw extensively from Tussie et al. 2011.

23 Freund and Ornelas 2010.

24 American Samoa, Bermuda, Channel Islands, Guam, Isle of Man, Monaco, Mongolia, Northern Mariana Islands, Palau, Puerto Rico, Timor-Leste, and the Virgin Islands. See Adhikari 2006.

provide insights for Africa's regional integration process. They are quite diverse in terms of objectives, degrees of institutionalisation and depth of regional commitments and achievements.

We examine the experience of ASEAN, CAN and MERCOSUR by systematizing data on decisions and agreements that support their existence and functioning. This in turn allows us to discern trends in factors that affect human development.[25] This review considers provisions introduced within the last two decades, exploring those cases with specific impacts on sectors related to trade, health, education and the environment. Overall, these regional integration experiences show mixed results in terms of human development trends. Effects are mostly linked to integration strategies favouring cooperation through regional decision-making processes.

4.1.1   Trade and investment

A central tenet of neoclassical trade theory is that an international division of labour based on free trade and specialization according to comparative advantage is a win-win proposition in the long term. Trade leads to an increase in welfare derived from an improved allocation of domestic resources. Import restrictions create an anti-export bias by raising the price of import goods relative to export goods. The removal of this bias will encourage a shift of resources from the production of import substitutes to the production of export-oriented goods. This, in turn, will generate growth in the short to medium term as the country adjusts to a new allocation of resources. Nevertheless, while the benefits of trade are well documented (see Winters et al. 2004), it is hard to prove empirically that trade integration enhances broad-based economic growth or reduces poverty. Equally, no country has achieved broad-based economic growth by shutting its doors to the outside world (for a development of this argument, see UNDP 2003).

Many of the economic impacts of FTAs materialize in the long run (in terms of economic restructuring and specialization toward sectors with enhanced export potential), but adjustment costs often arise in the short and medium term. These comprise for instance, a reduction in employment and output, the loss of industry- and firm-specific human capital, and macroeconomic instability arising from balance of payment problems impacting on government revenue. Moreover, structural factors particularly prevalent in developing country economies further constrain the speed with which the benefits of integration materialize. These relate to market imperfections, labour immobility, etc. Recognition of existing constraints and understanding of the starting conditions with respect to opportunities and capacities, especially among the poor, is crucial for deciding on the design and sequence of policy reform and the nature of complementary measures to accompany integration.

Integration in East Asia was a bottom-up process that was initially business driven and later embraced by East Asian governments through policy initiatives for formal economic integration through bilateral and plurilateral trade agreements.[26] ASEAN became the integration hub for all the FTA activity in East Asia, incorporating China, Japan and the Republic of Korea though the formal economic ties in ASEAN+3 and more recently incorporated Australia, India and New Zealand in ASEAN+6. East Asia can be thought of as a highly integrated 'factory' in which formerly national production processes were 'unbundled' and dispersed to the lowest cost locations throughout the region. Therefore, although governments in the region refrained

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25 Only decisions adopted by the most relevant decision-making bodies in these agreements were considered. In some cases, these entailed the incorporation of changes in national legislation.

26 The region has been known to lack institutionalized cooperation either in security or economic areas. The only exception to this scarcity of formal preferential trade agreements in East Asia was the inauguration of the ASEAN Free Trade Area (AFTA) in 1992.

Table 4.1: The trade/foreign direct investment (FDI) considerations in three regional integration schemes

TRADE/FDI	ASEAN	CAN	MERCOSUR
Integration process	Managed web of business-driven bilateral agreements; transnational 'factory' model; practice of consensus building and consultations	Top down (government driven); strong role of CAN's General Secretariat	Top down (government and business driven); rudimentary institutional structure; permanent intergovernmental negotiations
Goal	Increase region's competitive edge as a production base and attract more FDI	Promote balanced development under equitable conditions though integration and social cooperation	Adopt confidence-building measures to protect infant democracies, coupled with enhanced industrial and macroeconomic coordination
Mechanism for trade integration	Common Effective Preferential Tariff (CEPT) reduced tariffs on all manufactured goods to 0–5% over 10 years, with exclusions	FTA since 1993 and gradual implementation of a four-tiered Common External Tariff (CET) (5–20%), with exclusions	Customs unions with 11-tiered Common External Tariff (CET) (0–20%) with exclusions; circumventions; no common customs code *
Compensation mechanisms for less developed regions	Measures to reduce development gaps among members (e.g. BIMP-EAGA , IMS-GT, AMBDC). In particular, IAI, focusing on infrastructure, human resource development, ICTs and capacity development has benefitted the least developed members of ASEAN	Differential treatment to less developed members (Ecuador and Bolivia) for the implementation of CET, harmonization of economic policies, investment and industrial regimes, but deemed unstructured and ad hoc in nature	Less developed countries (Paraguay and Uruguay) favoured by support of regional funds and financing mechanisms (e.g. FOCEM) aimed at improving border integration and productive and labour reconversion of economic sectors affected by regional integration, social cohesion and strengthening of institutional structures. Majority of funding from Brazil and Argentina. Although FOCEM is a step in the right direction, it is insufficient to address existing structural asymmetries
Achievements	Partially integrated market and production base with increasingly free flow of goods, services, investment and labour	Most institutionalized regional agreement among developing countries (supranationality); intra-regional trade measures	Correction of development asymmetries among members (structural convergence); sector agreements
Challenges	Unachieved single market and slow increasing intra-regional trade	Ineffective customs union; high institutionalization led to defections	Highly ineffective customs union; special unharmonized trade regimes and trade relief mechanisms

* Initial steps to eliminate double charging of CET were agreed in mid-2010.
Source: Authors' elaboration based on Tussie et al. 2011.

from establishing institutions to guide the integration process in a particular direction, their individual economic policies toward trade and investment allowed private operators — including emerging regional multinational companies — to structure their businesses regionally. ASEAN members have achieved a high level of regional specialization in particular in sectors such as electronics, where the region has developed a global competitive edge. Efforts toward the integration of services markets and investment have facilitated the movement of high-skilled service suppliers, intra-corporate transferees, and professional and technical staff directly linked to commitments on commercial presence. It has had a more limited impact in easing the movement of natural persons more broadly.

Efforts to reduce disparities across ASEAN members has been structured around programmes tackling factors affecting the overall competitiveness of enterprises and countries such as cross-border infrastructure, ICT, human resource development, internships and staff exchange, etc. rather than derogation to specific regional trade provisions which the region has not developed. Programmes targeting SMEs in particular follow the same approach. Another characteristic of the existing programmes is the involvement of the private sector in policy formulation related to the areas of cooperation and the decentralized approach to implementation through which different members take the lead in the follow-up to programmes with relative success. These are important insights if regional integration is to effectively drive competitiveness in Africa.

The region has also taken steps toward improving physical integration and connectivity through the Greater Mekong Subregion (GMS) programme. The programme has supported 41 investment projects worth USD 11 billion. A key feature of the programme is the development along corridors by linking infrastructure design to production and trade potentials. The Southern Economic corridor, for example, targeted the Phnom Penh-Ho Chi Minh City highway linking Thailand, Cambodia and Viet Nam. Some of the impacts of the projects reported by the Asian Development Bank (ADB) include: 41 percent increase in the value of trade passing the Bavet-Moc Bai border crossing between 2003 and 2006; 53 percent annual increase in the number of people crossing the border; and a reduction of 30 percent in the travel time between Phnom-Penh and Bavet over the same period (ADB 2009). These results reflect important gains to integration and economic activity that are broader than can be derived from investments in infrastructure. At the same time, the impact of large infrastructure projects on local communities and the environment can be significant. Some of the GMS projects triggered controversy in this regard.[27]

CAN is considered one of the most institutionalized regional agreements among developing countries. CAN has grown to a supranational bloc with laws that are pre-eminent over domestic legislation, which effectively curtails unilateral digressions. However the structure did not ensure the effective formation of a customs union and when disagreements proved too strong, members opted out.[28] The weight of formal institutions and legal frameworks seem to have narrowed the space for real consensus building. This has particularly serious consequences for the integration process as the economic orientation of individual members tended

27 See Oxfam Australia Web site at *www.oxfam.au.org*

28 Chile withdrew in 1976, and Venezuela announced its withdrawal in 2006 but the country has yet to complete all necessary withdrawal procedures. Until then, Venezuela and its partners remain bound by the effects of the community's preexisting trade agreements. Also, a mismatch of interests within CAN emerged when Colombia, Ecuador and Peru showed eagerness to initiate negotiations with the United States for a FTA in 2004 without working out an internal consensus with Bolivia and Venezuela. When Ecuador halted its negotiation process in 2008, Venezuela, Ecuador and Bolivia have stuck to the original agreement and Peru and Colombia agreed on individual timetables for gradually reducing and eliminating their tariffs.

to diverge, including the relative priority provided to regional versus global integration. CAN has implemented policies related to the development of the customs union, with an emphasis on monitoring and an increase in transparency in sensitive non-trade areas, SMEs and macroeconomic coordination. In turn, intra-regional trade measures and support to regional sectoral regimes are well developed.

The approach to support the poorest members in the region has mainly focused on derogations from the established common policy frameworks, e.g. the CET or sector-specific policies such as the price band system for agricultural products and the automotive regime. Although these policies did partly achieve CAN's objectives for its poorest members — some degree of agriculture price stability and market integration in the automotive industry — their impact in terms of enhancing the capacities of the poorest countries and their enterprises to stand competition was limited as was the geographical scope of application, which fractured the regional market.

MERCOSUR originated as a series of bilateral protocols for common sectoral industrial policies[29] and macroeconomic coordination between Argentina and Brazil to explicitly protect infant democracies against the risk of military interventions. In the 1990s, the agreement enjoyed a second beginning in the context of democratizing reforms and neoliberal policies.[30] Since 2003 and the full recovery of activity levels in the region, intra-regional trade — driven by manufactures mainly by the automobile sector — has been more dynamic than trade with partners outside the region. Between 2002 and 2008, intra-regional export growth was 143 percent, while non-regional trade grew at 44 percent.[31] While MERCOSUR has not confronted defections from a tight legal framework, it faces a perpetually leaky Common External Tariff (CET), which still includes a broad range of exceptions to sensitive and special products and for smaller countries. Recent estimates suggest that it is effectively applied to only about 35 percent of total trade with third countries.[32]

The region has created a Fund for Structural Convergence to address asymmetries among members. The programme focuses on infrastructure: border integration and communication systems. Although the funds available are too small to seriously close the gaps between countries, the orientation of spending aimed at addressing structural competitiveness factors is positive. Equally valuable is the recent focus on the promotion of regional value chains including support to SMEs, which signals a concern about employment.

Efforts toward physical integration through infrastructure development are being coordinated through the Initiative for the Integration of Regional Infrastructure in South America (IIRSA). IIRSA encompasses 12 South American countries, including the CAN and MERCOSUR members. Through this initiative the South American countries agreed on a common agenda for the development of regional infrastructure. IIRSA was launched in 2000 and has become the platform for infrastructure cooperation in the region beyond subregional specificities. IIRSA takes a comprehensive approach to tackling the infrastructure needs of the participating countries.

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29 A number of sector agreements formed the founding pillar of the bloc. The automotive sector is the backbone of MERCOSUR and helped to induce the rationalization of the business operations in the region, as well as value chain restructuring.

30 Pressed by the United States' announcement of the Initiative for the Americas and joined by Uruguay and Paraguay, Brazil and Argentina formally created MERCOSUR in 1991 with a scheduled reduction in all tariff and non-tariff barriers in four years. A customs union was to be achieved in the same time span, with a view toward adoption of a full-fledged common market with a free flow of all factors of production.

31 Because of the global economic crisis, however, trade contracted sharply in 2009. See IADB 2010.

32 Tussie et al. 2011.

Countries coordinate investment plans, agree on necessary harmonization of regulatory and/or institutional frameworks associated with such investments and discuss financing mechanisms from public and private sources. The IIRSA initiative is informed by guiding principles that include among others, the nurturing of 'Integration and Development corridors'. The initiative aims to provide corridors with adequate infrastructure services on transport, energy and communications to support economic diversification, enhanced productivity and value added for the regional and global markets. The principles also aim at ensuring economic, social and environmental sustainability of the initiative's projects, although environmental groups have raised concerns that the initiative does not adequately factor in the environmental impact of the infrastructure projects promoted (Carciofi 2008). The IIRSA countries identified a portfolio of 31 priority integration projects for the period 2005–2010 that constitutes the shared agenda on infrastructure development for South America. The estimated value of the portfolio is USD 14.023 million.[33] An interesting aspect of IIRSA is its loose institutional set-up; coordination takes place through national entities and existing regional institutions such as the Inter-American Development Bank (BID), the Andean Development Corporation (CAF) and the Financial Fund for the Development of the River Plate Basin (FONPLATA) provide technical and financial support to participating countries. Nevertheless, the initiative has achieved continuity where previous attempts failed and made possible the identification of a common set of priorities for the development of regional infrastructure in the region (Carciofi 2008).

4.1.2   Health

Health-related issues in regional blocs have been on the agenda for some time. In the early 1970s, CAN initiated talks for health cooperation among its members, which resulted in a centralized organization that promotes regional policies and cooperation. Likewise, ASEAN began cooperation on these issues two decades ago when it established the ASEAN Health Ministers meetings following a pattern of consensus building through high political engagement. Given ASEAN members' limited capacity to respond to epidemics, these meetings have enabled the implementation of surveillance programmes that contribute to improving early warning and rapid response assessments for infectious diseases in the region. In MERCOSUR, cooperation in health is more recent, dating to the early 1990s when issues of legislation harmonization and epidemiological surveillance were incorporated in the regional body of protocols. There is no regional entity in charge of promoting health policy approaches but ministerial gatherings promote dialogue to tackle common concerns. Although health services are an acknowledged regional priority, health issues have generally been advanced in an uneven manner. While the bloc's body on health-related products has made important contributions, the expansion of integration policies for health services has been difficult, mainly due to the lack of agreement on the implementation of common health care approaches.

In the area of intellectual property rights (IPRs), CAN is challenged by individual country negotiations in the context of bilateral FTAs that have weakened the bargaining capacity of the bloc. In particular, Peru's FTA with the United States, where TRIPS flexibilities were curtailed and the regional legal framework disregarded, is regarded as TRIPS plus. This FTA undermines the 2001 Doha Declaration on TRIPS and public health with provisions that strip away flexibilities to which countries are entitled under TRIPS, specifically in the areas of data exclusivity, patent extension, compulsory licensing and consumer safeguards. Such provisions affect an important balance between innovation and access by elevating intellectual property at the expense of

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33 For further details on IIRSA's project portfolio and guiding principles, see *www.iirsa.org*

public health, with potential restriction of access to life-saving medicines. MERCOSUR on the other hand, has remained firm in a common strategy toward public health which seeks to maximize TRIPs flexibilities in the context of negotiations with third parties (such as the European Union).

Intra-regional asymmetries are dealt with through regional programmes targeted at increasing social cohesion, and cross-border cooperation for increased access to healthcare and essential medicines. For instance, CAN successfully implemented the Bi-national Health Network Zumba-San Ignacio between Ecuador and Peru, which has not only increased access to healthcare facilities for marginalized populations, but also addressed economic and health infrastructure deficits in the region. In ASEAN, regional support to HIV/AIDS initiatives stand out. With the highest national infection levels in Asia, and high levels of migration within the region,

Table 4.2: Health-related considerations in three regional integration schemes

HEALTH	ASEAN	CAN	MERCOSUR
Integration process	Flexible consensus building through high-level political engagement	Centralized regional organization to promote regional policies and expand cooperation on health issues	Flexible consensus building through high-level political engagement
IPRs	Capacity building to scale up members' capacity on IPRs and access to medicines	Despite common rules for IPRs, FTAs with US prompted TRIPS plus provisions	Strong consensus on use of TRIPS flexibilities to secure access to medicines
Intra-regional asymmetries (access issues)	Regional health programme targeted at vulnerable populations (e.g. HIV/AIDS; elderly) and epidemiological surveillance	Cross-border programmes to expand access to health care and medicines (e.g. PASAFRO, PAMAFRO, Bi-national Health Network Zumba-San Ignacio)	Regional social cohesion programmes (e.g. FOCEM, including water and sanitation in rural communities)
Achievements	Enhanced cooperation on HIV/AIDS	Effective bargaining in the negotiation of prices for essential medicines and generics	Strong consensus on public health and IPR-related linkages and cooperation on access to medicines
Challenges	ARV remain expensive; inadequate coverage of migration population health needs		Weak implementation of agreements; regional health strategies undermined by powerful industry lobbies (e.g. tobacco control)

Source: Authors' elaboration based on Tussie et al. 2011.

ASEAN countries used the regional forum to strengthen national AIDS policies and to remove obstacles in access to HIV/AIDS drugs.[34]

This review underlines the importance regional integration schemes place on health-related concerns. The focus has remained on programmes for cooperation in specific areas rather than ambitions to harmonize health approaches. These experiences also show that a regional approach has allowed member countries to leverage the strength of collective action (e.g. price negotiations for essential medicines in CAN) and resources (e.g. FOCEM in MERCOSUR) to improve access to services for the most disadvantaged segments of society with varying degrees of success.

4.1.3   Education

Education is considered a means toward the insertion of populations into global markets.[35] Increased levels of education, especially among the poorest, reduce social and gender gaps and increase economic returns of labour. Against this backdrop, regional agreements can play a key role in promoting non-trade initiatives as a means to foster human development and, at the same time, economic competitiveness.

From the outset, education was a matter of concern for MERCOSUR members. Initial strategies and provisions for regional education measures were based on the two-pronged goal of consolidating a common identity, history and culture, and designing targeted policies to tackle access, retention and equality in education for the excluded and underprivileged. Over the past decade new concerns about international competitiveness and the role of higher education in adjusting to the increasing challenges posed by globalization became pressing.[36] The Meeting of the Ministers of Education was established early in the integration process, which helped in the harmonization of education policies and curricula. Also, border area schools initiatives resulted, to some extent, in decreased levels of illiteracy between 2000 and 2008 in rural and marginalized areas. Social improvements from the mid-2000s across the region coincided with increases in global commodity prices and economic recovery, allowing governments to rely to some extent on economic growth to increase public spending, with important progress made toward the achievement of the MDGs.

MERCOSUR has taken measures to facilitate the movement of natural persons across the region but within the context of the liberalization of trade in services and investments. In this regard, MERCOSUR instituted a temporary visa that allows the entry and stay of business persons and high-skilled specialists across member countries. Against the background of changing political dynamics in the region with respect to integration, member countries adopted the Agreement of Free Residency (Acuerdo de Libre Residencia), which seeks to develop common regional approaches for the right of establishment of nationals of any member country across the extended regional space.

Like MERCOSUR, CAN has dealt with social issues, including education, since its foundation. Unlike the southern bloc, however, some of these issues were locked in supranational institutions (e.g. the CAN General Secretariat and the Executive Secretariat of the Andres Bello Convention) and conventions with lesser impacts

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34 Tussie et al. 2011.

35 In recognition of this, numerous international commitments have been made in the context of the World Conference on Education for All (Jomtien, 1990), the World Forum on Education for All (Dakar, 2000); the Convention on the Rights of the Child, and the MDGs, among others.

36 See Tussie et al. 2011.

Table 4.3: Education-related considerations in three regional integration schemes

EDUCATION	ASEAN	CAN	MERCOSUR
Integration process	Governmental networks focused on education projects	Nationally binding legal framework; regional entities play strong role	Flexible arrangements; high-level engagement to promote cooperation
Policy harmonization	Originates from non-governmental actors (e.g. ASAIHL) and evolves modeling higher	Increased levels of access and retention in basic and secondary education (e.g. PIDS)	Meeting of the Ministers of Education; curricula including discussion on regional integration
Intra-regional asymmetries (access issues)	Education for All (EFA) adopted by individual members, but enrolment rates remain low, especially among vulnerable populations	Literacy programmes (e.g. PRONAMA) targeted at the poorest framed within PIDS	Border area schools including bilingual programmes (Escuelas de frontera)
Higher education	Modelled after the EU's system (e.g. EHEA, AUN); reinforced labour mobility, employability and competitiveness	Specialized institutions (Andres Bello Convention; Andean University Simon Bolivar); expanded role of university as driving force for integration	MERCOSUR Educativo; governmental and non-governmental cooperation schemes (e.g. FEM, MEXA, IDIE, LAMP); UNASUR's initiatives
Achievements	Strong collaboration on higher education; network encompasses government, institutions of higher education and employers who assist in identifying priority areas	Facilitated movement of university students and enhanced role of universities as contributing force for integration; post-graduate programmes on integration	A system of validation of diplomas and accreditation of courses; common statistical system and database facilitating identification of population that are excluded or underserved
Challenges	Disparities in access and completion rates in primary and secondary education; results affected by lack of inter-governmental coordination	Quality of primary education and disparities across urban-rural areas; impact of economic boom cycles on public expenditures	Lack of supranational institutions affects capacity to implement regional initiatives; impact of economic boom cycles on public expenditures

Source: Authors' elaboration based on Tussie et al. 2011.

on the ground. Like other countries in the region, the positive balance between income revenues and public expenditures was facilitated by the boom in international commodity trade.[37] Regional adult literacy programmes and programmes aimed at expanding access to primary education for children in rural areas have proved particularly essential for reverting inter-generational inequalities and addressing social inclusion issues.

Among the regional integration schemes reviewed here, CAN has the most elaborated framework for the movement of natural persons and labour mobility. The Community adopted the Andean Labour Migration Instrument (ALMI) in 2003, which once fully implemented "will grant the right to enter and reside in another Member State, the right to equal treatment, to form labour unions and to collectively bargain wages. Families of workers are also protected under the ALMI" (Schröeder et al. 2010). Peru has already taken steps for the implementation of the ALMI, on a provisional basis. CAN is also working on a decision that will establish norms and standards to facilitate the recognition of academic degrees and national requirements in addition to professional diplomas (Schröeder et al. 2010), which should in turn facilitate mobility of a larger group of nationals of member states.

Unlike CAN and MERCOSUR, ASEAN's cooperation has focused on education projects oriented toward increasing regional economic competitiveness and strengthening community building. Emphasis is on improving the policy framework and on capacity-building programmes supported by development partners. Although Southeast Asian countries have made some progress in increasing access to basic education, rural-urban inequalities in access, compounded by gender-based gaps, remain a challenge. ASEAN's ministers of labour have instituted an Annual Forum on Migrant Labour, which provides a platform for governments, civil society, employers' associations and workers to discuss labour migration issues. However there are no regional approaches to the facilitation of labour mobility and the movement of natural persons more broadly. The movement of persons across the region is nevertheless significant due to demographics and labour market asymmetries across ASEAN countries (Tullao and Cortez 2006).

The review of these regional integration schemes shows that in addition to primary and secondary education —improvements in which are critical for social inclusion — regional processes have been used as mechanisms to leverage capacities in higher levels of education. Emphasis has been placed on university cooperation; students and researchers exchange programmes, accreditation of courses, etc. These are seen as key in developing regional human resources and technological capabilities to allow countries to better respond to common competitiveness challenges. The experience of MERCOSUR and ASEAN suggests that the effect of programmes will depend on a minimum level of institutionalisation to underpin sustainability and implementation. CAN and MERCOSUR have taken decisive steps toward the development of regional frameworks aimed at facilitating the right of establishment of nationals in the territory of the expanded regional space. This indicates a change in direction toward a more comprehensive approach to the movement of natural persons underpinned by competitiveness concerns and the recognition mobility's contribution to the achievement of wider development objectives.

4.1.4   Environment

Environmental concerns increasingly play a more prominent role in MERCOSUR's integration agenda. This is reflected both in the adoption of regional frameworks addressing environmental considerations and the

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37 ECLAC 2009.

evolution of institutions overseeing their implementation. MERCOSUR adopted an Environmental Framework Agreement in 2001 that sets general guidelines for cooperation among member states in this area. The Framework Agreement reiterates MERCOSUR states' commitment to the Rio Declaration. It aims at facilitating cooperation in the implementation of relevant international agreements but also leaves open the possibility of adopting common approaches to protect and preserve the environment and natural resources.[38] The Agreement also promotes the participation of civil society on environmental issues of regional interest.

Governments have given significant attention to the issue of harmonization of environmental legislation and policies denoting competitiveness concerns within the regional market and beyond. For instance, work is on-going on "environmental non-tariff barriers, sectoral work in areas like illegal logging, work on international standards such as ISO 14000," among others (Cosby 2007). MERCOSUR also adopted a protocol to the Agreement pertaining to cooperation and assistance in case of natural emergencies, which signals increasing regional awareness about the cross-border implications of pollution and ecological damages (Flores and José 2006). In terms of institutions, MERCOSUR governments established a sub-working group on the environment under the Common Market Committee, and regular meetings of environment ministers.

In ASEAN environmental concerns were not at the core of the agenda initially but cooperation has significantly increased over time as the existing framework for integration provides a valuable platform for cooperation and dialogue on environmental concerns of regional interest (Cosby 2007). ASEAN has established regular working groups on three main topics of interest: nature conservation and biodiversity, coastal and marine environments, and multilateral environmental agreements. Regular meetings of environmental ministers provide orientations to the technical groups. The ASEAN Secretariat publishes a report on the state of the environment in the region every three years, outlining the steps taken by ASEAN toward building a sustainable regional space. Considering the relative importance of air pollution in the region, ASEAN has taken a number of steps to enhance regional cooperation in combating haze pollution. A regional agreement on haze pollution was adopted and provides the framework for region-wide actions and programmes in this area. A Haze Technical Task Force was also established to foster cooperation on transboundary haze pollution and oversee implementation of the haze action plan (ASEAN 2009).

CAN has adopted a number of binding regional frameworks related to the protection of biodiversity.[39] Among these, Decision 523 is particularly important as it established the Regional Strategy on Biodiversity, which provided the platform for a more comprehensive approach to sustainability issues within the context of the regional integration project. An Andean Environmental Agenda 2006–2010, centred in three thematic areas—biodiversity, climate change and hydric resources—identifies priority actions, timelines and strategic partners for implementation. The Andean Environmental Agenda aims at strengthening capacities of Andean countries on some horizontal issues such as trade, environment and sustainable development; environmental education; and sustainable production and consumption (Bravo 2007). The adoption of Decision 523 was followed by institutional restructuring leading to the creation of several ad hoc working groups on topics of relevance to the Agenda, as well as enlargement of the CAN Secretariat (Guinand et al. 2009). The bottom-up approach followed for the elaboration of these frameworks, involving civil society organizations, led to the empowerment of these groups, which are now more directly involved in the

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38 See *www.ambiente.gov.ar* for a copy of the Environmental Framework Agreement of MERCOSUR.

39 See for instance, Decision 345 on a Common Framework for the Protection of the Rights of Plant Breeders and Decision 391 on a Common Framework on Access to Genetic Resources.

formulation and implementation of regional environmental programmes such as the Páramo project and the Regional Ecobona programme, both of which focus on the conservation and sustainable management of Andean ecosystems (Guinand et al. 2009).

4.2. Conclusions

The experience of CAN, MERCOSUR and ASEAN show that these schemes have followed different institutional approaches to regional cooperation. CAN and MERCOSUR governments played a significant role in driving the integration process, not only in the first push for integration, but also during times when regional integration stagnated. These agreements contribute to a regional market that has somewhat narrowed the development gap among its members.[40] In ASEAN, the web of bilateral protocols shows an inclination to follow business interests and managed trade, with important levels of market integration and regional specialization achieved.

The three regions' cooperation includes the building of regional infrastructure through important investments of national, private sector and development partner resources, including through technical support. Within the context of infrastructure, the schemes reviewed play considerable attention to the development of corridors linking infrastructure investments to production and trade potential, and the development of regional value chains and competitiveness improvements more broadly. IIRSA's comprehensive approach to infrastructure development involving the physical infrastructure and regulatory frameworks is also worth highlighting.

The three regional schemes also recognize the importance of addressing disparities across countries. CAN and MERCOSUR in particular, have incorporated specific provisions in the design of their integration processes aimed at addressing asymmetries. The Fund for Structural Convergence of MERCOSUR is an important contribution to ensuring a more equitable distribution of benefits from integration.

These schemes have also used regional integration to address health and education issues. Regional integration allows, for example, investing in social cohesion programmes through regional structural funds such as MERCOSUR's FOCEM and leveraging collective strength for more effectively tackling the issue of access to medicines. Cooperation in education shows that in addition to primary and secondary education, regional integration schemes have been used to leverage capacities on higher levels of education. Moreover, both MERCOSUR and CAN have moved from a more narrow approach of facilitating mobility of highly skilled persons to a wider approach aimed at improving human mobility across the region more broadly. This signals increasing awareness at the regional level of the development opportunities offered by human mobility.

These regional schemes have also increasingly used the cooperation platform provided by the regional integration process to tackle common environmental concerns. The Andean Community is particularly noteworthy for recent progress in the adoption of a common environmental agenda that provides an operational framework for cooperation in this area. The adoption of the agenda was followed by institutional and financial adjustments to ensure that capacities are in place for its implementation, including in the CAN Secretariat.

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40 These top-down processes have produced positive consequences on intra-regional trade in both regions. For instance, intra-regional trade s increased by 150 percent in MERCOSUR and the Andean countries at least until the end the1990s (Tussie at al. 2011).

A FRAMEWORK FOR ACTION: THE PATHWAY TO AFRICAN INTEGRATION

Over the years, African countries, RECs and continental institutions such as the AU, the AfDB and UNECA have made significant efforts toward advancing regional integration. The 1991 Abuja Treaty set the objective of establishing the African Economic Community (AEC) by 2027 using the RECs as building blocks. The Accra Declaration adopted by the Assembly of the African Union in 2007 aimed at "accelerating the economic and political integration of the African continent, including the formation of a Union Government for Africa, the ultimate objective of the African Union being to create the United States of Africa" (UNECA 2008).

A lot has been written about regional integration in Africa. The UNECA's series *Assessing Regional Integration in Africa* covers at length the achievements and remaining challenges for African integration (UNECA 2004, 2006, 2008, 2010). The overall picture that emerges is one of important but slow and uneven progress by the different RECs across thematic areas of integration — both in terms of advancing each REC's stated objectives and Africa-wide integration. Intra-African trade remains low when compared to other regions. The scope and depth of cooperation for leveraging regional approaches in other dimensions important for human development such as health, education and the environment leaves significant space for enhancement. This slow progress is attributed to a number of factors and challenges still facing African countries, some of which were discussed in chapter 2. These include "inadequate financial resources, macro-economic instability, poor governance, conflicts and war, the prevalence of HIV and AIDS, and numerous sub-groupings" (UNECA 2010). Results from the modeling exercise show the uneven distribution of benefits, underscoring the difficulties to make progress on the ground. These challenges stretch already limited human resource capacities and become a liability to quickening the pace of integration in some of the RECs.

Our analysis suggests that African integration holds strong potential for enhancing the human development prospects of Africa's population. But the realization of this potential will depend on critical policy choices made by African leaders in the years to come. The following recommendations for African policy makers and regional actors suggest a pathway toward African integration that seeks to maximize human development outcomes. Moreover, global initiatives such as Aid for Trade and the Enhanced Integrated Framework for Trade-Related Assistance for Least Developed Countries can play an important role in support of African regional integration and human development.

First, the benefits of integration for growth and human development will be magnified if accompanied by investments in infrastructure, both national and cross border. These investments allow people and inputs to move to more productive opportunities, and allow finished goods and services to reach broader markets. The need is particularly acute in Africa given the large distances that might be involved between areas of production and markets. Investments are needed not only in transport, but also power, water and communications. These are key considerations for enhancing competitiveness in the region.

Second, differentiated regulatory schemes and trade standards represent a drag on regional economic activity. Much can be gained by harmonizing frameworks and making all economic agents aware of their parameters. This is true for labour markets (and cross-border mobility) as well as markets for goods and services.

Third, regional economic integration allows for a new exploration of *regional* industrial policy. Because of market scale, larger labour pool, and diversified resource and production bases, regional policies that work together with existing comparative advantages — but also look to how these may transform in the future — stand a greater chance of success. This regional industrial policy could encourage skills upgrading for value added in agriculture and other manufacturing opportunities. The experience of ASEAN countries in support of SMEs and building an integrated economic space by unbundling production across countries provides a valuable reference for Africa.

Fourth, the process of economic integration, including among African countries, will give rise to adjustment costs and distributional impacts across countries. African countries need to build strong regional institutions and policies that go beyond the development of regional standards and monitoring. These institutions must also have the instruments and resources necessary to protect the stability of the regional space from internal and external shocks. They must be able to look upward at global challenges and downward to national realities.

Fifth, economic integration will also entail distributional impacts within countries, and not all impacts will be positive. The human development gains of integration can be maximized and sustained with appropriate social policies. Social protection systems can play a key role in helping populations cope not only with shocks but also the risks that more open and competitive markets bring. While applicable to populations as a whole, social protection mechanisms are particularly important for more vulnerable groups, including young people and women.

Sixth, health and education policies play an important role in the context of economic integration by empowering citizens and bolstering productivity. Many countries in Southern Africa have particularly high rates of communicable diseases, which reduce productivity and growth, and ultimately well-being. Enrolment in secondary and tertiary (including vocational) education in Africa is particularly low. Regional integration could allow African countries to pool resources to build the human resources base and technological capacities to allow Africa to sustain growth and remain globally competitive.

Seventh, enhanced regional integration provides a platform for strengthening cooperation on common environmental challenges and preserving the natural resource base on which Africa's development and livelihoods depend on. African regional integration will have a positive impact on the continent's growth and thus lead to increases in GHGs — which will nevertheless remain low level compared to other regions. These results stress the importance of African countries joining efforts, capacities and resources, including those generated by growth resulting from regional integration, into ensuring that growth and development proceed on a sustainable basis. The support of development partners in this regard is also important.

Eighth, the international context will also play a role in the path to African integration. A number of initiatives are underway involving African countries — for instance, EPA negotiations with Europe and the broader WTO Doha Round. The results of these negotiations will have important implications for the future of Africa's trade and investment and the realization or not of the potential of regional integration. Broad-based multilateral negotiations that reduce protection to agriculture will reinforce the positive effects of African integration for human development. The EPA negotiations between Africa regional configurations and the European Union could reinforce efforts toward regional integration in Africa or lead to tensions that compromise the

continental project. International support to assist Africa to bridge the — relatively small — revenue gap arising from the reduction of tariffs on intra-Africa trade would contribute to economic integration and human development.

Finally, further African integration requires strong political will and committed leadership. African leaders need to invest limited capacities and resources in regional integration initiatives that have the greatest potential to improve human development, including those that support Africa-wide integration.

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ANNEX — CHAPTER 1

Annex 1.1   Africa — trade taxes as a proportion of revenue (excluding grants)

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Unweighted Average	**25.3**	**24.2**	**23.5**	**23.5**	**23.9**	**23.2**	**22.3**	**22.5**	**21.1**
Algeria	5.5	7.1	8	7.3	6.2	4.7	3.2	3.6	3.4
Angola	2.7	5	5.6	5.9	5.5	4.4	3.5	3.7	3.2
Benin	47.6	47.4	45.9	46.9	44.4	45.6	49.7	47.8	48.7
Botswana	16.1	15.1	13	11.8	15.1	18.2	19.7	25	26.6
Burkina Faso	17.4	17.2	16.3	14.6	17	17	18.2	17.7	16.9
Burundi	18.5	15.9	15.9	17.6	16.6	18.7	14.1	12.3	13
Cameroon	11	13	12.4	13.2	13.6	12.3	6.9	11.1	10.5
Cape Verde	36.2	36.7	37.3	39.7	21.1	20.2	19.6	19.1	18.7
Central African Republic	18.7	13.9	19.4	19	16.2	20.9	17.4	17.9	18
Chad	27.2	29.8	28.5	25	15.5	14.8	7.4	7.4	5
Comoros	56.8	47	41.2	45.2	60	45.6	38.5	28.2	39.1
Congo DRC	23.7	23.9	28	30.3	33.8	30.7	37	36.5	35.4
Congo	7.2	9.4	8.1	7.2	6.7	3.8	3	3.2	2.4
Cote d'Ivoire	26	26.6	26.3	26.6	26.3	25.4	27.5	26.8	25.7
Djibouti	0	0	0	0	0	0	0	0	0
Egypt	12.6	12.3	9.8	9.6	9.5	7.2	6.5	5.9	6.4
Equatorial Guinea	5.4	2.6	2.2	2.4	1.1	0.6	0.5	0.6	0.2
Ethiopia	26.6	31.7	31.5	32	37.9	36.9	33.7	37.6	39.2
Gabon	17.8	18.6	19.3	19.1	18	15.8	15.2	17.2	13.3
The Gambia	55.6	53.6	49.5	46.5	53.3	46.4	46.1	46.4	20.2
Ghana	16.8	18.4	21.1	18.4	15.4	17.6	21.2	18.1	17.9
Guinea	20.1	17	18.2	19.8	19.4	20.4	18.1	19.1	17.4
Guinea-Bissau	46.7	34.1	20.4	21.4	17.5	20.7	0	24.2	18.5
Kenya	15.5	12.9	9.8	8.8	8.4	7.3	7	7.4	7.3
Lesotho	44.7	49.5	49.2	43.2	47.2	50.8	60.1	53.2	56.8
Liberia	29	25.8	26.8	36.1	37.9	39.9	45.2	42.7	40.5
Libya	19.6	19.4	2.9	2.3	2.6	1.4	1.2	1	0.7
Madagascar	51.8	48	43.4	49.1	45.3	44.5	47.5	48.2	47.1

Source: Database on African Fiscal Performance (OECD and AfDB, 2010)
www.africaneconomicoutlook.org/en/database-on-african-fiscal-performance/; author's calculations from tables 9 (total
revenue excluding grants) and 11 (trade taxes).

Annex 1.1   Africa — trade taxes as a proportion of revenue (excluding grants)

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Malawi	11.1	12	11.6	10.9	11.8	12	11.1	11	11.5
Mali	45.6	46.6	47.5	47	49.8	48.8	42.8	41.2	39.3
Mauritania	10.6	10.1	6.6	7.1	9.4	8.9	9.6	11.3	9.5
Mauritius	28.9	25.7	22.6	22.1	22	20.1	11.6	5.1	3.7
Morocco	17.9	14.7	14.6	12.2	11.9	11.8	9.5	8.1	6.8
Mozambique	17	15.6	15.3	15.1	13.6	13.1	12.2	11.3	9.4
Namibia	33.9	30.8	25.9	29.5	35.7	31.4	36.5	42.9	41.8
Niger	53.2	48.8	51.5	51	47.9	49.7	38.7	32.6	25.5
Nigeria	5.8	8.7	9.8	8.4	6.1	4.7	3.3	5.3	4.4
Rwanda	17	15.8	16.2	18.1	17.4	16.1	14.8	12.3	11.5
Sao Tome and Principe	22.8	20.5	21.5	19.8	47	46.8	44.2	43.8	47.5
Senegal	16.1	17.9	17.1	16.1	15.3	15.8	16.3	16.8	16.6
Seychelles	24.7	24.4	24.4	21.2	18.6	13.2	9.4	12.1	14.3
Sierra Leone	49	50.1	50.5	49.9	46.6	41.4	40	46.9	41.8
South Africa	3.2	3.5	3.3	3.2	2.7	3.5	4.1	4.5	4.4
Sudan	21.3	18.3	16.8	13.5	14.4	13.7	13.1	11.7	7.7
Swaziland	51.9	49.9	56.8	58.8	66.1	64.3	65.6	61.9	51.9
Tanzania	25.1	26.2	24.8	24.1	21.7	20.6	25	26.2	25.6
Togo	44	37.8	43.1	41.2	41.6	45.3	46.2	50	48.7
Tunisia	9.5	9.3	7.9	7.1	6.4	5.5	5	4.7	4.4
Uganda	40.4	36.7	34.7	36	35.9	42	48.1	45.2	41.9
Zambia	39.4	33.1	43.2	41.6	43.4	40.6	38.3	36.9	34.8

Source: Database on African Fiscal Performance (OECD and AfDB, 2010)
www.africaneconomicoutlook.org/en/database-on-african-fiscal-performance/; author's calculations from tables 9 (total revenue excluding grants) and 11 (trade taxes).

Annex 1.2   Least Developed Countries — trade taxes as a proportion of total revenue

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Least Developed Countries: UN classification	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Afghanistan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	11.19	8.46	8.99	n.a.
Benin	n.a.	21.12	22.46	21.32	20.55	21.59	24.45	n.a.	19.57	n.a.
Burkina Faso	n.a.	n.a.	n.a.	n.a.	12.34	10.83	12.70	12.01	12.97	n.a.
Burundi	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Chad	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Central African Republic	n.a.	n.a.	n.a.	n.a.	19.44	n.a.	n.a.	n.a.	n.a.	n.a.
Comoros	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Congo, DRC.	16.40	15.38	27.40	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Equatorial Guinea	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Djibouti	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Eritrea	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ethiopia	n.a.	n.a.	26.64	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Gambia, The	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Guinea	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Guinea-Bissau	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Lesotho	41.38	48.31	44.13	38.98	44.93	49.45	61.09	56.67	56.77	n.a.
Liberia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Madagascar	39.63	36.01	36.05	33.18	26.85	29.14	24.78	34.74	n.a.	n.a.
Malawi	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Mali	11.33	11.04	11.64	10.99	12.14	12.35	3.75	8.40	8.55	n.a.
Mauritania	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Mozambique	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Niger	n.a.	n.a.	n.a.	n.a.	n.a.	29.93	8.79	25.96	n.a.	n.a.
Rwanda	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Sao Tome and Principe	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Senegal	29.55	33.11	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Sierra Leone	29.39	35.48	30.17	30.87	26.96	n.a.	n.a.	n.a.	n.a.	n.a.
Somalia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Sudan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Source: Database on African Fiscal Performance (OECD and AfDB, 2010)
www.africaneconomicoutlook.org/en/database-on-african-fiscal-performance/; author's calculations from tables 9 (total revenue excluding grants) and 11 (trade taxes).

Annex 1.2   Least Developed Countries — trade taxes as a proportion of total revenue

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Togo	n.a.	n.a.	n.a.	n.a.	20.05	21.69	19.17	19.58	21.29	n.a.
Tanzania	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Uganda	21.82	15.10	15.19	15.95	7.55	7.18	8.58	9.14	9.41	n.a.
Zambia	n.a.	13.05	12.37	8.84	8.51	9.36	9.12	8.14	n.a.	n.a.
Bangladesh	n.a.	31.06	29.93	25.13	32.56	32.39	30.92	27.09	26.55	n.a.
Bhutan	0.91	1.10	1.21	1.65	1.48	2.31	1.29	1.02	0.83	0.99
Nepal	23.50	23.73	23.04	21.90	21.89	19.04	18.24	16.35	17.46	14.41
Cambodia	n.a.	n.a.	22.36	25.49	25.50	20.67	21.56	n.a.	n.a.	n.a.
Kiribati	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Lao PDR	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9.30	n.a.	n.a.
Myanmar	4.09	3.88	1.90	1.20	3.68	2.25	n.a.	n.a.	n.a.	n.a.
Samoa	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Solomon Islands	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Timor-Leste	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Tuvalu	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Vanuatu	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Yemen, Rep.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Haiti	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Source: Database on African Fiscal Performance (OECD and AfDB, 2010)
www.africaneconomicoutlook.org/en/database-on-african-fiscal-performance/; author's calculations from tables 9 (total revenue excluding grants) and 11 (trade taxes).

ANNEX — CHAPTER 2

Annex 2.1 Selected cost of doing business indicators, per region

Economy	Year	Ease of Doing Business Rank	Starting a Business				Paying Taxes			
			Rank	Procedures (number)	Time (days)	Cost (% of income per capita)	Rank	Payments (number per year)	Time (hours per year)	Total tax rate (% profit)
Africa	DB 2011	134.76	123.08	8.98	42.57	90.16	115.04	36.24	313.18	66.41
East Asia and Pacific	DB 2011	87.25	94.42	7.79	38.96	27.10	66.67	24.54	218.25	35.44
Eastern Europe and Central Asia	DB 2011	71.72	63.64	6.32	16.28	8.45	102.04	41.68	313.96	41.23
Latin America and the Caribbean	DB 2011	96.31	97.25	9.25	56.72	36.18	110.47	33.22	287.77	48.00
Middle East	DB 2012	89.46	98.08	7.62	20.69	36.45	43.23	19.54	155.23	25.65
South Asia	DB 2013	117.00	77.25	7.13	24.63	24.48	104.88	31.13	282.88	39.89

Economy	Year	Trading Across Borders							Closing a Business	
		Rank	Documents to export (number)	Time to export (days)	Cost to export (USD per container)	Documents to import (number)	Time to import (days)	Cost to import (USD per container)	Rank	Time (years)
Africa	DB 2011	128.12	7.53	30.65	1851.00	8.53	36.20	2343.51	123.47	3.32
East Asia and Pacific	DB 2011	76.29	6.42	22.67	889.75	6.88	24.08	934.67	103.25	2.76
Eastern Europe and Central Asia	DB 2011	95.88	6.36	26.72	1651.68	7.60	28.12	1845.44	87.32	2.89
Latin America and the Caribbean	DB 2011	89.25	6.63	18.03	1228.28	7.13	20.09	1487.94	102.09	3.27
Middle East	DB 2012	87.46	6.54	22.54	1131.62	7.54	26.85	1325.54	98.85	3.64
South Asia	DB 2013	126.38	8.50	32.25	1511.63	9.00	32.50	1744.50	117.88	4.53

Source: Unweighted averages of countries calculated from World Bank Doing Business 2011 available at www.doingbusiness.org/~/media/fpdkm/doing%20business/documents/annual-reports/english/db11-fullreport.pdf

Annex 2.2 Kenya: Youth sector share in employment and impact on youth employment of continental integration, per sector

Sector	Percent accumulated variation 2012–2020*	Youth share in sector's employment	Proportion of the youth employed in the sector
Sugar & bakery & confectionary	0.39	20.64	1.22
Fishing	0.87	82.12	1.17
Forestry	2.03	11.10	0.18
Barley	3.46	38.41**	19.56**
Beef	1.97		
Cut flowers	-0.96		
Fruits	0.00		
Sheep, goat and lamb for slaughter	0.93		
Maize	0.69		
Grain milling	1.19		
Others crops	0.78		
Other livestock	0.86		
Poultry	0.85		
Rice	-0.78		
Roots, tubers, Pulses and Oil seeds	0.45		
Vegetables	-1.30		
Wheat	0.00		
Cotton and other cereals	0.00		
Sugarcane, Coffee and Tea	-3.66	22.40	3.47
Petroleum	-9.65	13.27	0.05
Mining	0.00	19.85	0.46
Dairy	0.93	27.60**	1.44**
Other manufacture food	2.62		
Textiles, clothing, leather, wood and paper	5.09	29.31	2.63
Other manufactures	1.02	20.75	2.24
Administration	0.44	14.91	4.98
Building	2.70	12.78	4.32
Education	-0.11	7.49	3.37
Electricity, water and gas	1.34	6.76	0.27
Financial intermediation	1.21	28.60	1.38
Health	0.39	9.67	0.80
Hotels and restaurants	0.52	36.49	5.12
Other services	0.53	54.26	27.04
Real estate, renting and business services	0.54	19.46	2.09
Wholesale and retail sale, repairs	1.13	35.41	11.32
Transport, storage and communication	0.42	14.32	6.87

*Note: *Simulation scenario: continental integration with tariff and transport cost reductions; ** denotes averages*
Source: Own calculations based on Integrated Household Budget Survey 2005/06, Kenya National Bureau of Statistics, Nairobi.

ANNEX — CHAPTER 3

Annex 3.1   Intra-Africa trade, by region (2004)

	Own – Africa	Other – Africa	Rest of the World	Total
Exports (USD million)				
Central Africa	274	583	26,176	27,033
East Africa	1,980	1,879	26,151	30,009
North Africa	2,387	1,343	96,458	100,188
Southern Africa	8,394	7,162	57,512	73,069
West Africa	3,314	1,819	51,975	57,107
All	16,349	12,786	258,272	287,407
Share of total African exports (%)				
Central Africa	1.7	4.6	10.1	9.4
East Africa	12.1	14.7	10.1	10.4
North Africa	14.6	10.5	37.3	34.9
Southern Africa	51.3	56.0	22.3	25.4
West Africa	20.3	14.2	20.1	19.9
All	100	100	100	100
Share of total regional exports (%)				
Central Africa	1.02	2.16	96.83	100
East Africa	6.60	6.26	87.14	100
North Africa	2.38	1.34	96.28	100
Southern Africa	11.49	9.80	78.71	100
West Africa	5.80	3.19	91.01	100
All	5.69	4.45	89.86	100

Source: Based on GTAP Database.

Annex 3.2   Share of Africa in total exports and imports, by sectors (2004)

	Share of Africa in total exports	Share of Africa in total imports
Agriculture	3.9	20.6
Manufactured food	27.7	20.0
Light manufacture	8.0	7.7
Heavy manufacture	21.8	10.0
Natural resources	13.5	25.9
Services	2.5	2.7
Total	10.1	11.3

Source: Based on GTAP Database.

Annex 3.3   Sector composition of Africa's exports to Africa and to the Rest of the World (2004)

Sector	Africa to Africa exports	Africa-RoW exports	Total	Africa to Africa exports (%)	Africa to RoW exports (%)
Animal products	369	2,702	3,072	12.0	88.0
Beverages and tobacco	691	1,089	1,780	38.8	61.2
Cereal grains	284	120	404	70.3	29.7
Chemicals	4,539	8,545	13,084	34.7	65.3
Coal, oil, gas	2,239	95,778	98,017	2.3	97.7
Electricity	289	862	1,151	25.1	74.9
Plan- based fibers cotton	483	1,911	2,393	20.2	79.8
Footwear and leather	197	1,654	1,851	10.6	89.4
Machinery and equipment	4,818	15,507	20,325	23.7	76.3
Meat and diary	374	633	1,007	37.1	62.9
Raw milk	0	12	12	0.7	99.3
Mining	578	12,831	13,409	4.3	95.7
Metal products and other manufactures	3,501	24,089	27,589	12.7	87.3
Non-metal products	854	1,125	1,979	43.1	56.9
Other crops	586	6,427	7,013	8.3	91.7
Other manufactured food	2,209	7,048	9,257	23.9	76.1
Processed sugar bakery	444	904	1,348	32.9	67.1
Petro and coal products	2,444	6,520	8,964	27.3	72.7
Rice	103	258	361	28.5	71.5
Sugar cane and sugar bee	1	18	19	4.5	95.5
Services	518	23,925	24,444	2.1	97.9
Oil seed	105	418	523	20.1	79.9
Retail and whole sale trade, and transport and communications	398	23,105	23,503	1.7	98.3
Textile and apparel	1,121	13,503	14,624	7.7	92.3
Vegetables, fruits and nuts	323	5,026	5,349	6.0	94.0
Wood and printing	1,608	4,185	5,793	27.8	72.2
Wheat	59	75	135	44.1	55.9

Source: Based on GTAP Database.

Annex 3.4   Africa's tariffs on imports by origin of goods

Sector	From other African countries (a)	From rest of the world (b)	(b) – (a)
Raw milk	0.000	0.000	0.000
Services	0.000	0.000	0.000
Trade retail & wholesale, & transport & communications	0.000	0.000	0.000
Sugar cane and sugar beet	0.011	0.001	-0.010
Coal, oil, gas	0.015	0.010	-0.004
Electricity	0.016	0.000	-0.016
Wheat	0.020	0.000	-0.020
Mining	0.021	0.004	-0.016
Rice	0.024	0.323	0.299
Oil seeds	0.045	0.445	0.400
Machinery & equipment	0.049	0.015	-0.035
Meat dairy	0.052	0.254	0.202
Textiles & apparel	0.055	0.015	-0.041
Animal products	0.057	0.014	-0.043
Plant-based fibers, cotton	0.057	0.018	-0.040
Chemicals	0.059	0.028	-0.031
Non-metal products	0.061	0.034	-0.027
Wood, printing	0.062	0.010	-0.052
Metal products & other manufacturing	0.063	0.024	-0.039
Petrol & coal products	0.064	0.013	-0.051
Footwear & Leather	0.087	0.011	-0.076
Other manufactured food	0.094	0.087	-0.008
Other crops	0.100	0.031	-0.068
Vegetables, fruits & nuts	0.105	0.065	-0.039
Cereal grains	0.114	0.024	-0.090
Beverages & tobacco	0.127	0.134	0.007
Processed sugar bakery	0.135	0.840	0.705

Source: Based on GTAP and MacMap databases

Annex 3.5 Details of country aggregation of GTAP database and MIRAGE Model

GTAP Regions	Country	GTAP Data base aggregation	MIRAGE Model aggregation	LDC	Land locked
North Africa	Egypt	Egypt	Egypt		
	Morocco	Morocco	Morocco		
	Tunisia	Tunisia	Tunisia		
	Algeria	Rest of North Africa	North Africa		
	Libyan Arab Jamahiriya	Rest of North Africa	North Africa		
Western Africa	Nigeria	Nigeria	Nigeria		
	Senegal	Senegal	Senegal	X	
	Benin	Rest of West Africa	West Africa	X	
	Burkina Faso	Rest of West Africa	West Africa	X	X
	Cape Verde	Rest of West Africa	West Africa		
	Cote d'Ivoire	Rest of West Africa	West Africa		
	Gambia	Rest of West Africa	West Africa	X	
	Ghana	Rest of West Africa	West Africa		
	Guinea	Rest of West Africa	West Africa	X	
	Guinea Bissau	Rest of West Africa	West Africa	X	
	Liberia	Rest of West Africa	West Africa	X	
	Mali	Rest of West Africa	West Africa	X	X
	Mauritania	Rest of West Africa	West Africa	X	
	Niger	Rest of West Africa	West Africa	X	X
	Saint Helena	Rest of West Africa	West Africa		
	Sierra Leone	Rest of West Africa	West Africa	X	
	Togo	Rest of West Africa	West Africa	X	
Central Africa	Cameroon	Rest of Central Africa	Central Africa		
	Central African Republic	Rest of Central Africa	Central Africa	X	X
	Chad	Rest of Central Africa	Central Africa	X	X
	Congo	Rest of Central Africa	Central Africa		
	Equatorial Guinea	Rest of Central Africa	Central Africa	X	
	Gabon	Rest of Central Africa	Central Africa		
	Sao Tome and Principe	Rest of Central Africa	Central Africa	X	
	Angola	Angola	Central Africa	X	
	Democratic Republic of Congo	Democratic Republic of Congo	Central Africa	X	

Annex 3.5   Details of country aggregation of GTAP database and MIRAGE Model

GTAP Regions	Country	GTAP Data base aggregation	MIRAGE Model aggregation	LDC	Land locked
Eastern Africa	Ethiopia	Ethiopia	Ethiopia	X	X
	Madagascar	Madagascar	East Africa	X	
	Malawi	Malawi	Malawi	X	X
	Mauritius	Mauritius	Mauritius		
	Mozambique	Mozambique	Mozambique	X	
	Tanzania	Tanzania	Tanzania	X	X
	Uganda	Uganda	Uganda	X	X
	Zambia	Zambia	East Africa	X	X
	Zimbabwe	Zimbabwe	Zimbabwe		X
	Burundi	Rest of East Africa	East Africa	X	X
	Comoros	Rest of East Africa	East Africa	X	
	Djibouti	Rest of East Africa	East Africa	X	
	Eritrea	Rest of East Africa	East Africa	X	
	Kenya	Rest of East Africa	East Africa		
	Mayotte	Rest of East Africa	East Africa		
	Reunion	Rest of East Africa	East Africa		
	Rwanda	Rest of East Africa	East Africa	X	X
	Seychelles	Rest of East Africa	East Africa		
	Somalia	Rest of East Africa	East Africa	X	
	Sudan	Rest of East Africa	East Africa	X	
Southern African	Botswana	Botswana	Botswana		X
	South Africa	South Africa	South Africa		
	Lesotho	Rest of Southern Africa	Southern Africa	X	X
	Namibia	Rest of Southern Africa	Southern Africa		
	Swaziland	Rest of Southern Africa	Southern Africa		X

Annex 3.6   Impact on welfare of reducing tariffs, tariff and transport costs and establishing customs unions

Sector	Tariffs		Tariff & transport costs			Customs union
	Continental	Regional	Continental	Regional	Tripartite	Regional
Central Africa	-0.216	0.012	0.339	0.097	0.119	0.097
East Africa	0.078	0.092	1.200	0.462	1.101	0.265
North Africa	0.125	0.059	0.647	0.397	-0.351	0.976
SACU	0.709	0.000	1.615	0.265	0.521	-0.004
West Africa	0.232	0.346	1.264	1.157	0.019	1.110

Source: Global model results.

Annex 3.7   Impact on welfare of reducing tariffs and transport costs

	Continental	Regional	Doha	EU	US	Brazil	China	India
Central Africa	0.339	0.097	0.167	-0.006	-0.151	-0.058	0.036	-0.014
East Africa	1.200	0.462	0.199	0.419	0.007	-0.029	-0.451	-0.117
North Africa	0.647	0.397	0.302	0.581	-0.099	-0.109	-0.416	-0.067
SACU	1.615	0.265	0.141	1.449	-0.091	-0.058	-0.184	0.226
West Africa	1.264	1.157	0.370	0.428	-0.618	-0.040	-1.146	0.569
Mean	1.013	0.476	0.236	0.574	-0.190	-0.059	-0.432	0.119

Source: Global model results.

Annex 3.8   Poverty impact of integration

Country	Modeling scenarios			Elasticity of poverty	
	All-Africa	Regional	Tripartite	Estimate	Year of estimation
Botswana	-0.945	-1.162	-1.540	-1.263	1993
Egypt*	-0.349	-0.230	0.195	-1.806	1999
Morocco*	-0.908	0.009	-0.018	-2.646	1998
Malawi	-1.545	-0.701	-2.002	-2.501	2004
Nigeria	0.041	0.004	0.021	-0.661	2003
Senegal	-2.120	-1.578	-0.111	-2.709	2001
Tunisia*	-1.886	-1.581	-0.028	-3.361	2000
Tanzania	-0.888	-0.702	-0.592	-1.147	2000
Uganda	-0.434	-0.157	-0.377	-0.403	2002
South Africa*	-0.616	-0.044	-0.134	-0.757	2000
Zimbabwe	-3.822	0.047	-4.072	-0.852	1995

Note: The change in poverty denotes the change in the proportion of poor in the population resulting from the average change in consumption after tariffs and transport cost reductions. The elasticity estimates refer in most cases to the international 1 dollar a day poverty line; in some cases, noted by an *, the estimate is for the USD 2 a day poverty line. For a discussion on the definition of pro-poor growth see Kakwani et al (2004).
Source: Global model results.

Annex 3.9   Employment impact of tariff and tariff plus transport cost reduction, in agriculture and the rest of the economy

	Tariff only		Tariff & transport	
	Agriculture	Rest of the economy	Agriculture	Rest of the economy
Continental	-0.030	0.065	-0.064	0.141
Reg-Afr*	-0.050	0.110	-0.051	0.113
Reg-Afr-CU-Tripartite*	0.063	-0.137	0.307	-0.667
Brazil	-0.001	0.001	-0.001	0.002
China	-0.103	0.227	-0.103	0.227
Doha	0.012	-0.027	-0.005	0.011
India	0.013	-0.029	0.013	-0.029
EU	-0.067	0.143	0.136	-0.302
US	-0.035	0.077	-0.039	0.086

Note: *denotes averages.
Source: Global model results.

Annex 3.10   Change in the composition of output after tariffs and transport cost reductions

	Continental	Brazil	China	India	Doha	EU	US
Animal products	-0.149	-0.115	-0.075	-0.103	-0.080	0.000	-0.100
Beverages & tobacco	-0.003	0.001	-0.007	-0.004	-0.02	0.007	-0.012
Cereal grains	-0.095	-0.091	-0.093	-0.093	-0.088	-0.096	-0.118
Chemicals	0.510	0.283	0.311	0.162	0.213	0.055	0.217
Coal, oil, gas	-0.056	0.104	0.323	0.279	0.088	-0.056	0.097
Electricity	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004
Plant based fibbers cotton	-0.009	-0.003	-0.001	-0.011	-0.004	-0.016	0.006
Footwear & Leather	0.087	0.079	-0.036	0.048	0.059	0.022	0.070
Machinery & equipment	0.269	0.245	0.285	0.089	0.200	0.004	0.210
Meat and dairy	-0.046	-0.104	-0.013	-0.055	-0.008	0.313	-0.049
Raw milk	0.015	0.004	0.010	0.014	0.017	0.015	0.013
Mining	-0.103	-0.042	-0.033	-0.065	-0.050	-0.137	-0.051
Metal products & other manufacturing	0.024	0.019	-0.107	0.035	-0.048	-0.299	-0.025
Non-metal products	0.031	-0.036	-0.066	-0.034	-0.029	-0.050	-0.031
Other crops	-0.243	-0.216	-0.173	-0.136	-0.186	-0.234	-0.161
Other manufactured food	-0.030	-0.089	-0.052	-0.113	-0.095	0.142	-0.116
Processed sugar bakery	0.031	-0.007	0.022	0.084	0.028	0.533	0.024
Petrol & coal products	0.149	-0.003	0.047	0.021	0.006	0.051	0.043
Rice	0.012	0.007	0.019	-0.019	0.006	0.028	0.003
Sugar cane and sugar bee	-0.011	-0.008	-0.006	0.002	-0.008	0.101	-0.007
Services	-0.634	-0.614	-0.605	-0.610	-0.612	-0.629	-0.613
Oil seeds	-0.012	-0.008	-0.002	-0.008	-0.009	-0.006	-0.013
Trade retail & wholesale, & transport & communications	-0.001	0.280	0.243	0.203	0.259	0.123	0.207
Textiles & apparel	0.224	0.293	-0.134	0.144	0.228	0.017	0.380
Vegetables, fruits & nuts	-0.062	-0.0310	-0.013	0.049	-0.010	0.065	-0.044
Wood, printing	0.080	0.105	0.101	0.075	0.091	0.026	0.092
Wheat	0.027	-0.049	0.058	0.047	0.054	0.025	-0.017

Source: Global model results.

Annex 3.11   Change in the returns to factors of production after tariffs and transport cost reductions

	Land-capital	capital - natural resources	high-skilled-capital	low-skilled - capital	low-skilled - high-skilled	low-skilled agriculture - low-skilled rest of the economy
Continental Africa	-0.916	2.198	0.494	0.066	-0.428	-0.094
Brazil	-0.429	0.214	-0.065	-0.174	-0.109	-0.056
China	0.234	0.204	-0.100	-0.205	-0.106	-0.088
India	0.351	0.203	-0.114	0.150	0.264	0.096
Doha	-0.464	-0.049	0.249	0.222	-0.027	-0.005
EU	9.008	2.149	0.589	1.340	0.750	0.507
US	0.156	0.645	0.005	0.064	0.060	0.021

Note: The relative return to factors of production is calculated as the difference between the proportional change in one factor minus the other.
Source: Global model results.

Annex 3.12   Model results on greenhouse gas emissions, per region

Scenario	Gas	Central Africa	Eastern Africa	North Africa	SACU	West Africa	Average across regions
Africa – own	CH₄	0.010	0.582	-0.057	0.163	-0.211	0.097
Continental Africa		-0.139	0.803	-0.015	1.540	-0.373	0.363
Tripartite		-2.003	-0.364	0.060	-0.229	0.057	-0.496
Doha		0.036	0.290	-0.081	0.375	0.413	0.207
European Union		-0.708	-0.769	-0.377	15.726	-1.913	2.392
United States		-0.220	-0.160	-0.120	0.016	-1.103	-0.317
Brazil		-0.171	-0.057	-0.146	-0.152	-0.316	-0.168
China		0.094	-0.100	0.084	0.054	-0.465	-0.067
India		-0.113	0.007	0.000	0.065	-1.191	-0.246
Africa – own	CO₂	0.124	0.451	0.790	0.136	0.447	0.389
Continental Africa		-0.662	2.821	1.768	0.400	0.151	0.896
Tripartite		-1.888	2.643	-1.378	0.312	0.056	-0.051
Doha		-0.105	-0.004	-0.588	-0.148	0.566	-0.056
European Union		-0.783	-0.282	-1.029	0.226	0.095	-0.355
United States		-0.226	-0.085	-0.249	-0.025	-1.016	-0.320
Brazil		-0.102	-0.015	-0.035	0.016	0.759	0.125
China		-0.843	-1.174	-0.617	0.112	-3.288	-1.162
India		-0.151	-0.568	-0.287	0.138	-1.038	-0.381
Africa – own	F-gas	0.247	-0.644	1.597	0.000	2.165	0.673
Continental Africa		-3.337	10.300	2.395	-1.278	8.658	3.348
Tripartite		-7.293	10.515	-4.990	0.067	0.000	-0.340
Doha		-0.742	-0.429	-0.100	-0.235	0.000	-0.301
European Union		-2.225	-1.717	-2.495	-1.076	2.165	-1.070
United States		-0.865	-0.429	-0.998	-0.101	0.000	-0.479
Brazil		0.000	0.429	0.100	0.034	0.000	0.113
China		-3.090	-0.644	-2.395	1.783	0.000	-0.869
India		0.618	-1.502	-0.898	-0.437	-2.597	-0.964
Africa – own	N₂O	0.014	-0.127	-2.732	0.405	-0.551	-0.598
Continental Africa		-0.206	-0.461	-4.363	1.805	-1.099	-0.865
Tripartite		-3.106	-2.173	-1.838	-0.608	0.235	-1.498
Doha		0.234	0.385	0.493	0.387	1.243	0.548
European Union		-1.374	-0.909	-5.805	26.446	-4.244	2.823
United States		-0.330	-0.164	-0.761	-0.055	-2.124	-0.687
Brazil		-0.330	-0.112	-0.773	-0.276	-0.548	-0.408
China		0.220	-0.140	-0.426	-0.129	-2.545	-0.604
India		-0.151	0.057	-0.170	-0.184	-0.818	-0.253

Source: Global model results.

APPENDIX

A. Country model

1. The countries' computable general equilibrium models

In situations where a large number of distortions are present, the theory of international trade is inadequate if used alone. In these cases it is appropriate to use computable general equilibrium models (CGE) tools to assess the consequences of the policies described. Their main advantage is that they offer a coherent framework for analysis based on highly detailed statistics and a fully explored corpus of economic theory.

The model used here is recursive dynamic and is based on the DIVA prototype developed by Bchir et al. (2007) at the United Nations Economic Commission for Africa for the analysis of specific features related to African economies, such as economic diversification and informal labour markets. It assumes imperfect substitution between domestic and foreign goods and constant returns to scale. Prices are endogenous on each market (goods and factors) and equalizes supplies and demands so as to obtain the equilibrium. The equilibrium is general in the sense that it concerns all the markets simultaneously.

Production. Production is modeled using nested Constant Elasticity Supply (CES) functions that describe the substitution and complement relations among the various inputs. Producers are cost-minimizers. In the first place, products break down into two aggregates: intermediate consumption and value added. The value added component is decomposed in two parts: aggregate labour and capital. Labour demand then breaks down into different types according to the level of details available in the corresponding Social Accounting Matrix (SAM). Within each segment, labour is totally mobile and completely employed. Capital factor is disaggregated into capital, land, and other natural resources. Demand for physical capital makes a distinction between 'old capital' and 'new' capital. The model thus integrates the notion of vintage capital in order to distinguish between the process of allocating capital existing at the beginning of the period, or which is already in place, from that resulting from contemporary investment (that is, a production function of putty/semi-putty type). 'New' capital can be allocated more flexibly than already installed or 'old' capital. It substitutes for other types of capital more easily (land, natural resources) than does 'old' capital. Accelerating investment therefore strengthens the capacity for adjustment of the productive sector to match changes in relative prices. Finally, the land aggregate is further disaggregated among various categories of land according data availability.

Distribution of income and absorption. Income from labour (one or more categories) is allocated between the various households using a standardized fixed-coefficient distribution matrix. Income from capital is allocated in the same way between households, government, firms and foreign investors. Companies pay tax on this income to the government and save the remainder. Household demand is derived from a programme for maximizing the utility function (following the ELES system), specific to each household, subject to the constraints of available income and consumer price vector. Household utility is a positive function of consumption of the various products and savings. The calibration of the model determines a per capita subsistence minimum for each product, whose aggregate consumption grows with population,

while the remaining demand is derived through an optimization process. The share of the various products in government demand and investment demand is fixed once the aggregate levels have been defined.

International Trade. The model assumes imperfect substitution among goods originating from different geographical areas. Import demand results from a CES aggregation function of domestic and imported goods (Armington 1969). Export supply is symmetrically modeled as a CET function. Producers decide to allocate their output to domestic or foreign markets responding to relative prices. In the second stage, importers (exporters) choose the optimal choice of demand (supply) across regions, again as a function of the relative imports (exports) prices and the degree of substitution across regions. The small country assumption holds, African economies being unable to change world prices; so, their imports and exports prices are exogenous. Capital transfers are exogenous as well, and determine the trade balance.

Model Closure and Dynamics. The equilibrium condition on the balance of payments is combined with other closure conditions so that the model can be solved for each period. First consider the government budget. Its surplus/deficit is exogenous. Second, investment is savings-driven, the latter originating from households, enterprises, government and abroad. The sequential dynamic path of the model results from this closure rule. A change in savings influences capital accumulation in the following period. Finally, exogenously determined growth rates are assumed for other factors that affect the growth path of the economy, such as population and labour supply and (in the baseline scenario) the total factor productivity. Agents are assumed to be myopic and to base their decisions on static expectations about prices and quantities.

Instruments of economic policy. The model considers a large set of policy instruments: production subsidies (by type of activity), consumption subsidies (by product), value-added taxes (by activity), other indirect taxes (by activity), tariff barriers (by imported product, and according to origin), and direct taxes (by household and enterprises).

Welfare. The chosen yardstick for welfare is the assessment of equivalent variation, which is the sum of two terms. The first one measures the gain (or the loss) of disposable income caused by the policy shock (producers surplus), and the second one measures the income needed after the reform to obtain the same level of utility as before the reform (consumers surplus). See equation in Appendix B on the global/regional model.

Finally, it is important to highlight that the standard structure of the DIVA model has been changed according the additional features included in each of the SAMs built for the five African countries under analysis. This is the case with the Non-Tariffs Barriers on services in Kenya.

2. The national Social Accounting Matrices.

The models have been constructed and calibrated using information contained in the five SAMs for the five African countries for the year 2005, assembled specifically for the purpose. In what fellows we briefly present the main structure of these SAMs while a full listing of their respective accounts is provided in table 1.

The Egyptian model has been constructed and calibrated using information contained in the country's social accounts matrix for 2005, assembled specifically for the purpose. The SAM separates households by rural and urban areas and then by national expenditure quintiles. Therefore, there are 10 different representative households contained in this version of the SAM. In all, 21 economic sectors and six types of work are taken into account, these being distinguished notably by their levels of education and gender: three female and

three male. Of the 21 economic sectors, 12 relate to agriculture. The model takes into account two types of capital: physical capital and land. The model also distinguishes five fiscal instruments, four types of taxes and one category of subsidies. Finally, the model makes a distinction between seven trading partners for Egypt: the European Union, the United States, China, Arab Countries, COMESA (excluding Arab countries), Rest of Africa, and Rest of the World.

The SAM for Senegal considers 15 representative households. These types are distinguished by areas (Dakar area, other urban areas, and rural areas) and by expenditure quintiles. Thus, there are five in Dakar areas, five in other urban areas, and five in rural areas. It distinguishes 45 economic sectors. These sectors include: 16 agricultural subsectors, 17 industrial sectors, and 12 service sectors. The SAM takes into account 11 production factors. There are two labour types, eight categories of land and one physical capital. In fact, land has been broken down into eight categories based on the degree of permanence of its cultivation, the level of irrigation and the crop varieties grown, if these are specific. On the fiscal instruments, four instruments are included individually. Only import duties are further disaggregated among duties receipts on various origins of imports. The SAM makes a distinction between seven trading partners for Senegal: European Union, the United States, China, WAMZ, UEMOA, rest of Africa and Rest of the World.

The Kenyan SAM distinguishes between 36 sectors/commodities. These sectors include: 18 agricultural subsectors, eight industrial sectors, and 10 service sectors. The SAM also distinguishes between various factors of production, including capital, agricultural land, and eight labour types themselves distinguished according to their gender, skills (low versus high skilled) and sector of employment (formal versus informal). The SAM separates households by rural and urban areas and then by expenditure deciles. Therefore, there are 20 different representative households contained in this version of the SAM. The remaining accounts in the SAM refer to transaction costs (on imports, exports and on domestic uses), taxes (sale, direct, and import taxes), and domestic (enterprises and government) and foreign (rest of world) institutions. The rest of the world is itself disaggregated among Kenya's seven partners, namely the United States, European Union, China, East African Community, Rest of COMESSA, Rest of Africa, and Rest of the World.

The SAM on which the model for Mozambique is calibrated has a total of 109 accounts: 41 production activities; 41 commodities; four factors; 17 institutions (10 households, one enterprise, government, and seven trade partners), and 10 other accounts (four for taxes, one for subsidies, three transaction costs, variation of stocks and one for savings-investment).

Finally, the SAM of Congo includes 33 activities and their corresponding 33 commodities. Among the 33 categories of activities and commodities, four are related to agriculture, 18 for industries and 11 for services. It also includes nine institutions (government, household, and **Congo's seven trade partners**), one account for capital and one representative labour. The remaining accounts distinguish four categories of taxes, two categories of subsidies, one trade margins, one transport margins, variation stock, and one account for savings-investment.

3. Alternative scenarios

The scenarios implemented in the country models are designed in a cumulative way as indicated below. All changes are implemented in 2012.

Scenario 1: This scenario removes all tariffs between each of the considered countries and the members of the RECs to which they belong individually. The aim of this simulation is to estimate the net effects on the selected five African countries of eliminating all trade barriers (tariffs on goods and services) on their respective imports from the RECs to which they belong. However, tariffs on imports from rest of the world, including other African countries that are not members of the REC, remain unchanged. In addition to the tariff removal, this scenario decreases the prices of imports from RECs by five percent and increases the prices of all exports to RECs by five percent. The aim of these changes in prices is to simulate the reductions in the cost of trade that would follow from investment in infrastructure.

Scenario 2: This scenario is identical to scenario 1 except for assuming an increase in the price of exports to RECs of 10 percent. The rationale behind this increase is to take into account the potential benefits that partner countries might offer in exchange for the removal of tariffs.

Scenario 3: This scenario assumes an extension of tariff removal to all imports from all Africa. Accordingly, each country among the five concerned removes its tariffs on its imports originated from Africa, including countries not members in the RECs to which they belong respectively. However, tariffs on imports from the rest of the world are maintained unchanged. Following scenario 1, it is also assumed that import prices from all African countries fall by 5 percent and export prices to all African countries increase by 5 percent.

Scenario 4: This scenario is identical to scenario 3 except for assuming that export prices to REC members increase by 15 percent and exports prices to all non-REC African countries increase by 15 percent. The rationale for assuming a larger increase in export prices to non-REC members rests on the fact that countries face higher trade costs when exporting to countries other than their RECs.

Scenario 5: In this scenario, African countries are assumed to conclude FTAs with the rest of the world in addition to boosting African integration. This scenario assumes that each of the considered countries individually implements FTAs with the main economic players in the continent, which are the United States, the European Union and China. Tariffs on the rest of their imports remain unchanged. Import prices from all countries with whom an FTA is concluded decrease by 5 percent; export prices increase 10 percent when sold in RECs; 15 percent in any other African country, and 5 percent when shipped to the EU, US or China.

B. Global/regional model

This study uses the global general equilibrium model, MIRAGE. This model was used to evaluate the impact of alternative scenarios of regional integration both inside Africa and with its most important partners, mainly the United States, China and the European Union. The sections below describe the main features of this model, the databases used for its calibration and the tested simulations.

1. The Global CGE model (MIRAGE)

The MIRAGE model is built to assess the impact of globalization on individual countries and regions around the world. The model is a relatively standard model of economic activity. It is based on the latest release of the GTAP data set, version 7.0. The model is designed for analysing dynamic scenarios. The scenarios are solved as a sequence of static equilibrium, with the periods being linked by dynamic variables — population and

labour growth, capital accumulation, and productivity. Policy scenarios are compared to a baseline scenario. In what fellows, we present briefly the main features of the MIRAGE version used in this study.

Demand side. For each region or country, demand is modelled through a representative agent, whose utility function is intra-temporal, with a fixed share of the regional income allocated to savings. The rest of the available income is used to purchase final consumption. Below a first-tier Cobb-Douglas function, consumption trade-off across sectors is represented through a LES-CES function. Each sectoral sub-utility function is a nesting of CES functions, comparable to the standard nested Armington–Dixit-Stiglitz function (see e.g. Harrison et al., 1997), with two exceptions. First, domestic products are assumed to benefit from a specific status within consumers, making them less substitutable to foreign products. Second, products originating from developing countries and developed countries are assumed to belong to different quality ranges.

Production side. Production is made through the uses of five factors: capital, labour (high- and low-skilled), land and natural resources. While the first three factors are generic, the last two are specific. The production function assumes perfect complementarity between value-added and intermediate consumption. The sectoral composition of the intermediate consumption aggregate stems from a CES function. For each sector, the nesting is the same as for final consumption, which means that the sector bundle has the same structure for final and intermediate consumptions. The structure of value added is intended to take into account the well-known skill-capital relative complementarity. These two factors are thus bundled separately, with a lower elasticity of substitution (0.6), while a higher substitutability (1.1) is assumed between this bundle and other factors. Constant returns to scale and perfect competition are assumed to hold in agricultural sectors. The capital good is the same whatever the use sector, and capital is assumed to be perfectly mobile across sectors within each region or country. Natural resources are also perfectly immobile and may not be accumulated. Both types of labour (high- and low-skilled), as well as land, are assumed to be perfectly mobile across sectors. Production factors are assumed to be fully employed. All production factors are immobile internationally.

Poverty module. CGE models represent a useful tool for poverty and incomes distribution analysis. Studies on poverty are often criticized for the choice of poverty or disparity indexes. In general equilibrium framework, we do not try to measure poverty indicators but rather the effects of economic reforms or external shocks on the changes of these indicators. Indeed, simulations are based on well-established estimations of poverty indicators (both poverty measures and growth elasticity of poverty measures) in order to connect simulations of economic policies to the poverty measures. In this version and to have comparative analysis for the considered panel of African countries, we opted for the approach of growth elasticity for poverty reduction, which links the changes in the poverty measure (P0, P1, and P20) to the changes in mean consumption. Estimates of elasticity are taken from Chemingui and Bchir (2008). Using these estimates, the model generates the new levels of poverty measures from 2004 until 2020 both for the baseline and the alternative scenarios.

Pollution module. The data on carbon dioxide and non-carbon emissions is extracted from an extended version of the GTAP 7 database. It provides information on pollution coefficients by region, commodity, and type of use. Accordingly, the model uses the same methodology developed by McDougal and Golub (2007). This approach consists of accounting the volume of non-CO_2 emissions associated with input use, the non-CO_2 emissions associated with output by industry, the emissions associated with input use by households, and the GHG emissions from burning energy by sector.

Dynamics. In a typical recursive dynamic framework, the time path of the model is solved as a sequence of static equilibrium in each year. In other words, the solution in any given year is not a function of forward looking variables, though it may be an explicit function of past variables, which are known and therefore exogenous. Despite the limitations of recursive dynamic framework, particularly in the modeling of saving and investment behavior, it has at least one key advantage in its relative simplicity to set up and solve (van der Mensbrugghe, 1998).

Welfare measure. The chosen yardstick for welfare is the assessment of compensatory variation proposed by Sadoulet and de Janvry (1995). The impact of alternative scenario on welfare includes two main parts. If E is the monetary equivalent of the utility function, and y available income, then measurement is as follows for period t:

$$(y^* - y) - (E(p^*, u) - E(p, u))$$

where u is utility, p the price system, and the star exponent the reform. The first term, $y^* - y$, measures the gain (or the loss) of revenue caused by the reform. The second term measures the revenue needed after the reform to obtain the same level of utility as before the reform

Macroeconomic closure rules. The first closure assumes that the current accounts are exogenous for all countries and regions and equal to their initial values in real terms, while real exchange rates are endogenous and adjust to achieve the predetermined real current account deficits or surpluses. The second closure rule is related to government expenditure. The difference between public revenue and public consumption for a given region or country is supposed to be fixed and to increase over time at the same rate as the world GDP. This assumption implies that the government has to adjust its revenue or his consumption each year in order to reach the predetermined exogenous public deficit or surplus. We assume that the lump sum taxes/subsides that governments punctuate from household revenue adjusts to match the predetermined level of government account.

Finally and compared with the standard version of MIRAGE, the version used here has two main additional features. The first is the separation between the government and household account while the second is the specific modelling of domestic support in agricultural activities. The first additional feature is a key determinant to analyse the impact of a given integration scenario on poverty. (See Bchir and Chemingui 2008 for a detailed presentation of the modified version of MIRAGE, 2008).

2. Databases

To calibrate MIRAGE and perform alternative trade simulations, two main databases are used. The GTAP database version 7 and the MacMap database version 2. The GTAP database is a global database that contains complete bilateral trade information, transport and protection linkages among 112 regions for all 57 GTAP commodities for a single year (2004 for the latest release of GTAP). The GTAP database is used to calibrate the MIRAGE model and perform simulations. In this respect, two steps are followed. In the first step, an aggregation of the database (regions, commodities and endowments) to the desired level is performed. In the second step, this specific and modified database is used to calibrate the MIRAGE model and to estimate the impact of alternative trade scenarios.

Table 1   Regional dimension of the model

Region Code	GTAP Region
MAR	Morocco
EGY	Egypt
TUN	Tunisia
XNF	Rest of North Africa
NGA	Nigeria
SEN	Senegal
XWA	Rest of West Africa
XCF	Central Africa
ETH	Ethiopia
MOZ	Mozambique
MUS	Mauritius
MWI	Malawi
TZA	Tanzania
UGA	Uganda
ZWE	Zimbabwe
XEA	Rest of Eastern Africa
ZAF	South Africa
BWA	Botswana
XSC	Rest of South African Customs Union
USA	USA
BRA	Brazil
R_AM	Rest of America
EU27	UE 27
R_EU	Rest of Europe
JPN	Japan
CHN	China
IND	India
R_ASI	Rest of Asia

The MacMAP database is a four-dimensional database on market access (importing country, product, exporting country, and instrument of protection). It is a well-adapted tool to estimate preferences and their potential erosion as it includes all preferential schemes and regional agreements among all the countries considered individually. The base year of the second release for the MacMap database is 2004 and the commodity coverage includes 5111 products (Harmonized System at the 6 digit level, HS6). It includes ad valorem duties, specific duties, compound duties, TROs and anti-dumping duties. It measures market access to 163 countries by 208 partners. Given that multilateral negotiations for global trade liberalization are based on reduction of bound duties, the assessment of the impact of a potential Doha Development Agenda (DDA) agreement on preferences must take into account the interplay between bound, Most Favoured Nation (MFN)-applied and preferential duties. However, for regional integration schemes, countries opt most frequently for the full removal of trade barriers and again MacMap provides a detailed picture on all kinds of protection. The MacMap database has been used in this study for the estimation of tariff reduction schemes by aggregate sectors as defined in the GTAP database, which forms the core dataset for the calibration of the MIRAGE model.

3. The selected model's dimensions (sectors, countries and time)

The model has three dimensions: regions and countries (r), sectors (s) and time (t). For the regional details of mode, the selected level of disaggregation takes into account the objectives of this study itself in terms of including all African countries and regions individually, the other main trade partners of Africa, and the main economic players in the world. Table 1 displays the regional dimension of the model used in this study.

The sectoral dimension of the model focuses on trade in goods given the lack of data to integrate special scenarios of trade liberalization in services. Table 2 presents the sectoral details of the model. The individually selected sectors appear in the second column while the third column provides the corresponding sectors in the GTAP database. The first column presents the aggregate sector to which the specific sectors included in the model belong.

Finally, regarding time dimension, the model is solved annually for the period 2004 to 2020.

Table 2 Sectoral dimension of the model

	Sectors included individually in the model	The original GTAP Sector
Agriculture	Rice	Paddy rice; Processed rice
	Wheat	Wheat
	Cereal grains nec	Cereal grains nec
	Vegetables, fruit and nuts	Vegetables, fruit, nuts
	Oil seeds	Oil seeds
	Sugar	Sugar cane. sugar beet
	Animal products, forestry and fishing	Cattle, sheep, goats, horses; Animal products nec; Wool, silk-worm cocoons; Forestry; and Fishing.
	Raw milk	Raw milk
	Cotton	Plant-based fibers
	Crops nec	Crops nec
Manufacture	Coal, Oil and Gas	Coal; Oil; Gas
	Minerals nec	Minerals nec
	Meat and dairy products	Meat: cattle, sheep, goats, horse; Meat products nec; Dairy products
	Other manufacture food	Vegetable oils and fats; Food products nec
	Sugar	Sugar
	Textiles	Textiles
	Wearing apparel	Wearing apparel
	Beverages and tobacco products	Beverages and tobacco products
	Leather products	Leather products
	Wood products; Paper products and publishing	Wood products; Paper products; Publishing
	Petroleum and coal products	Petroleum, coal products
	Chemical, rubber and plastic products	Chemical, rubber, plastic prods
	Mineral products nec	Mineral products nec
	Other manufacture	Ferrous metals; Metals nec; Metal products; Manufactures nec
	Machinery	Motor vehicles and parts; Transport equipment nec; Electronic equipment; Machinery and equipment nec
Services	Electricity; Gas manufacture. Distribution	Electricity; Gas manufacture. distribution
	Transport	Trade; Transport nec; Sea transport; Air transport
	Other services	Water; Construction; Communication; Financial services nec; Insurance; Business services nec; Recreation and other services Pub Admin/Defense/Health/Educat. Dwellings;

4. The baseline scenario

The impacts of the alternative trade scenarios represent the changes compared to the baseline scenario. The baseline simulation is intended to present a most likely path of development for the African economies over the simulation period 2004–2020 in the absence of the potential regional integration scenarios as well as the trade agreements that may be signed by the continent with other partners. The construction of the baseline is intended to capture the influence not only of underlying demographic and economic factors, but also of key policy measures and reforms on the African development paths, mainly the tariff liberalization entailed in the trade agreements already negotiated which have either been fully implemented or are in the process of implementation.

Accordingly several assumptions have been made to define what seems to be the plausible development of the African economies up to 2020. This exercise in simulation must not however be seen as an exercise in forecasting, for which general equilibrium models are not the best tools. The definition of a benchmark using major exogenous hypotheses is intended merely to define a baseline scenario to which alternative policy scenarios can then be compared in order to isolate the specific impact of the latter. The fact that the value of the exogenous variables are set on a priori basis, within a realistic confidence interval, does not however have any major consequences. When the impact of alternative trade policies is assessed, it can be seen that these choices affect very little either amplitude or sign of the variations in the different aggregates relative to the baseline scenario.

The reference scenario is built using data from the World Development Indicators for the period 2004–2009 and World Bank Forecast for the period 2010–2020. The World Bank Global Forecast provides the yearly growth rates of the population, skilled and unskilled labour supplies and economic growth for the countries and regions individually included in the model for the period 2010–2020. In the reference scenario, the global productivity factor is considered as an endogenous variable where the economic growth rate is supposed to be exogenous. Once the model is runs on itself (calibration) it replicates the trends as initially projected by the World Bank. In addition, and given that applied tariffs in the GTAP7 are extracted from the Mac Map database 2, it implies that tariff reductions implemented before 2004 across countries and regions are assumed to be already active and explain in part the economic achievements observed in the base year for each country and region.

5. Alternative scenarios

Four sets of alternative scenarios have been tested using the MIRAGE model. The first set assumes that African subregions are involved in various integration schemes in the form of implementation of free trade agreements. The first scheme is limited to the countries inside each subregion where tariffs on intra trade are removed while protection on imports from the rest of Africa and the rest of the world is unchanged. The second scheme assumes the implementation of an Africa-wide Free Trade Area where all African member countries and subregions are assumed to remove all tariffs on their bilateral imports from all Africa (intra-African trade). Once again, protection on African imports from the rest of the world (ROW) is unchanged. In the third scheme, African countries will implement individually FTAs with their main trade partners, namely China, European Union, United States, Brazil and India. The implementation of these FTAs supposes that both African countries and their partners removed all kind of protection on their bilateral trade.

Instead of limiting integration to the removal of protection on bilateral trade according the scope of the agreement, the second set of scenarios added an improvement in the infrastructure linked directly to trade operations. In terms of modeling, this was implemented through a reduction of transport costs on international trade between each couple of countries or subregions. Practically, we assumed a reduction of 5 percent of the cost of transports on African bilateral trade with the major partners outside the continent and involved in the FTAs schemes with them. For the scenarios of regional integration inside each subregion, tariff reductions are implemented in combination with a downward adjustment of transport costs on bilateral trade to their lowest level observed in the subregion at the commodity level. In other terms, we are assuming that African countries will improve their infrastructure and reduce technical barriers to trade at the best level achieved by the most performing member country. The third set of scenarios assumed that African subregion will implement custom union on imports from rest of the world while trade among member countries is totally liberalized. These scenarios are implemented with the assumption of a reduction of technical barriers to trade through lower transport costs as explained above. The custom-union schemes are implemented at the regional level through a downward adjustment of tariffs applied by member countries to their lowest levels by commodity observed in the lower protecting country. The adoption of this approach is motivated by two mains reasons. First, on a political level, it is almost impossible that member countries align their tariffs to the highest observed in the region due to international commitments either under the WTO or other bilateral agreements. Second, and given the high tariff dispersion among countries, adjusting tariffs to the highest level means introducing an important shock to the economy that may not generate a solution. Finally, two scenarios of Doha are tested, with and without reduction in transport costs on African bilateral trade both intra- and extra-trade.

Given the regional structure of the model, 30 scenarios are tested that are the following:

- Eleven scenarios related to FTAs among African countries: Africa-wide FTA, North African FTA, East African FTA, Central African FTA, SACU FTA, West African FTA, African FTA with India, African FTA with China, African FTA with Brazil, African FTA with European Union and African FTA with United States.

- Eleven scenarios related to FTAs among African countries augmented by the reduction in transport costs.

- Five scenarios of Custom-Union among countries of African regions: North African CU, Central African CU, West African CU, East Africa CU, and SACU. All of these scenarios are augmented with reduction of transport costs on bilateral trade.

- Two scenarios of Doha agreement: with and without reduction of transport costs and based on the latest proposals discussed in July 2008.

To assess the impact of a potential agreement under the Doha Round, an assessment of the latest proposals considered in the Doha negotiations during the meeting of July 2008 in Geneva has been undertaken. These proposals (the 'July package') cover both agricultural and non-agricultural products. They introduce some flexibility to allow developing countries and LDCs to better profit from this round of negotiation given its development objective (see the WTO revised draft modalities for Agriculture [TN/AG/W/4/Rev.3] and non-agriculture market access [TN/MA/W/103/Rev.2] of 10 July 2008 for details on Doha potential scenario).

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