Ministry of Foreign Affairs

IOB Study

Autonomy, partnership and beyond

A counterfactual analysis of policy coherence for Ghana

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Preface

For several decades, donors have been supporting the economic and social development of low-income countries and emerging economies with various activities and interventions in different sectors, while using a large number of instruments. However, the policies of these same donors in areas such as trade, finance, agriculture, migration and energy are likely to have an important impact on recipient countries. This raises the question of policy coherence. Development programmes will achieve better results if donors' trade policies are aligned with the objectives of these programmes. Coherent policies involve opening up markets for the exports of goods and services from developing countries, for example, while at the same time helping these countries to boost their export supply capacity. Trade-distorting subsidies and tariffs, on the other hand, may undermine economic development in recipient countries.

In the 1990s growing awareness of the cost of incoherent policies and the benefits of more coherent policies led, international development organisations in EU and OECD countries to introduce the concept of Policy Coherence for Development (PCD). The OECD defines PCD as 'working to ensure that the objectives and results of a government's development policies are not undermined by other policies of that government which impact on developing countries, and that these other policies support development objectives, where feasible'. Both the EU and OECD have developed guidelines and have started to examine the overall coherence of its members' policies in agriculture, trade, investment and migration in terms of these policies' development impact in developing countries.

Policy Coherence for Development has also become an important topic in the Dutch policy debate. In the policy note entitled *'A World to Gain: A New Agenda for Aid, Trade and Investment' (TK 2012-2013, 33 625, no. 1),* the Dutch Minister for Foreign Trade and Development Cooperation devoted a great deal of attention to coherence issues, seeking to synergise trade and development policy. The document sets out three key ambitions: to eradicate extreme poverty within a generation; to promote sustainable and inclusive growth across the globe; and to help Dutch companies doing business successfully abroad. In a number of countries, including Ghana, the Netherlands is transitioning from an aid to a trade relationship.

The minister also acknowledges that there are risks. While the Netherlands aims to improve access to markets in lower and middle-income countries, these countries may not be able to cope with international competition. There are also other important issues, such as tariffs and non-tariff restrictions, especially for agricultural products, on exports to the Netherlands and Europe; suspicious fiscal practices to avoid taxes; and the sustainable use of national resources. In 2013 the minister presented the results of an assessment of PCD policies to parliament (TK 2013-2014, 33 625, no. 41).

While PCD is not a new area of focus, it is apparently still difficult to assess the coherency of policies in practice. Several policy studies on PCD focus mainly on the supply side, e.g. the

procedures for dovetailing foreign aid and other policies within a consistent framework (or put differently, a consistency between the various efforts). Far less attention has been devoted to the likely effects of different donor policies on the realisation of development goals in the recipient country, however.

Within this context, IOB has invited the Centre for World Food Studies at VU University Amsterdam (SOW-VU) and a team of researchers from the University of Ghana to develop a methodology for assessing coherence options for Dutch and European aid. Ghana was selected as a pilot. Ghana and the Netherlands have maintained trade relations for more than 300 years. Moreover, Ghana has been and still is one of the major partner countries for Dutch Development Cooperation. These aid relations are changing very fast, as the country shows favourable growth rates and has become a lower middle-income country.

SOW-VU researchers Dr Lia van Wesenbeeck, Wim van Veen and Bart van den Boom and Ghanaian researchers Prof. Amoah Baah-Nuakoh, Dr Kwadwo Tutu and Prof. Daniel Sarpong developed an approach for analysing scenario options for policy coherence at county level. In close collaboration with IOB evaluator Antonie de Kemp, the team constructed several counterfactual scenarios, combining quantitative data with qualitative insights within a modelling approach. This enabled them to analyse the options for of different donor policies (such as on trade, tax policies and migration) and reactions by the Government of Ghana in a single framework.

In December 2013, the team presented and discussed the draft findings in a seminar in Accra. The seminar was hosted by the University of Ghana and the audience consisted of Ghanaian policy makers, members of parliament, representatives of civil society and development partners. A special word of thanks goes to the chair and the panel of speakers. Vice-chancellor Prof. Ernest Aryeetey chaired the meeting. Prof. Kwadwo Asenso-Okyere, Prof. Augustin Fosu and Prof. Michiel Keyzer provided comments and suggestions for the finalisation of the report. In May 2014, IOB and the team were shocked to hear of the unexpected death of Prof. Asenso-Okyere on a field mission outside of Ghana. Prof. Asenso-Okyere supported this study and brought the team together. We will remember him with gratitude.

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List of abbreviations

ABFA	Annual Budget Funding Amount
ACP	African, Caribbean and Pacific Group of States
AfDB	African Development Bank
AGE	Applied General Equilibrium
ASWG	Agricultural Sector Working Group
BICK	Brazil, India, China and South Korea
BoG	Bank of Ghana
CAADP	Comprehensive Africa Agriculture Development Programme
CAP	Common Agricultural Policy
CGE	Computable General Equilibrium
COCOBOD	Ghana Cocoa Board
CSIR	Council for Scientific and Industrial Research
DAC	OECD Development Assistance Committee
DFR	Department of Feeder Roads
DGGF	Dutch Good Growth Fund
DHS	Demographic and Health Surveys
DNB	Central Bank of the Netherlands
EBA	Everything But Arms
ECOWAS	Economic Community of West African States
EC	European Commission
EPA	Economic Partnership Agreement
EU	European Union
EUR	Euro
FASDEP	Food and Agricultural Sector Development Policy
FDI	Foreign Direct Investment
FLEGT	European Union Forest Law Enforcement, Governance and Trade
G-JAS	Ghana Joint Assistance Strategy
GATT	General Agreement on Trade and Tariffs
GDP	Gross Domestic Product
GHF	Ghana Heritage Fund
GoG	Government of Ghana
GFPs	Ghana Petroleum Funds
GLSS	Ghana Living Standards Survey
GPRS	Ghana Poverty Reduction Strategy
GSF	Ghana Stabilisation Fund
GSGDA	Ghana Shared Growth and Development Agenda
GSFP	Ghana School Feeding Programme
GSP	Generalised System of Preferences
GSS	Ghana Statistical Service
HIPC	Heavily Indebted Poor Countries
IEA	Institute of Economic Affairs
IMF	International Monetary Fund

IOB	Policy and Operations Evaluation Department of the Ministry of Foreign Affairs of the Netherlands *(Inspectie Ontwikkelingssamenwerking en Beleidsevaluatie)*
ISSER	Institute of Statistical, Social and Economic Research
LDC	Least Developed Country
MDBS	Multi-Donor Budget Support
MDG	Millennium Development Goals
MFN	Most Favoured Nation
MICS	Multiple Indicator Cluster Survey
MLGRD	Ministry of Local Government and Rural Development
MoFA	Ministry of Food and Agriculture
MoFEP	Ministry of Finance and Economic Planning
MoTI	Ministry of Trade and Industry
NARS	National Agricultural Research System
NDC	National Democratic Congress
NDPC	National Development Planning Commission
NEPAD	New Partnership for Africa's Development
NGO	Non-Governmental Organisation
NL	The Netherlands
NPP	New Patriotic Party
NREG	Natural Resource and Environmental Governance
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
ORET	Development-Related Export Transactions
ORIO	The Facility for Infrastructure Development
PAMSCAD	Programme of Actions to Mitigate the Social Costs of Adjustment
PCD	Policy Coherence for Development
PRMA	Petroleum Revenue Management Act
PSI	Private Sector Investment
SAM	Social Accounting Matrix
SAP	Structural Adjustment Programme
SNV	Netherlands Development Agency
SOW-VU	Centre for World Food Studies of VU University Amsterdam
SPE	Special Purpose Entity
SWAp	Sector-Wide Approach
SWM	Social Welfare Model
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
USD	US dollar
VPA	Voluntary Partnership Agreement
WTO	World Trade Organization

List of abbreviations
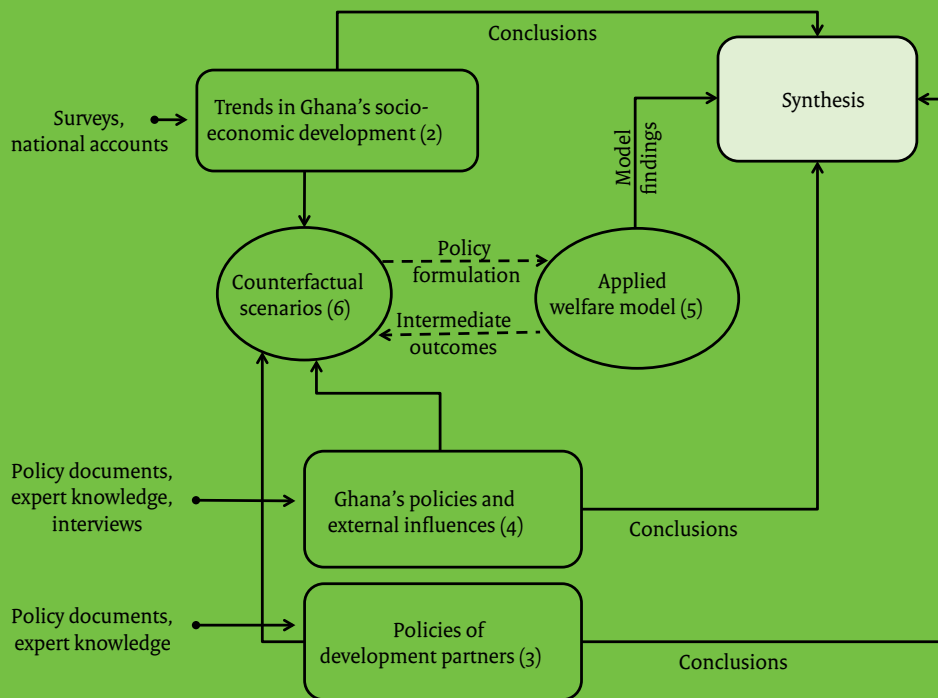
Summary and synthesis

Introduction

Over the past decades, awareness has increased among OECD countries that non-aid policies might conflict with aid policies. This realisation has led to a call for better coordination across different policy fields, including trade, migration, tax and environment, which has become known as Policy Coherence for Development (PCD). In addition, it is well known that, from a viewpoint of economic efficiency in recipient countries, coordination (coherence) between donors decreases the cost of receiving aid – the reception of yet another delegation from yet another country drains public resources that could have been spent more productively.

This study looks back at Ghana's development in the period 2006-2011. Ghana experienced high growth and significant changes in its external environment during those years. Hence, it may be presumed that Ghana's agency has increased over the past decade, though the question to what degree Ghana's development is still influenced by the agendas and policies of its development partners is still open. The purpose of this study is to determine to what extent donor policy incoherence presents a challenge to the country. More specifically, this report assesses the impact of selected aid and non-aid policies pursued by the Netherlands and the EU that were related to Ghana during that period.

The study uses counterfactual analysis to arrive at its results, against the background of Ghana's policies in a changing international policy landscape. Each counterfactual reflects specific policy changes by the Netherlands/EU, which are translated into adjustments to driving forces, taking into account also how the Ghanaian government would have reacted to the foreign policy changes. An Applied Welfare Model is used to check the consistency of the counterfactual scenarios and to calculate the impact on Ghana. It must be emphasized that the study is retrospective, restricting itself to the dynamics of development in Ghana over the relatively short period 2006-2011. A more prospective assessment of all longer term impacts of, for instance, the Economic Partnership Agreement (EPA) or the realignment of the Common Agricultural Policy (CAP) is outside the scope of the current study. Moreover, impacts refer to estimated model impacts in comparison with the base scenario and not to actually measured impacts.

Conclusions

Taking into account the limitations of the applied approach, the results give rise to four main conclusions.

1. Aid policies pursued by the Netherlands have been coherent with Ghana's development objectives.
A first conclusion is that aid provided to Ghana by the Netherlands in the period 2006-2011 as budget support, and in particular aid earmarked for investments in health and education, has had a significant and positive effect on the economy, as illustrated by the negative effects that the cancellation of aid would have had on growth and poverty reduction. This result indicates that Ghana still depends largely on foreign aid to finance investments in human capital.

2. *Negative effects of incoherence between aid and non-aid policies are generally limited.*

The second conclusion is that – with the exception of the EU migration policy – the potential negative effects of incoherence between aid and non-aid policies or between donor policies and development objectives are quite limited, at least in quantitative terms.

In some cases, the impact can even be contrary to commonly held expectations. In particular, EU import restrictions did not have major negative impacts on Ghana in the period under consideration. This result is attributable to the fact that Ghana enjoyed tariff-free access to the EU in the period under consideration and that the country is a net importer of wheat and rice. Another example of the divergence between common perceptions of policy incoherence and the conclusions of this study is provided by the analysis of the effects of the tax treaty between the Netherlands and Ghana. The impact on tax revenue has been limited, and the negative impact could be offset if the treaty generated some additional foreign direct investment (FDI).

Restricting the immigration of unskilled labour into the EU had a major negative impact on Ghana in terms of migration. The effect was more complex for the migration of skilled labour, which takes place via an EU Blue Card work permit arrangement, as increased remittances have to be balanced with the cost of human capital that is lost when highly skilled workers leave the country. The counterfactual simulations show that the effect of the brain drain on Ghana's economy has been significant and generally outweighs the remittances sent home by these skilled migrants. Hence, Dutch and EU's migration policies are incoherent with development objectives for Ghana. Skilled labourers decide whether or not to migrate themselves, however, regardless of whether the EU is willing to open its gates to unskilled labour. So there is little room for manoeuvre for Ghana. All it can really do is attempt to engage its diaspora more effectively to promote Ghanaian interests abroad.

3. *Development partners' non-aid policies have limited bearing on Ghana's challenges.*

The third main message from the counterfactual analysis is that although incoherence does not seem to be a major issue in quantitative terms, development partners' non-aid policies only have limited bearing on the challenges that Ghana is currently facing. The policies, therefore, are incoherent in the sense of the second aspect in the OECD definition of PCD, viz. 'working to ensure that (...) these other policies support development objectives, where feasible' (OECD, 2009).

The most important conclusion about the impact of the Voluntary Partnership Agreement (VPA) on sustainable forestry is that it focuses too narrowly on the certification of wood and neglects important conditions for the sustainable development of the forest areas themselves. The agreement does not address the rights of the landowners or the cost of afforestation.

A priori ideas are usually difficult to formulate for trade agreements such as the EPA, because the effects can vary significantly among different segments of the population. Indeed, discussions on the exact formulation of the EPA's conditions may obscure the fact that EPAs may not benefit countries such as Ghana. The analysis shows that neither the full adoption

nor the total rejection of its ultimate conditions would have had any particular benefit to the average Ghanaian. Indeed, both strategies would have led to even higher poverty in the poorest regions. A different option is therefore desirable, in which the EU requires only a minimum number of WTO-compatible concessions and simultaneously accepts more exceptions, a longer period for convergence and also addresses Ghana's hesitation to conclude a bilateral trade agreement outside of the regional context of the Economic Community of West African States (ECOWAS). Such exceptions would allow Ghana to address challenges related to the development of the agricultural sector, including agro-processing, and to enhance the productivity of its population so that it is better prepared to compete internationally. Not allowing these exceptions could have a negative effect on rural areas, as it would further increase the development gap between the northern and southern parts of the country. The regional EPA between the EU and the West African region as a whole that is currently under negotiation may be a step in the right direction. It is not yet clear, however, what the exact conditions are and therefore to what extent the agreement will actually allow Ghana to pursue its own agenda in developing external relations.

Discussions regarding the bilateral tax treaty have focused on the negative impact on tax revenues versus the potentially positive effect on foreign investments. The issue for Ghana, however, is not so much to attract sufficient FDI, but more to ensure that it reaps enough benefits in the form of retained profits and employment. And with the underlying fundamental concern that aid is dwindling, Ghana needs to encourage its citizens to save more to safeguard ownership of the country's future economic growth.

4.   *Agency of Ghana has increased, but needs further strengthening.*
The importance of development partners for the Ghanaian economy is clear from the actual disbursement of funds. Foreign aid represented a substantial part of the government's budget, with a share of more than 25% on average, during the period 2006-2011, corresponding to around 5% of GDP (excluding the exceptional debt relief under the HIPC initiative of more than USD 4 billion in 2006). Nonetheless, the relative importance of aid is declining compared to other sources of financial flows into the economy: export earnings, overseas remittances, foreign direct investment and loans (commercial rather than concessional) provided by emerging economies – especially Brazil, India, China and South Korea.

Changing internal and external circumstances will certainly alter the relation between Ghana and its traditional development partners. In fact, the transition is well underway already. The influence of traditional development partners on policy making and development will diminish. At the same time, the move towards trade liberalisation and external commercial loans and projects involves the risk of foreign ownership and indebtedness rising beyond sustainable levels, up to a point where it could compromise economic growth. Hence 'traditional' relations with development partners may continue to serve as a safety net, even in the medium run, but overall these relations will need to be redefined.

Implications for PCD for Ghana in the short and longer run

The third conclusion signals that in terms of being *relevant* for the country, a better alignment with Ghana's challenges should be a particularly important element on future PCD agendas. Continued dialogue is needed to achieve this, as well as small-scale meetings with relevant stakeholders, scientists and policy makers (as the interaction during this study's seminar at the University of Ghana in December 2013 has shown).

In the longer run, enhancing Ghana's agency is key, but it is remains to be seen how the transition towards full agency of Ghana should be managed. Capacity building is clearly an important element: not only will it empower Ghanaian policy makers in their negotiations with foreign investors, but it will also to make it easier to carefully weigh all the details of the investment projects.

From past to future: Autonomy, partnership and beyond

Tomorrow's world will be even more globalised than today's. Many low-income countries will gradually become regional or global players in the future, changing the international economy. Clearly there are opportunities for a small country such as Ghana, but it will have to overcome major challenges if it is to maintain an upward trend in growth and prosperity.

First of all, Ghana needs to ensure that growth is sustainable and inclusive. Although policy makers in Ghana can look back on a decade of significant progress in achieving the MDGs, particularly in reducing child mortality and malnutrition, other indicators of well-being – such as access to safe drinking water and improved sanitary facilities – show only modest improvement, especially in the northern parts of the country, where human capital formation remains a major challenge. High GDP growth, which has enabled Ghana to graduate to a lower middle-income country, seems in contrast with the picture of modestly improved living standards. Indeed, this growth is partly attributable to the fact that a large share of the economic growth has been the result of an expansion of non-traditional sectors, fuelled by foreign investment. A deeper analysis of the reasons why domestic private sector development in Ghana still seems to lack momentum – despite a long period of peace and stability – is beyond the scope of this study. The many explanations offered – low savings, poor infrastructure and low-quality education – only seem to raise further questions about what is prioritised on the policy agenda and why domestic public resources are only generated and managed to such a limited extent.

Secondly, OECD and developing countries alike are adjusting to the new opportunities of the increasing globalization. Particularly small countries such as Ghana and the Netherlands benefit from strong ties with other nations, to provide mutual support, to reduce barriers for cooperation and to join forces in international negotiations and platforms. Ghana and the Netherlands enjoy long-standing, close relations through trade, official development cooperation, non-governmental development projects and the presence of a substantial Ghanaian community in the Netherlands. Given these well-established contacts, there are

clear opportunities for developing a partnership between the two nations based on the mutual recognition of autonomy that would benefit both parties. Maintaining such a partnership during a period of fast transition, on the domestic scene as well as internationally, requires stability and investments from both sides.

Beyond autonomy and partnership, the question remains how countries like Ghana will be able and be enabled to follow their own sustainable path of development under fair international conditions. In an increasingly globalised world this calls for agreement on common rules of the game, founded on generally shared values. In this respect, the return of the emphasis on bilateral and regional trade agreements seems to go in a different direction. Similar prioritizing of national interests is also obstructing the negotiations on global environmental policies whereas proper management of common resources would require a global rather than a local view.

1

Introduction

1.1 Background and aim

Development cooperation is all about providing support to developing countries to help them reach greater socio-economic and social equity. Indeed, donor countries see themselves as partners in development, with traditional aid being only part of the story.[1] The world economy is becoming more and more globalised, with newly emerging powers and high growth in many developing countries. As a result, the international policy landscape is changing rapidly, and non-aid policies are gaining importance.

One question concerning non-aid policies is whether African farmers can compete on European markets as long as EU agricultural protection is still in place in Europe. By the same token, whereas Economic Partnership Agreements encourage African countries to liberalise their markets, export capacities remain low, and liberalisation comes at the risk of cheap imports that may discourage local production (Cronjé, 2013; Osagie, 2014). Similarly, EU migration policies affect the income opportunities of Africans, whose overseas remittances have become one of the main sources of finance for development (Ratha *et al.*, 2008). Indeed, the impact of the brain drain of skilled labour may well counteract the efforts of aid to promote human capital formation (Hoba and Marfouk, 2011).

In recent decades, donors have developed a greater understanding of the impact of non-aid policies in developing countries (King *et al.*, 2012, p. 15; O'Cleirigh, 2102, p. 4). In the 1990s, aware of the cost of incoherent policies and the benefits of more coherent policies, international development organisations in EU and OECD countries began to introduce the concept of Policy Coherence for Development (PCD). PCD covers a wide range of issues, including aid and trade but also migration, taxes and the environment. It is defined as 'working to ensure that the objectives and results of a government's development policies are not undermined by other policies of that same government which impact on developing countries, and that these other policies support development objectives, where feasible' (OECD, 2009).[2]

In spite of the attention given to PCD, little is known about the extent to which EU and NL policies actually are either coherent or incoherent or the impact this may have in developing countries. PCD appears to be a very broad concept, and ongoing efforts to make it more operational have not been very successful yet (King *et al.*, 2012). Though research exists both at the sectoral level and the global level, quantitative analysis of the impact of PCD on individual countries is scanty.

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[1] The terms 'development partners' and 'donors' are used interchangeably in this report. They refer to developed countries that support developing countries through aid, concessional loans and technical assistance. These terms are not entirely value-free, however: partnership suggests equal footing, while de facto development cooperation still connotes a donor-recipient relation.

[2] Since 1992, EU treaties have had a formal PCD obligation in the sense that the EU 'shall take account of the objectives of development cooperation in the policies that it implements which are likely to affect developing countries'. Of these development objectives, the treaty defines the primary objective ty as 'the reduction and, in the long term, the eradication of poverty'.

This study addresses this issue by way of an example, and argues that an assessment of the extent to which donor policies have been coherent or incoherent can only be done in the context of the impact these policies have had on a specific country, during a specific period of time and in a specific policy landscape. Ghana is taken as a pilot case. The study focuses on the impact that recent NL-EU policies actually had in achieving development objectives there; what the scope was for policy changes; and asks what the impact would have been if different policies had been implemented. Based on conclusions drawn from these analyses, the report suggests a future direction for policies.

1.2   The case of Ghana

For Sub-Saharan Africa as a whole, the involvement of emerging economic powers like China and Brazil and the increasing demand for natural resources opens new perspectives. A large part of the world's scarce natural resources are located on this continent and there is a great interest to invest, not only for mineral resources, but also for food security and biofuels demand outside Africa.

Ghana is an example of a country with a favourable outlook. The discovery of oil in 2006 started to generate substantial income from 2011 onwards, while the country's export performance in gold and cocoa has exceeded all expectations. At the same time, and partly as a result of the good prospects, foreign direct investment has increased substantially. In view of the changing policy landscape and increased foreign investment, cooperation with traditional development partners such as the Netherlands is only one of various options for Ghanaian policy makers nowadays. Therefore, an assessment of the benefits of development cooperation between the two countries seems a timely exercise in this new setting. This is especially relevant because the Netherlands is aiming to change its partnership with Ghana from an aid-oriented to a trade-oriented one in response to the country's recent move out of the poorest income bracket and into the group of lower middle-income countries.

This transition may come with a certain risk, especially in view of the need to strengthen Ghana's capacity to govern its economy and compete on world markets. As a result, it is imperative that a number of issues are prioritised in this study, such as tariff and non-tariff barriers on exports to the Netherlands and Europe, suspicious fiscal practices to avoid taxation and the sustainable use of national resources. At the same time, Ghana's increasing reliance on foreign direct investment, with the associated foreign ownership of capital goods and resources, involves a long-term risk of exploitation and, hence, loss of economic autonomy. Furthermore, with economic growth concentrated in a few sectors, there is a potential risk that only a small part of the population will benefit and that growth will have only a limited effect on poverty reduction.

1.3   Approach

This study aims to assess the coherence of Dutch aid and non-aid policies for Ghana in the period 2006-2011. Because these policies – many of which are in relevant policy areas such as trade and migration – are based on European regulations, EU-wide PCD issues are taken on board as well.

In assessing PCD, this study has two main objectives. First, it aims to provide new systematic insights on the impact of NL-EU policies on key development indicators in Ghana. Specifically, the study addresses the implications of distinct NL-EU policy instruments, including aid and non-aid policies, such as the EU Economic Partnership Agreement, the EU Common Agricultural Policy, the bilateral tax treaty between Ghana and the Netherlands, EU migration policies and the Voluntary Partnership Agreement between the EU and Ghana.

Second, as a pilot study, the aim is to explore the potential application of a methodological framework of (unobserved) counterfactual analysis in future efforts so that PCD can be assessed in other contexts and other periods of time. This second aim is prompted by the above-mentioned shortage of empirical studies that address PCD issues. To a large extent, this shortage is attributable to the fact that methods for evaluating statistical impact are difficult to apply in the context of PCD. Neither the common before-after observational approaches nor the increasingly popular with-without quasi-experimental techniques are apposite to this inquiry. These evaluation techniques have been developed to assess the impact of specific well-defined interventions that apply to specific well-defined population groups without spill-over to the non-intervention groups (Angrist *et al.*, 2002; Banerjee and Duflo, 2009).

These kinds of conditions are essentially met for local interventions, such as ones that provide drinking water supplies or cooking stoves (IOB, 2011, 2013a). But the conditions are more problematic in the context of PCD impacting at the national level. A complexity of interactions take place in an economy, and factors other than these PCD policies may cause the observed developments. It is therefore practically impossible to attribute socio-economic developments in a country to a specific donor policy by only using statistical impact evaluation methods (Elbers *et al.*, 2009).

The applicability and validity of statistical approaches in evaluation practices has been extensively debated in recent years. This study follows recent literature that calls for methodological pluralism (for example, Ravallion, 2009 and Barrett and Carter, 2010). It blends quantitative methods with qualitative assessments and also uses structural modelling approaches, as advocated by Heckman (2010). Specifically, the study reviews socio-economic developments in Ghana during the period 2006-2011, designs and calibrates a structural economic simulation model of the Ghanaian economy for that period, and constructs counterfactual scenarios that assess whether better outcomes in the key development areas could have been achieved if different choices had been made by policy makers.

Conceptually, the approach is characterised by three elements: (1) identification of *agents* and their level of autonomy in opting for different policies, (2) the formulation of *credible* alternative choices by the agents, and (3) the integration of qualitative and quantitative information into a *consistent* economy-wide framework that simulates socio-economic changes under alternative choices.

Given the focus of this study, it is clear that the EU and the Netherlands are agents. But in view of the above-mentioned global and national developments and the changing policy landscape, the agency of Ghanaian policy makers must also be acknowledged.

One major challenge is formulating *credible* counterfactual scenarios in the sense that at specific points in time there has been a window of opportunity during which agents could have made a different decision than the one that they actually chose to make. Past choices are immutable, and a study of credible counterfactuals requires an understanding of the exogenous drivers that agents face, their objectives and the relative strengths and interests of the other players in the field. In fact, the rapidly changing social and economic conditions in Ghana were behind the decision to conduct this study as a joint effort between three teams: one team consisting of Ghanaian researchers affiliated with the University of Ghana; one team comprising staff from the Centre for World Food Studies at the VU University Amsterdam (SOW-VU); and one team made up of staff from the Policy and Operations Evaluation Department (IOB). The joint analysis of counterfactual situations by the three teams has led to the formulation of the counterfactual scenarios presented in this study.

The credibility of counterfactual outcomes depends on the perceived room for manoeuvre of past policy actions, but it also requires *consistent* outcomes. Implied changes in production and consumption patterns must be aligned with one other, as well as with the balance of payments and the government budget. To a certain extent, some consistency could be achieved by tracing the effect of a policy through causal chains in the economy. However, given the complexity of the many linkages and indirect economy-wide effects involved in PCD issues, absolute consistency is beyond reach in a causal chain approach that focuses on single pathways and direct effects. Hence, this study employs a nation-wide empirical simulation, based on the general equilibrium and social welfare theory, known for its capacity to incorporate inter-sectoral and inter-group linkages and economy-wide indirect effects (Ginsburgh and Keyzer, 2002).

It should be noted that the teams' assessment of the credibility of model simulations provides an additional check in the process of formulating 'what-if' counterfactuals. The importance of such an additional check differs from scenario to scenario and, as can be seen in the relevant parts of the report, in some cases this leads to an adjustment of earlier assumptions. These checks and balances, plus the accurate reproduction of the factual socio-economic developments in Ghana from 2006 to 2011, makes the model a credible tool to study counterfactuals.

Income growth at the national level and poverty reduction by region are the quantitative yardsticks for the evaluation of PCD in this study. Equally important, the study includes a qualitative account of how policy making has proceeded in the recent period, both in Ghana and in the Netherlands and the EU. From the Ghanaian side, part of this policy assessment rests on interviews that were held with 26 Ghanaian policy makers and other stakeholders.[3] The blending of information and expert knowledge on the policy landscape provides the background for the formulation of credible and consistent counterfactuals. Impacts refer to estimated model impacts in comparison with the base scenario and not to actually measured impacts.

Finally, it may be observed that the counterfactual approach is a retrospective one and that the current study is restricted to policies and dynamics of development in Ghana over the relatively short period 2006-2011. A more prospective assessment of all longer term impacts of PCD issues is outside the scope of this study. Nevertheless, the formulation of consistent scenarios and credible policies for future developments can be done in a similar way, by analogy with the elements of the counterfactual approach pursued here.

1.4 Outline of the report

To clarify the approach, Figure 1.1 schematically summarises the different elements of the study and their interaction. By and large, the structure of the report follows this logic. Each chapter will focus on a particular component.

Chapter 2 describes the development of Ghana in the years 2006-2011 in terms of economic growth and progress in poverty reduction and other development areas, such as health, education, child mortality and malnutrition. This chapter uses information from national accounts and from various surveys.

Chapter 3 sketches NL-EU policies as part of the international policy landscape. The chapter focuses especially on the aid and non-aid policies pursued in the period 2006-2011. It also devotes attention to the changes that occurred as a result of these policies in the ensuing period, including the revision of the Dutch development policies for Ghana, the gradual shift away from aid and the focus on a trade-oriented relationship.

Chapter 4 discusses Ghana's domestic policies. The influence of external and domestic developments on Ghanaian policy making is discussed and put into historical perspective. The chapter concludes by summarising the main development challenges for Ghana. Chapter 5 presents the empirical modelling tool that was used to simulate the development of Ghana in the period 2006-2011 under a set of consistent and credible assumptions. The tool identifies the main factors that drive the economy, as well as how some of these drivers are affected by NL-EU policies, either directly or indirectly. The modelling framework is

[3]   The full list of interviewees can be found in annex I.

shown to reflect actual developments accurately, and therefore provides a stepping stone for the simulation of counterfactuals.

Chapter 6 presents the counterfactual analysis, giving due attention to the room for manoeuvre for policy making and the impact of policies on economic forces. In terms of the scheme, the chapter includes the empirical loop running to and from the applied welfare model (dotted lines).

Annex I provides a list of persons interviewed, while annex II contains the technical details of the applied welfare model and the regional income distributions used for poverty assessment.

Figure 1.1   *Schematic representation of the study*

Introduction

Surveys, national accounts → Trends in Ghana's socio-economic development (2)

Conclusions

Synthesis

Model findings

Counterfactual scenarios (6)

Policy formulation →

Intermediate outcomes ←

Applied welfare model (5)

Policy documents, expert knowledge, interviews → Ghana's policies and external influences (4)

Conclusions

Policy documents, expert knowledge → Policies of development partners (3)

Conclusions

2

Trends in Ghana's socio economic development, 2006-2011

2.1   Introduction

This chapter provides some background on Ghana's socio-economic development. The emphasis lies on the five-year period 2006-2011. The chapter considers four areas: (1) population growth and composition, (2) size and composition of the economy, (3) external stability, and (4) internal development.

2.2   Population

In the period 2006-2011, Ghana's population increased from 21.9 to 24.8 million people. with the urban population growing from 10.3 to 12.5 million people as a result of continued rural-urban migration (GSS, 2012). Ghana has a young population, with almost 50% under the age of 20. The country seems to be undergoing a demographic transition: the total fertility rate decreased by 18% from an average number of 4 children per woman in 2000 to 3.3 children in 2010.

2.3   Economy

GDP growth

In the period 2006-2011, the Ghanaian economy showed substantial growth of 8.3%, which corresponds to an average income growth of 5.8% per capita per year (GSS, 2013)[4]. As Table 2.1 shows, the growth was mainly driven by industry.

Table 2.1	Economic growth in Ghana, 2006-2011 (million cedi, 2006 purchasing prices)				
	2006	**2011**	**Annual growth (%)**	**Share in GDP 2006 (%)**	**Share in GDP 2011 (%)**
Agriculture	5,415	6,508	3.7	28.9	23.3
Industry	3,704	7,158	14.1	19.8	25.7
Services	8,691	12,812	8.1	46.5	45.9
Net indirect taxes	895	1,415	9.6	4.8	5.1
GDP	18,705	27,893	8.3	100.0	100.0

Source: GSS (2013).

[4]   Note, however, that GDP figures may be biased because of the unknown size of the informal sector and also because the GDP deflator is prone to measurement error. The growth elasticity of poverty tends to be much lower when using a deflator based on household surveys rather than (urban) market prices (Sandefur, 2013). For this reason, this report uses growth figures from the 2006-2011 national accounts, and applies them to income distribution by region and sets off the outcomes against other well-being indicators.

Agriculture

As table 2.1 shows, the share of agriculture in GDP, which had already declined from over 50% in the early 1980s (World Bank, 2014a) to 29% in 2006 (GSS, 2013), decreased even further to 24% in 2011. Yet the sector remains very important in terms of employment because it accounts for about 42% of the labour force (GSS, 2012).

In terms of GDP derived from agriculture, cocoa has gained importance (figure 2.1). The average annual value of Ghanaian cocoa production rose by 19.4% due to the sharp increase in world market prices for cocoa (prices rose 260% in the period 2006-2011) as well as an increase in production itself, from 740,000 MT in 2005-2006 to 1,024,000 MT in 2010-2011 (GCB, 2013). Sustaining cocoa production in the medium to long term presents a challenge, however, because low yields, the limited availability of inputs and credit, and ageing cocoa trees have made cocoa farming less attractive to the youth. As a result of the latter, the population of cocoa growers is ageing. Their average age is now over 50 years (Osei, 2012).

Figure 2.1   *Composition of agricultural GDP, 2006 and 2011 (percentages)*
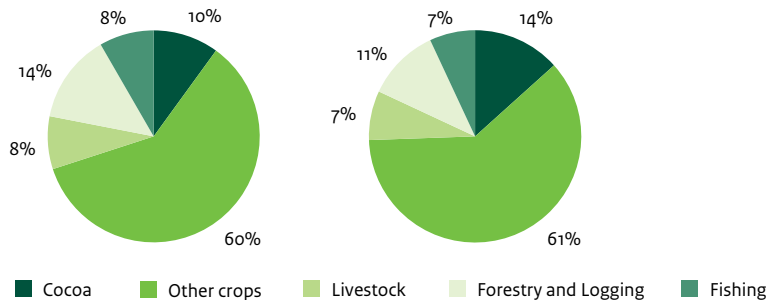
Source: GSS (2013).

The share of staple crops in total agricultural production has declined. Nevertheless, the Ministry of Food and Agriculture's food balance sheet for 2011-2012 generally indicates food self-sufficiency for cereals, starchy staples and legumes, though it also concludes that Ghana can only supply about 30%-40% of its domestic rice demand (MoFA, 2011).

The value of livestock output has declined as well, not only as a share of total agricultural production, but also in absolute terms, decreasing from USD 0.47 to USD 0.28 billion (current) in just five years. This decline has occurred during a time when the import of meat and edible offal of poultry almost doubled, reaching 150,000 MT in 2012, the largest suppliers being the United States, Brazil and the EU.

Forestry's share in total agricultural production declined as well, but still the value of production increased 30% over the period as a whole. Ghana has approximately 2.6 million hectares of forest reserves dedicated to production, about 500,000 hectares of unreserved forests and an additional 2 million hectares of crop land that also produces timber. Revenue from timber exports in 2008 (EUR 187 million) makes the forest sector the fourth largest

contributor to GDP. The other side of the coin is that Ghana's forest cover has been depleting rapidly (EU, 2009). Obviously, this represents a serious challenge to the sustainable development of the forestry sector.

Industry

The growth of the industrial sector was driven by gold mining. The price of gold increased from USD 607 an ounce in 2006 to USD 1,550 in 2011. In addition, the discovery of the Jubilee oil field in 2006, and its subsequent exploitation, had a significant impact on the structure of the economy. In 2011 – the first year that crude oil was produced – the sector contributed 3.4% to GDP.

The share of agro-processing in total industrial GDP fell sharply, from 30% to 8% (figure 2.2). This decline reflects growth in the other sectors – in addition to mining and oil extraction, also construction – but also an absolute decrease in its own production value, from USD 1.2 billion in 2006 to USD 0.8 billion in 2011. This indicates that little progress has been made in developing agro-processing chains. With the exception of cocoa, food processing experienced a dramatic decline (contracting an average of 20% annually).

Figure 2.2   *Composition of industrial GDP, 2006 and 2011 (percentages)*

2006: 13%, 28%, 10%, 19%, 30%

2011: 26%, 35%, 7%, 8%, 19%, 5%

■ Crude oil   ■ Mining   ■ Agro-processing   ■ Other industry   ■ Utilities   ■ Construction
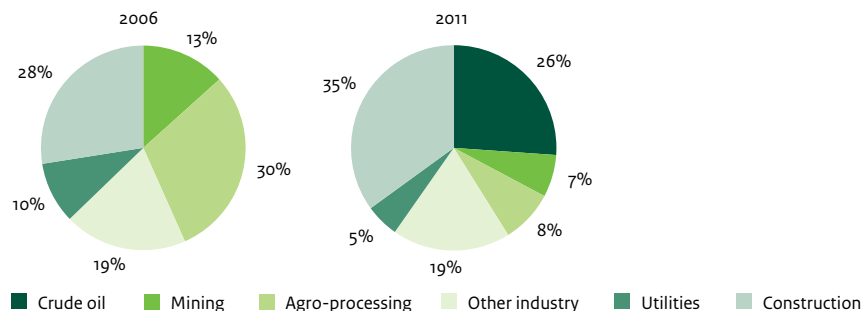
Source: GSS (2013).

Services

The share of services in total GDP remained more or less stable. Within the service sector, public administration significantly expanded its share (from 10% to 14%).

Figure 2.3   *Composition of services GDP, 2006 and 2011 (percentages)*

- Hotel and catering
- Education
- Trade, transport
- Health
- Business services
- Community services
- Public administration
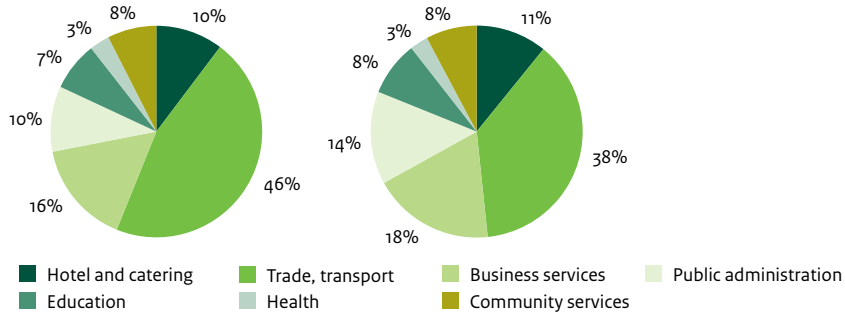
Source: GSS (2013).

2.4   External sector

Export and import

The value of Ghana's *exports* increased fivefold over the period 2006-2011, mainly driven by gold and, since 2011, oil exports. In addition to revenue generated by the mining sector, the sale of cocoa beans also contributed significantly to export earnings. These figures imply a strong dependence on world market prices (see figure 2.4). In addition, there is a danger that mining remains an enclave economy. For instance, in 2009 only about 22% of the earnings from gold was injected into the economy, while 95% of cocoa earnings trickled down to Ghanaian parties (Tutu, 2011).

Figure 2.4   *Breakdown of export value and global price of commodity*

- Cocoa beans
- Gold
- Oil
- Other
- Timber total
- Price index cocoa beans
- Price index gold
- Price index oil
- Price index timber
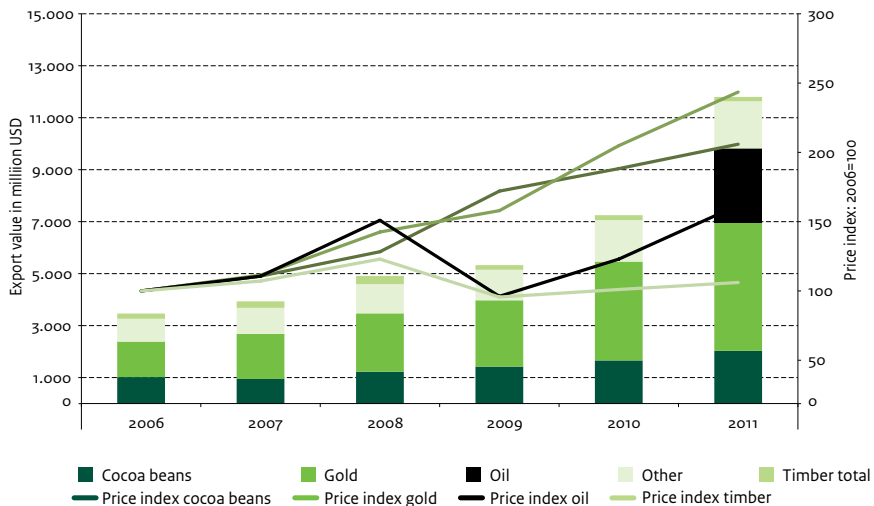
Sources: ISSER (2007, 2012) and www.statista.com.

Exports can also be categorised in terms of destination. In 2011, the top-five destinations accounted for 65%-75% of Ghana's total export value: oil exports flowed predominantly to Togo (58% of total oil exports); South Africa was the major destination for gold exports, followed by Switzerland; and cocoa beans went mainly to the Netherlands (around 25%-35% of the total exported value) and the United Kingdom (10%-15% of total) (UN Comtrade, 2013).

The breakdown of *imports* is more diverse, although electrical equipment, machinery, cars and petroleum claim a large share (figure 2.5). A comparison of the way imports and exports are structured clearly shows that Ghana mainly exports raw materials in exchange for the import of manufactured goods and food crops, most notably wheat and rice.

Figure 2.5   *Breakdown of import value*
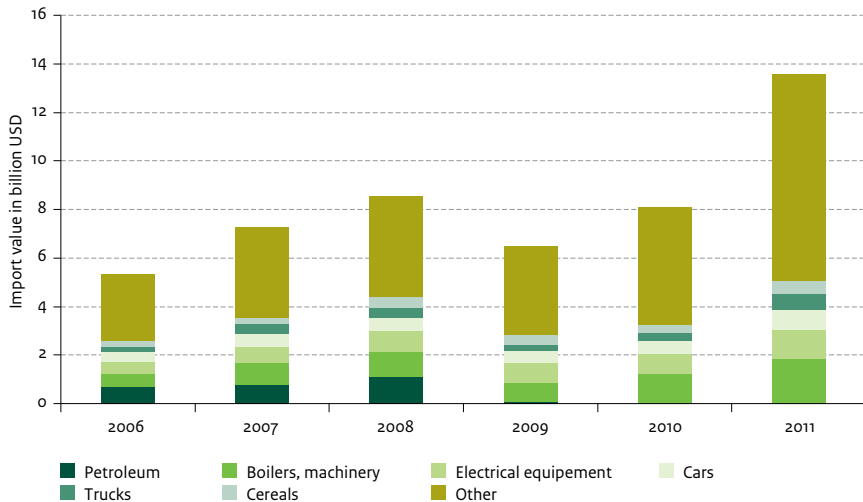
Source: UN Comtrade (2013).

Other elements of the foreign account

There were important shifts in the composition of the external sector in the period 2006-2011, with a notable increase of foreign direct investment (FDI). Figure 2.6 summarises the most important net inflows of external funds: official grants (development assistance), remittances from Ghanaians abroad, net profit and wages, FDI and net loans. Most FDI went to the oil, mining and telecom sectors, and did not focus on agro-processing or manufacturing. In addition, the figures indicated that, after a while, FDI comes at a cost, namely an increase in the net outflow of profits. The apparent reduction of ODA in 2007 is an effect of the debt relief in 2006. Excluding debt relief, total ODA flows, including loans, were on the rise (see chapter 3).

Figure 2.6   *Selected elements of the foreign account*
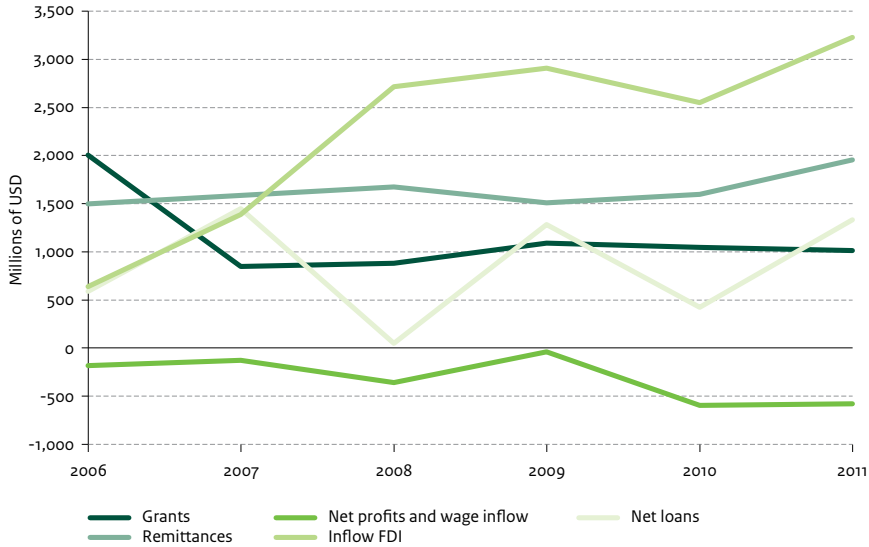
Source: BoG (2012a and 2012b).

2.5   Poverty and MDG indicators

While recent data are not available, it appears that economic growth also contributes to poverty reduction. Poverty, measured as the percentage of people with an income below the national poverty line, declined from 40% in 1998-1999 to 29% in 2005-2006 (GSS, 2007a)[5]. There is still a stark imbalance in the demographics of poverty in Ghana, however. Poverty is especially high in the north, where 58% of the people live in poverty, as opposed to 19% in the rest of Ghana. The south has benefitted from mining, but the agricultural sector in the north did not attract investment and remains neglected (Whitfield, 2010).

Ghana is making some progress on other Millennium Development Goals (MDGs), notably to improve health standards, provide better access to education and achieve food security. These indicators also point to a clear and persistent north-south divide of living standards, however.

Ghana has made a great deal of progress on the second MDG ('to achieve universal primary education'). According to the World Bank's world development indicators and data from the Education Policy Data Center, net enrolment in schools improved considerably between

[5]   The poverty figures from the recent 6th Round of Ghana Living Standards Survey 2012-2013 are not yet available.

2006 and 2011 in Ghana, from 66% in 2006 to 84% in 2011. School attendance is lower (about 78%). The number of children attending school increased particularly in disadvantaged northern regions (MDG Report, 2010). In spite of this development, there are still marked differences in primary school attendance between the northern and southern parts of the country. In addition, the quality of primary education and the transition into secondary education remain major concerns (UNDP-IEA, 2011). Higher enrolment reduced the teacher-pupil ratio, and the subsequent sudden demand for new teachers affected their training level (IOB, 2012).

Figure 2.7   *Primary school attendance (%)*

primary school attendance, %, regionally, 2011
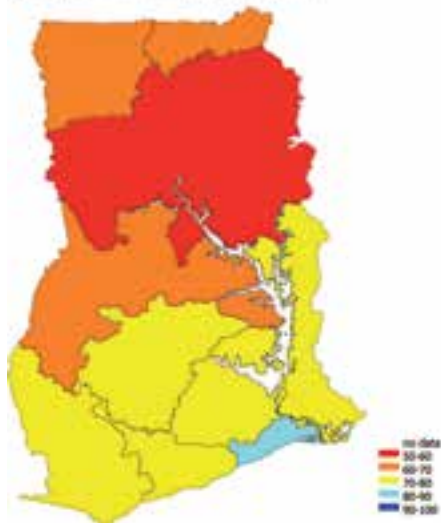
Source: MICS (2006, 2011).

The country has also made progress on the fourth MDG ('to reduce child mortality'). Vaccination coverage has improved markedly (figure 2.11). This has helped to reduce child mortality from 107 per 1,000 live births to 82, although improvements in the north have been modest (figure 2.7). The number of underweight children has decreased as well, from 17% to 13%. Again, there is a stark contrast in where these improvements have occurred. The northern regions again perform worse than the southern ones, although progress has been made in the northern regions and in Volta as well.

Figure 2.8   *Vaccination coverage, 2006-2011*
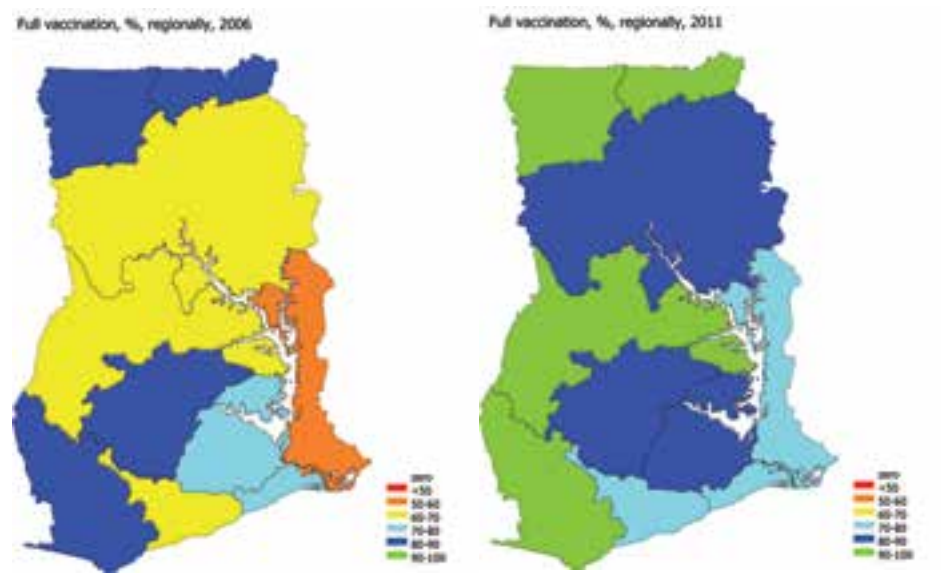
Source: MICS (2006, 2011).

Figure 2.9   *Child mortality, 2006-2011 (deaths under-five per 1,000 live births)*
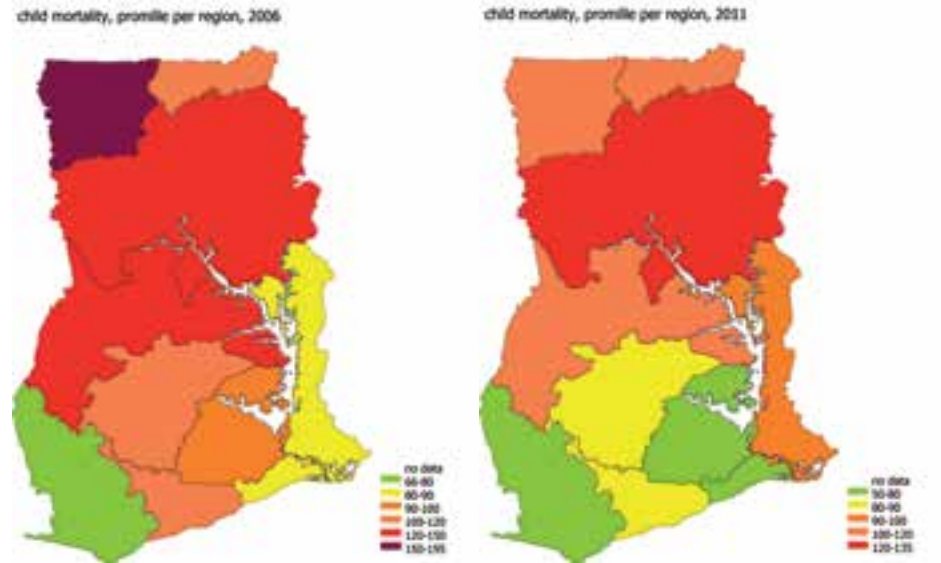
Source: MICS (2006, 2011).

Improving access to safe drinking water is still a challenge (figure 2.9). For example, it was only in the Volta and eastern regions of Ghana that more people gained access to better sources of drinking water. Moreover, faulty water connections mean that access to safe water is sometimes less than 50% even in urban areas (UNDP-IEA, 2011). The availability of improved sanitation facilities, however, confirms the picture of stagnation in some areas of development.

Figure 2.10   *Access to improved sources of drinking water, 2006-2011*
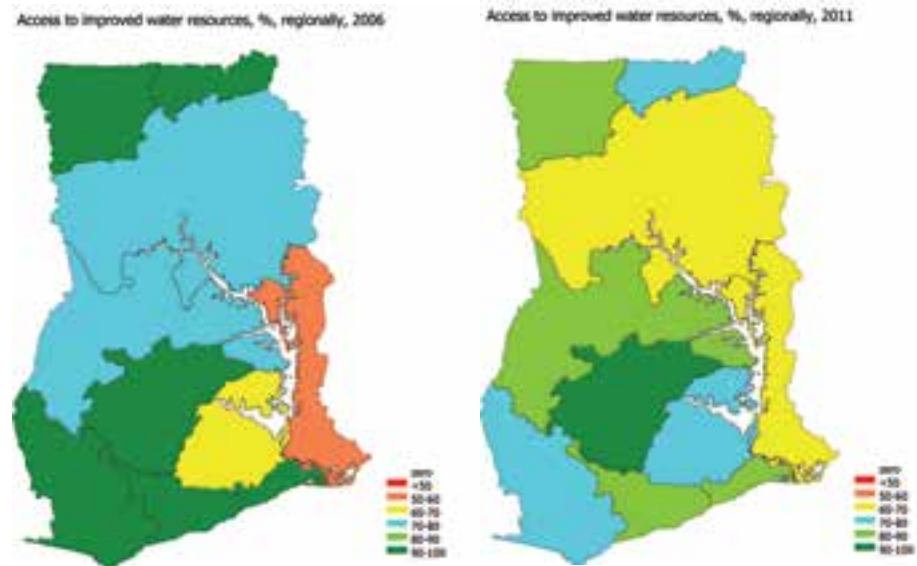
Source: MICS (2006, 2011).

2.6   Concluding remarks

One could conclude that Ghana has performed well in terms of economic growth and progress towards the MDG goals at a national level. However, the country depends on growth that is taking place in only a few sectors only. Indeed, little progress has been made in developing rural industry, which is important if Ghana is to succeed in redressing the divide in well-being between the north and the south. The role of FDI is increasing, causing GDP to rise. This raises new challenges in terms of sustainable and inclusive growth.

Conclusions

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Surveys, national accounts

Counterfactual scenarios (6)

Policy formulation

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Intermediate outcomes

Model findings

Synthesis

Policy documents, expert knowledge, interviews

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Conclusions

Policy documents, expert knowledge

Policies of development partners (3)

Conclusions

3

Policies of development partners

3.1   Introduction

This chapter provides an overview of the policies of Ghana's development partners, especially the Netherlands and the EU, whose policies are of particular relevance to Ghana. Section 2 starts with a brief outline of official development assistance (ODA) to Ghana, followed by a more detailed description of Dutch aid to Ghana in section 3. Sections 4 and 5 discuss EU trade and agricultural policies. Section 6 elaborates on tax issues, in particular the recent tax treaty between Ghana and the Netherlands. Section 7 describes Dutch and EU migration policies, and the final section elaborates on environmental policies, with special focus on the Voluntary Partnership Agreement (VPA).

3.2   Official Development Assistance (ODA)

ODA has been important for Ghana because it has enabled the country to finance its resource gap. Almost all major development projects in Ghana in the past decades have been undertaken with donor assistance. Although individual donors have their own sectors of interest, they have tended to adhere to Ghana's overall poverty reduction strategies as laid down in Ghana's Poverty Reduction Strategies (GPRS I and II) and now the Ghana Shared Growth and Development Agenda (GSGDA).

Between 2006 and 2011, the share of net ODA in the country's GDP was on average 5%, and its share in total government revenue was even 27%. Nevertheless, the relative importance of ODA is decreasing thanks to economic growth and other variables (see chapter 2). The Government of Ghana and its development partners aim to end their aid relations by 2020.

A central characteristic of the aid architecture in the first years of the new millennium was the move from project aid towards sector and general budget support (IEG, 2010; IOB, 2012). Worldwide doubt about the effectiveness, efficiency and sustainability of project aid provoked a rethinking of this modality in the late 1990s (World Bank, 1998). Donors and recipient countries felt that programme aid and budget support could enhance ownership and encourage governments to put the right policies in place. This discussion was also related to debt relief, especially in the context of the Heavily Indebted Poor Countries (HIPC) initiative.

The Ghanaian government and its development partners used budget support to try to improve harmonisation and alignment, and strengthen the position and capacity of the Ministry of Finance and Economic Planning (MoFEP) and break through the project-oriented character of aid. The development partners provided approximately 20% of Ghana's annual budget through the Multi-Donor Budget Support (MDBS) framework, while other modalities remained dominant (see chapter 4).

EU development cooperation

Between 2006 and 2012, 38% of total ODA to Ghana came from EU institutions or EU countries (table 3.1). EU institutions contributed 18% of total ODA, and individual EU countries about 20%, with the United Kingdom as largest individual EU donor. These percentages refer to aid flows excluding debt relief.[6]

Table 3.1	Total ODA to Ghana 2006-2012 (gross disbursements in USD million)						
	2006	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Excluding debt relief:							
Netherlands	97	142	120	98	73	63	41
EU institutions	74	85	118	167	106	88	90
EU-DAC (countries and institutions)	481	565	631	648	608	548	508
Total ODA	1,143	1,092	1,284	1,556	1,709	1,860	1,901
Dutch share	8%	13%	9%	6%	4%	3%	2%
EU share	42%	52%	49%	42%	36%	29%	27%
Including debt relief:							
Netherlands	97	142	120	98	73	63	41
EU institutions	74	85	118	167	106	88	90
EU-DAC (countries and institutions)	509	575	631	742	608	548	508
Total ODA	5,953	1,111	1,293	1,656	1,713	1,860	1,901
Dutch share	2%	13%	9%	6%	4%	3%	2%
EU share	9%	52%	49%	45%	36%	29%	27%

Source: OECD/DAC (2013).

Development cooperation between the EU and Ghana started in 1975 with the first Lomé Convention. Since then, the EU has granted a total of EUR 1.3 billion to Ghana. The main sectors to have benefited are transport and infrastructure (28%), agriculture and rural development (24%), macro-economic and budget support (27%), governance and social sectors (8%), environment and national resources (5%) and trade and private sector development (2%). The European Commission and the Government of Ghana jointly discuss the selection of sectors every five years, which leads to a Country Strategy Paper and an ensuing multi-year National Indicative Programme. The European Commission has prioritised good governance, sustainable growth and social inclusiveness under the new European Development Fund for 2014-2020.

The EU and its member states also belong to the main providers of world-wide 'Aid for Trade', accounting for 32% of worldwide trade related assistance in 2011. Total resources for

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[6] The EU and European donors mainly provide grants, while the banks (World Bank and African Development Bank) and several other donors mainly advance loans.

this policy area increased from USD 20 billion in 2006 to USD 32 billion 2010 (1/3 of total ODA). In 2011commitments totalled USD 41.5 billion (OECD/DAC, 2013).

The 'Aid for Trade' initiative in 2005 emanated from the recognition that although trade is important for development, the liberalisation of trade is not enough to reduce poverty. In many developing countries, firms are unable to benefit from market access opportunities because of an unfavourable investment climate, including poor quality infrastructure, inadequate laws and regulations, a lack of access to credit, barriers to market access and high transaction costs. These obstacles are affecting the least developed countries (LDCs) in particular. To address these constraints, members of the World Trade Organisation (WTO) agreed at the WTO Hong Kong Ministerial Conference in 2005 to allocate more development assistance to trade-related projects and programmes (Hoekman and Wilson, 2010). In 2007, EU member states adopted the EU Strategy on Aid for Trade. 'Aid for Trade' disbursements to Ghana increased from USD 286 million in 2006 to USD 705 million in 2011 (see table 3.2). Over the period 2006-2012, EU members and EU institutions provided about 27% of Ghana's total aid for trade resources.

Table 3.2	Ghana: Aid for trade 2006-2012 (gross disbursements in USD million)						
	2006	2007	2008	2009	2010	2011	2012
The Netherlands	3	19	15	8	0	1	3
DAC-EU (members and institutions)	99	130	158	136	86	111	115
DAC countries	131	157	192	226	295	330	308
Total aid for trade	286	314	381	402	553	705	642

Source: OECD (2013).

The Netherlands' development cooperation

In the past 15 years, the Netherlands' development cooperation with Ghana has concentrated on health, the environment and natural resources, education, water and sanitation, agriculture, governance and public finance management. By the late 1990s, the Netherlands switched to the sector-wide approach (SWAp) and began reducing the number of its partner countries. Ghana was one of them. Under this approach, the Dutch embassy in Ghana focused on health, the environment and natural resources. Gradually, the embassy became more involved in other sectors as well, such as water, good governance and education. The Dutch portfolio grew consistently between 2002 and 2007. The embassy actively promoted harmonisation and alignment, and participated both in the development of the Ghanaian Joint Assistance Strategy (G-JAS) and the introduction of the MDBS framework for general budget support in 2003.

Table 3.3 Dutch bilateral aid to Ghana 2006-2013 (EUR million)	2006	2007	2008	2009	2010	2011	2012	2013
Education	3.1	5.6	0.8	7.7	6.4	6.7	0.0	0.0
Health / HIV/Aids	22.4	19.1	18.9	18.6	18.6	18.4	20.6	6.3
Water / energy / environment	3.9	6.8	8.4	7.2	8.9	9.1	8.6	3.3
Governance and civil society	0.6	1.1	3.5	2.1	1.0	0.6	0.0	0.0
Industry, trade and transport	0.0	0.0	0.0	3.3	0.0	0.4	0.1	0.0
Agriculture	0.9	4.7	1.0	0.7	0.0	0.0	2.4	6.6
Budget support / multi-sector	14.8	25.1	24.3	25.0	20.0	10.0	0.0	0.0
Emergency relief	0.0	2.0	0.2	0.1	0.0	0.2	0.0	0.0
Other	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total	**45.8**	**64.4**	**57.2**	**64.8**	**55.0**	**45.4**	**31.7**	**16.2**
Total in mln. USD	**57.5**	**88.1**	**82.4**	**90.2**	**72.9**	**63.1**	**40.7**	**21.8**

Source: Management information system of the Netherlands Ministry of Foreign Affairs.

During the period 2006-2011, the Netherlands was Ghana's fifth-largest overall and third-largest bilateral donor. It mainly provided general budget support and sector support. In the health sector, embassy programmes increasingly focused on reproductive health, gender, HIV/Aids and pro-poor strategies, including support to Ghana's National Health Insurance System. The sector budget support programme in Natural Resources and Environmental Governance (NREG) aimed to assist the Government of Ghana in developing a sustainable development action plan and a climate change adaptation strategy. In addition, the embassy actively involved in initiatives related to water, gender, and governance, and helped in the effort to increase domestic accountability, fight corruption, promote public finance management and address human rights issues, especially through the MDBS policy dialogue. The Netherlands also supported the Ghana School Feeding Programme (GSFP) with a total of EUR 25.6 million during the period 2007-2011. This programme, which had nationwide coverage and was run by the Government of Ghana, aimed to reduce malnutrition, improve school attendance and educational results, and boost domestic food production.

In addition to direct support, the Netherlands also subsidises the activities of Dutch non-governmental organisations (NGOs) in Ghana. The Dutch government supports eleven alliances of Dutch NGOs operating in Ghana through the co-financing framework. They are led by organisations such as Cordaid, ICCO, IUCN, Oxfam Novib and Both ENDS.

Finally, Ghana has been an important target country for private sector programmes, such as the Private Sector Investment (PSI) programme (especially in the area of food processing) and the Development and Environment-Related Export Transactions (ORET) programme

(especially in water, health and transport). Between 2006 and 2011, Ghana received from ORET EUR 160 million.[7] The Dutch development finance institution FMO is involved in projects that focus on energy, public housing, telecommunications and finance.

The Netherlands gradually began to scale down relations from 2009 onwards. Development cooperation policies were scrutinised, and starting in 2011 the number of partner countries were substantially reduced to 15. The aim of these changes in the Netherlands' development policy is to increase its effectiveness and efficiency by:
1. shifting from social to economic sectors, from aid to investment;
2. emphasising self-reliance;
3. stimulating public-private partnerships;
4. reducing the number of themes and partner countries;
5. improving alignment with Dutch expertise and interests; and
6. reducing government financing of NGOs involved in development cooperation.

Ghana has remained one of the 15 partner countries under this new regime. The Netherlands will continue to provide aid until 2020, focussing on sexual and reproductive health and rights, food security, and water and sanitation.

Cooperation in food security aims to transform the agricultural sector by developing and strengthening value chains and focusing on sectors of mutual interest to both Ghana and the Netherlands, in particular cocoa and palm oil production and agri-business (vegetable value chains).

Dutch policies are concentrating more on innovative financing modalities and partnerships between companies, NGOs and government institutions. The embassy programmes also intend to enhance the opportunities created by the new Dutch Good Growth Fund (DGGF), which will be implemented starting in July 2014.[8] In addition, the embassy supports the Ghanaian government's effort to reform markets, customs, tax policies, phytosanitary certification and maritime logistics and energy.

3.3   Trade

Trade relations
Trade between the EU and West Africa accounts for 40% of the total trade between the EU and countries from the African, Caribbean and Pacific (ACP) Group of States. This makes West Africa EU's main trading partner in the developing world. Trade relations with Ghana are more modest, but growing rapidly. In 2012, exports to Ghana consisted of mineral fuels, lubricants and related materials (31%), machinery and transport equipment (30%),

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7   This contribution explains the difference in total Dutch aid between tables 3.1 and 3.3.
8   The DGGF aims to support the private sector in developing countries and enhance possibilities for Dutch enterprises to export and invest abroad. The revolving fund will provide loans, guarantees and equity.

chemicals and related products (10%), and food and live animals (9%) (Eurostat, 2014). Conversely, the EU imported mineral fuels (48%) and food and live animals (45%) from Ghana.

Table 3.4 shows that although aid remains significant, trade relations are becoming more important. For example, in 2006 EU imports from Ghana were about 2.3 times the total ODA to Ghana, and this ratio has increased to over 6 times ODA in recent years. This shift from aid to trade seems to be even more pronounced in the case of the Netherlands.

Table 3.4	EU and the Netherlands' aid and trade relations with Ghana 2006-2012 (EUR million)						
	2006	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
EU-Ghana:							
Total ODA from the EU (countries and institutions)	481	565	631	648	608	548	395
EU imports from Ghana	1,114	1,144	1,251	1,097	1,458	3,472	3,294
EU exports to Ghana	1,459	1,698	1,927	1,752	2,149	2,925	3,613
Total EU imports (EUR billion)	1,356	1,435	1,566	1,208	1,531	1,722	1,791
Total EU exports (EUR billion)	1,184	1,241	1,310	1,098	1,357	1,559	1,686
Share Ghana in EU imports	0.08%	0.08%	0.08%	0.09%	0.10%	0.20%	0.18%
Share Ghana in EU exports	0.12%	0.14%	0.15%	0.16%	0.16%	0.19%	0.21%
The Netherlands-Ghana:							
Total ODA from the Netherlands	97	142	120	98	73	63	32
NL imports from Ghana	242	244	398	335	412	663	584
NL exports to Ghana	190	228	242	204	336	664	1164
Total NL imports (EUR billion)	285	307	336	274	332	365	389
Total NL exports (EUR billion)	295	314	370	309	372	409	430
Share Ghana in total Dutch imports	0.08%	0.08%	0.12%	0.12%	0.12%	0.18%	0.15%
Share Ghana in total Dutch exports	0.06%	0.07%	0.07%	0.07%	0.09%	0.16%	0.27%

Source: Eurostat (2014); CBS (2014).

Dutch exports to Ghana have increased from EUR 336 million in 2010 to EUR 1.2 billion in 2012. The strong growth of exports from the Netherlands to Ghana in 2011 and 2012, as data from Statistics Netherlands (CBS) and UNCOMTRADE show, is almost completely the result of the growth of the export trade in petroleum and kerosene (see figure 3.1). Machinery and vehicles are also sizeable export categories.

Figure 3.1   *Development of exports of goods from the Netherlands to Ghana (2006-2012)*
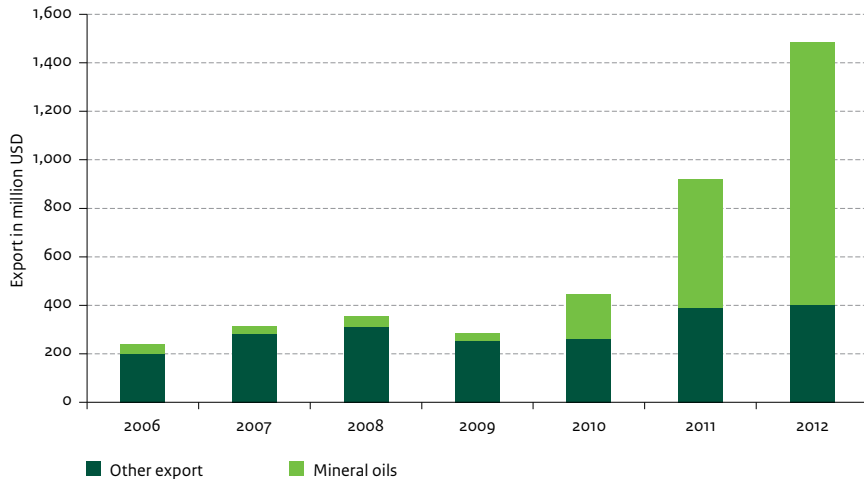
Source: UNCOMTRADE.

The table also shows that trade relations are becoming more important than aid and that the aid-export ratio is changing rapidly: in 2006, exports to the EU were about three times as high as ODA from the EU; by 2012 this ratio had changed to 10-1. For trade with the Netherlands, these ratios changed from 4-1 to 20-1. Exports to the Netherlands mainly consist of cacao (beans, butter and paste, see figure 3.2). In 2011 and 2012, the export of bauxite and oil gained importance.

Trade policies

Between 1975 and 1999, Ghana-EU trade policies were governed by the Lomé Convention and from 2000 onwards by the Cotonou Agreement. The latter entailed a non-reciprocal trade regime, offering developing countries tariff preferences for Ghanaian products entering the EU market, while at the same time providing them with ample policy space to protect their markets. The Cotonou trade regime was granted a waiver from the General Agreement on Tariffs and Trade (GATT).

The waiver would expire in December 2007. The EU therefore decided in 2002 to start negotiations for new trade agreements: the Economic Partnership Agreements (EPA's). With these EPA's, the EU aimed at replacing the unilateral trade preferences by free trade agreements that conformed to WTO regulations. ACP countries were invited to negotiate these EPAs either as one of the six regional groups or individually. In December 2002, the West African heads of state mandated the Economic Community of West African States (ECOWAS) to negotiate the regional EPA for West Africa.

During the negotiations, it became clear that the regional agreement would not be concluded on time. This was not a problem for the Least Developed Countries (LDCs) in ECOWAS, because they had duty-free access to the EU under the Everything but Arms (EBA)

arrangement. The EU started separate negotiations to establish an interim EPA for Nigeria, Côte d'Ivoire and Ghana, however. Ghana and Côte d'Ivoire agreed on interim EPAs with the EU in December 2007, but Ghana did not sign its EPA, nor did Côte d'Ivoire ratify its agreement. Regional negotiations continued, with the aim of replacing interim agreements by a regional EPA. EU Council Regulation No. 1528/2007 permitted countries that had 'concluded negotiations' on their respective agreements to continue to enjoy duty-free, quota-free access to the European market (Bartels and Goodison, 2011).

While entering into an EPA with the EU is voluntary, it is not without consequences. By 1 October 2014, countries that that have not taken the necessary steps towards ratifying their (interim-) EPAs would lose their free market access to the EU. This would not have consequences for LDCs, because they will continue to have free market access to the EU under the Everything but Arms (EBA) scheme. Ghana and Côte d'Ivoire, however, could lose their preferential status. Their exports would be subjected to the EU's Generalised Scheme of Preferences, which means less favourable access to the EU market than under the Cotonou Agreement.

The EPA negotiations have become a source of tension between the EU and ACP countries such as Ghana (Bilal and Ramdoo, 2010a). According to the EU, ACP countries will benefit from the EPAs because enhanced market access and increased trade volume will generate economic growth. However, progress has been slow. One of the main concerns in some ACP countries is that there will no longer be sufficient policy space to deal with issues such as value addition, the protection of infant industries or the promotion of industrialisation (Bilal and Ramdoo, 2010b). The (gradual) abolishment of the protection of national industries might have a negative impact on local companies. Moreover, an EPA might have a significant impact on fiscal revenues due to the abolishment of customs duties on EU imports (Keen and Mansour, 2009; Drummond *et al.*, 2012). In addition, the EU is demanding the cancellation of export taxes on primary commodities exported to the EU.[9] The EU has responded to these fears by claiming that so far export taxes have not been very conducive to development, but rather have discouraged exports (Bilal and Ramdoo, 2010b).

The unresolved issues for Ghana in the bilateral negotiations included the market access that was being offered, the development component of the agreement and commitments regarding the liberalisation of services and government procurement. The European Commission (EC) insisted that at least 80% of all European exports to Ghana would have to be tariff-free within 15 years, whereas Ghana pushed for 70% liberalisation over 25 years. Ghana excluded a number of agricultural goods and non-agricultural processed goods, with a view to protecting certain sensitive agricultural markets and industries and maintaining fiscal revenues. Also, the EPA included the 'most favoured nation' (MFN) clause, implying

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[9]   According to several studies, Ghana stands to lose revenue to the tune of USD 97 million, of which about 29% will be lost in the first six years after the implementation of the EPA. Moreover, from 2023 onwards, tariff revenue losses would be about EUR 50 million annually (see chapter 4).

that every trade concession Ghana gives to other countries must also be given to the EU. This would restrain regional cooperation.

Ghana and the EU also disagreed on the liberalisation of services and investment, and the abolition of export taxes. These taxes are an important development policy tool for Ghana. First, they help to discourage the export of raw materials without value addition. Second, they have been an important source of government revenues ever since independence. The EPA prohibits new export taxes or the increase of current ones. Moreover, Ghana, like Nigeria, favours a regional approach within the framework of ECOWAS rather than separate negotiations with the EU.

In January 2014, the bilateral stalemate was broken when West African and the EC negotiators finally achieved a major breakthrough on the regional EPA, to be endorsed at the ECOWAS Heads of State Summit in late February 2014 (Ramdoo and Bilal, 2014). A compromise was reached on a number of issues. The EU accepted a flexible interpretation of the minimum coverage of trade liberalisation. Both parties agreed that 75% of trade will be liberalised over the next 20 years. The EU further agreed to stop all export subsidies to West African countries. The West African countries, on the other hand, accepted a compromise on the controversial 'most favoured nation' treatment clause. ECOWAS will offer the same trade concessions to the EU if the future preferential trade partner has a share in global trade of more than 1.5%. The amount of support from the EU agreed to under the EPA Development Programme remains at EUR 6.5 million for the period 2015-2019. For Ghana, the agreement means that the country will be able to maintain duty-free market access to the EU while preserving regional unity (Ramdoo and Bilal, 2014). The latest update (April, 2014), however, raises doubts about Nigeria's willingness to ratify the agreement and might lead to further renegotiations of terms of the Regional EPA (Osagie, 2014).

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3.4   The EU's Common Agricultural Policy (CAP)

Increased market openness to agricultural exports from developing countries and less domestic support in the EU may encourage agricultural exports in developing countries. Conversely, subsidies and import tariffs may undermine local markets in developing countries. In addition, non-tariff barriers such as stringent technical barriers to trade (TBT) and sanitary and phytosanitary (SPS) measures, and burdensome preferential rules of origin, can affect market access, especially when the local capacity to adapt is low.

As a result of the transfer of powers, the EU has the exclusive competence in areas such as agriculture and trade, and mixed competence in other areas such as migration, taxes and environment. This has made the EU an important player on policy coherence and explains the EU's involvement in the subject. EU tariffs, non-tariff restrictions such as stringent TBT and SPS measures and subsidies can affect world market prices and hinder market access, especially when exporting countries have a limited capacity to adapt.

Since 1992, the EU has gradually replaced its system of export subsidies, first with product-related payments and, later on, with a system of decoupled support. Income support is based on factors such as the area and location of the farm, on past payments and on respect for environmental standards and animal and plant health, the latter indicated as cross-compliance conditions (see figure 3.2). Between 2007 and 2012, market measures accounted for 8.5% of the CAP expenditure (and on average 68% for direct payments). Of this 8.5%, 21.5% was for subsidies for fruit and vegetables, 25% for the wine sector, 6% for milk and milk products, and 4% for pork, poultry and eggs, and 9% for food programmes. By late 2013, the EU ended export subsidies. However, protection of EU's farmers via tariff measures and domestic support still exists.

Figure 3.2 *Composition of the EU agricultural budget, annual expenditures, 1990-2010*

Legend:
- Export subsidies
- Product related payments
- Other expenditures
- Decoupled payments
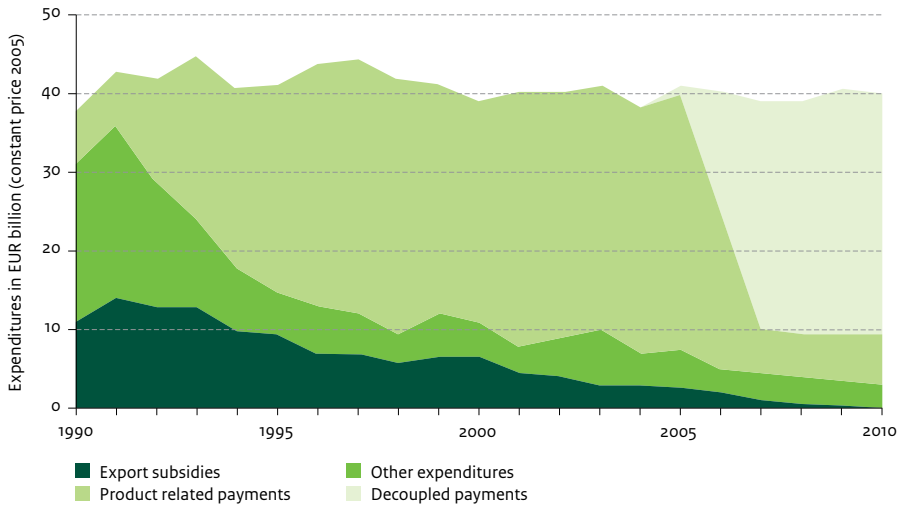
Source: IFPRI (2012).

The WTO Round of trade negotiations has imposed the tarification of all import measures in order to improve transparency. Nevertheless, the resulting EU system is still rather complicated, due to the different types of commodities, different types of trading partners and seasonal differences among horticultural products – not to mention the management of rate quota. Regarding exports, it is still possible to obtain export subsidies in specific situations under EU regulations, but in fact they are hardly used anymore. Nonetheless, the current system of agricultural protection, which consists of a mixture of domestic support and import measures, can displace potential imports and have a negative effect on global market prices and hence on developing countries' potential export revenues with a comparative advantage in agriculture.

The CAP could essentially affect Ghana in several ways. First, EU tariffs on agricultural imports may reduce Ghana's export volumes and its farmers' revenues. However, in the period under consideration, Ghana benefitted successively from the Cotonou Agreement and EU Regulation 1528/2007 from 2008 onwards, exempting the country from agricultural export restrictions to the EU (apart from transitional arrangements for sugar and rice). Second, Ghana's economy may be affected by an overall drop in global prices for agricultural products as a result of the EU's tendency to protect its own producers, nowadays in particular via trade measures and income support.

There is no doubt that this is the case, but the impact of this protection on world prices is difficult to quantify. In chapter 6, an assessment will be made based on a survey of the literature.

Agriculture is important for the Ghanaian economy: the sector contributes to the domestic product (about 30% of GDP), is a major employer, and generates substantial export earnings. Indeed, in 2011 agriculture accounted for 43% of Ghana's total exports to the EU, only surpassed in total value by fuels and mining products. Conversely, 12% of total imports from the EU consisted of agricultural products. The main cash crop is cacao (about 30% of the total export value). Here the relation with the Netherlands is important, as the Netherlands is the main importer of cocoa from Ghana.

3.5   FDI and bilateral tax treaties

FDI from the Netherlands is increasing, and the Netherlands has become one of the main investors in Ghana. Official data on FDI are scant, however. Table 3.5 provides data from the Central Bank of the Netherlands (DNB) and UNCTAD. The table indicates that the total stock of Dutch FDI in Ghana was rather limited until 2010. According to data from DNB, direct investment positions amounted to about USD 100 million in 2009. In 2010, the total stock increased to USD 3.3 billion. Most of the increase is concentrated in the oil and telecom sectors. To a large extent, the increase is the result of special purpose entities (SPEs) created by multinationals in the Netherlands to establish a business-friendly tax climate. These SPEs account for 75% of Dutch FDI (DNB, 2014).

Table 3.5 FDI stock of the Netherlands in Ghana (2007-2011) (USD million)						
	2006	**2007**	**2008**	**2009**	**2010**	**2011**
SPE				56	3,166	4,010
Other		49	30	49	86	53
Total				104	3,252	4,063
Total FDI stock Ghana (UNCTAD)	2,580	3,435	4,655	7,552	10,080	13,327

Source: DNB (2014); UNCTAD (2014).

The strong increase in FDI (stock) in Ghana suggests that the bilateral tax treaty of 2008 on the avoidance of double taxation and the prevention of fiscal evasion had an impact. For multinationals from third countries, the tax treaty may provide certainty in terms of their tax payments, although Ghana has entered into tax agreements with other countries as well (see table 3.6). At the moment, Ghana has a bilateral tax treaty with ten counties, including France, Germany, the United Kingdom, South Africa, Italy, Belgium, the Netherlands, Switzerland and Mauritius. The tax treaty with the Netherlands reduced withholding taxes on dividend payments from 8% to 5%, Royalties from 10% to 8% and management fees from 15% to 8%.

Table 3.6 Applicable tax rates									
Type of income	Ghana (national)	France	United Kingdom	Germany	South Africa	Belgium	Italy	The Netherlands	Switzerland
Taxes on profits	25								
Withholding tax:									
Dividends (shareholder ≥ 10%)	8	7.5	7.5	5.0	5.0	5.0	5.0	5.0	5.0
Dividends (other)	8	15.0	15.0	15.0	15.0	15.0	15.0	10.0	15.0
Interest	8	12.5	12.5	10.0	10.0	10.0	10.0	8.0	10.0
Interest non-resident banks					5.0				
Royalties	10	12.5	12.5	8.0	10.0	10.0	10.0	8.0	8.0
Technical/ Management fees	15	10.0	10.0	8.0	10.0	10.0	10.0	8.0	8.0

While the tax treaty was designed to provide foreign investors with more certainty about taxation, the treaty was also expected to have a positive impact on (Dutch) investments in Ghana, making it a treaty that benefitted both countries (TK 2007-2008, 31 5934, no. 1). At the same time, it is a compromise between diverging interests. In general, the Netherlands aims to at the abolition of withholding taxes for participations of at least 10%. For emerging developing countries, on the other hand, these taxes are important, partly because collection is relatively easy. It has been estimated that withholding taxes may account for up to 5% of total tax revenues (IOB, 2013c). They may also function as a barrier to tax evasion.

In the Netherlands, there has been a debate about the impact of tax treaties on developing countries. A recent study analyses possible tax avoidance via special purpose entities and its potential impact on tax revenues in developing countries, as well as the type and method of financing of FDI and the incoherence between international fiscal policy and Dutch development cooperation policy (Weyzig, 2013a). The study finds that the treaty has a

negative impact on the taxation of outgoing dividend payments, because companies can channel investments through the Netherlands, benefiting from the lowest level of withholding taxes. In addition, taxes on royalty payments for the use of intellectual property rights will be lower due to the advantageous fiscal regime for firms that receive royalties in the Netherlands. A recent IOB study (IOB, 2013) concluded that tax avoidance strategies, facilitated by Dutch corporate tax policy, do indeed have a negative impact on tax revenues in developing countries. Estimates of tax avoidance due to 'tax treaty shopping' via Dutch SPEs range from EUR 150 million to EUR 550 million. At the same time, there is mixed evidence for a positive impact in the form of promoting FDI in developing countries (IOB, 2013; Weyzig, 2013b).

A main question is whether the bilateral tax treaty has promoted additional FDI or whether it has triggered financial outflows from multinational enterprises in Ghana. An analysis of the main investments does not point to an increase of direct investment *because* of the Dutch tax treaty. It seems fair to assume that both companies would have made these investments anyway. Another question is whether they would have used the Dutch route. As was shown in table 3.7, other bilateral tax treaties offer more or less the same rates as the Dutch tax treaty. Therefore, there may have been other arguments for choosing the Dutch route, irrespective of the tax treaty. The Dutch investment climate (business tax climate) appears to be more important than the withholding tax rates agreed upon between the Netherlands and countries like Ghana.[10] Nevertheless, as a result of the tax treaty with the Netherlands, Ghana will tax dividends at 8% instead of 5%, and this will have an impact on Ghanaian tax revenue.

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3.6   Migration

It is generally recognised that migration policies can have a major impact on developing countries. The European Commission aims to develop a common approach towards migration that claims to further the interests not only of the EU, but also of the countries of origin, and the migrants themselves. Circular migration, which allows migrants to work in the EU and return to their home countries, has become the new key word. It is supposed to help the EU address its (temporary) labour needs and simultaneously benefit countries of origin through remittances and the skills that migrants bring back home.

[10]   While the increase in Dutch FDI suggests that the bilateral tax treaty has had an impact, one has to be very careful drawing conclusions at this level. Such a conclusion would entail an analysis at the lowest level (one) of the Maryland scale (only before and after measurement). Conclusions at this level are not valid. We have also analysed this assumption empirically. One may expect FDI to increase as a result of a bilateral tax treaty. However, a tax treaty is endogenous, as governments start negotiations when bilateral trade and investment relations become more important. If it is true that SPEs invest through the Dutch route *because of* the bilateral tax treaties, then the fraction of investment from SPEs divided by total FDI (FDI_{SPE}/FDI_{total}) would increase after the conclusion of a tax treaty. The assumption is that SPEs are more eager to benefit from tax advantages than other companies. We did not observe this effect in an econometric panel analysis. Therefore, there is no evidence that Dutch SPEs have invested in Ghana because of the tax treaty. The analysis confirms that the Dutch investment climate is more important.

However, while the EU has made progress facilitating the immigration of highly skilled workers, the union's member states remain reluctant to create opportunities for unskilled and low-skilled immigration. Out of the four directives on legal migration envisaged in the EU's Global Approach to Migration in 2005, the Blue Card, which focuses on highly skilled migrants, is the only one to have been adopted. In fact, the EU invests large sums of money through Europol and Frontex to fight human trafficking and the illegal immigration of low-skilled labour. In addition, member states implement return programmes for migrants without residency or work permits.

The Netherlands has become one of the more restrictive countries in the EU in that respect. The government parties agreed in 2012 to 'put pressure on countries to readmit their own citizens who have been denied admission to the Netherlands'. The coalition agreement added that 'this may affect trade and development relations with such countries'.

The Netherlands has a population of 16.8 million people, including 3.5 million migrants, 600,000 of whom have an African background (CBS, 2014). The number of Ghanaians living in the Netherlands is limited, having increased from 20,000 in 2006 to 22,000 in 2012. About 60% of them are first-generation migrants and 40% were born in the Netherlands. Every year, about 500 Ghanaians come to the Netherlands legally, some 0.5% of total immigration. Estimates on illegal migrants living in the Netherlands vary from 5,000 to 20,000. Average remittances sent home are quite significant. A 2007 survey among 330 migrants in the Netherlands, most of them official migrants, found that the average annual remittance was more than EUR 2,000 (Orozco and Mohogu, 2007).

The Dutch government recognises that migration is an issue of mutual interest for the EU and Ghana. In a letter to Dutch Parliament (TK 2013-2014, 33 625, no. 41), the Dutch Minister for International Trade and Development indicated that the Netherlands supports several initiatives to promote remittances, facilitate the return of migrants and address circular migration in the health sector. Ghana participates in these programmes and is also one of the priority countries in the policy when it comes to sending back foreigners that reside illegally in the Netherlands. In this regard, the Netherlands has committed itself to providing assistance to the Ghana Immigration Service (GIS), based on the European Common Agenda on Migration and Mobility, and a bilateral agreement. In 2012, the Netherlands decided to cut its aid to Ghana by EUR 10 million, because the government felt that Ghana's cooperation on the return migration policies was not satisfactory (TK 2012-2013, 30 573, no. 119).

3.7   Environmental concerns: Deforestation in Ghana

The EU's environmental policy devotes a great deal of attention to the importance of tropical forests. In order to stop unwarranted deforestation, the EU has set up Voluntary Partnership Agreements (VPAs) with a number of countries. VPAs are an instrument of the

European Union Forest Law Enforcement, Governance and Trade (FLEGT) Action Plan of 2003 that provide a range of measures to the EU and its member states for addressing illegal logging in the world's forests. A VPA is a legally binding agreement between the EU and an individual timber exporting country, which aims to ensure that only legally produced timber is traded and to improve forest governance by better law enforcement, log tracking systems, revenue collection and a verification system for timber exports. According to the agreements, the EU will deny shipments from countries where licensing systems are not sufficiently implemented.

The Action Plan focuses on seven measures:
1. Provide support to timber exporting countries, including action to promote equitable solutions to the illegal logging problem;
2. Promote activities to promote trade in legal timber, including action to develop and implement Voluntary Partnership Agreements between the EU and timber exporting countries;
3. Promote public procurement policies, including action to guide contracting authorities on how to deal with legality when specifying timber in procurement procedures;
4. Provide support to private sector initiatives, including action to encourage private sector initiatives for good practice in the forest sector, including the use of voluntary codes of conduct for private companies to source legal timber;
5. Establish safeguards for financing and investment, including action to encourage banks and financial institutions investing in the forest sector to develop due-care procedures when granting credits;
6. Introduce the use of existing legislative instruments or adoption of new legislation to support the action plan, including EU Timber Regulation; and
7. Address the problem of conflict timber.

In 2010, Ghana was the first country in the world to ratify a VPA under the FLEGT initiative with the EU. The VPA includes compliance and licensing for all timber and wood product exports. It has moved beyond the five product categories outlined in the overall FLEGT regulation. Product coverage includes sawn timber, veneers, plywood, flooring and furniture. From 2014 onwards, all Ghanaian wood exports will be certified for the European market via the FLEGT license system. The FLEGT-VPA license should guarantee Ghanaian timber unlimited access to the EU and its high-value market for tropical hardwood.

The licensing of verified legal timber to the EU and other markets will rely on the successful development and implementation of a credible 'legality assurance system'. Forestry laws are being adjusted. In the meantime, the FLEGT license system checks compliance with all aspects of forest-related legislation and monitors and controls legal compliance through the production chain from forest to mill and port, for example, through an electronic tagging system. Ghana is developing a wood tracking system. The Forestry Commission has launched a pilot project that has introduced wood tracking in three companies. A joint monitoring and review mechanism facilitates the monitoring and review of the VPA via annual reports that cover progress, trade volumes of FLEGT-licensed products and

complaints. EU and the World Bank provide financial support for the costs of the institutional reforms, estimated at around USD 60 million over the whole period.

While the VPA has progressive objectives, it may have negative impacts in Ghana as well. According to NGOs, the focus has shifted towards the technical side of tracking wood and validating the legality of timber. However, a successful VPA should also take into account the impact on local livelihoods.

Policies of development partners
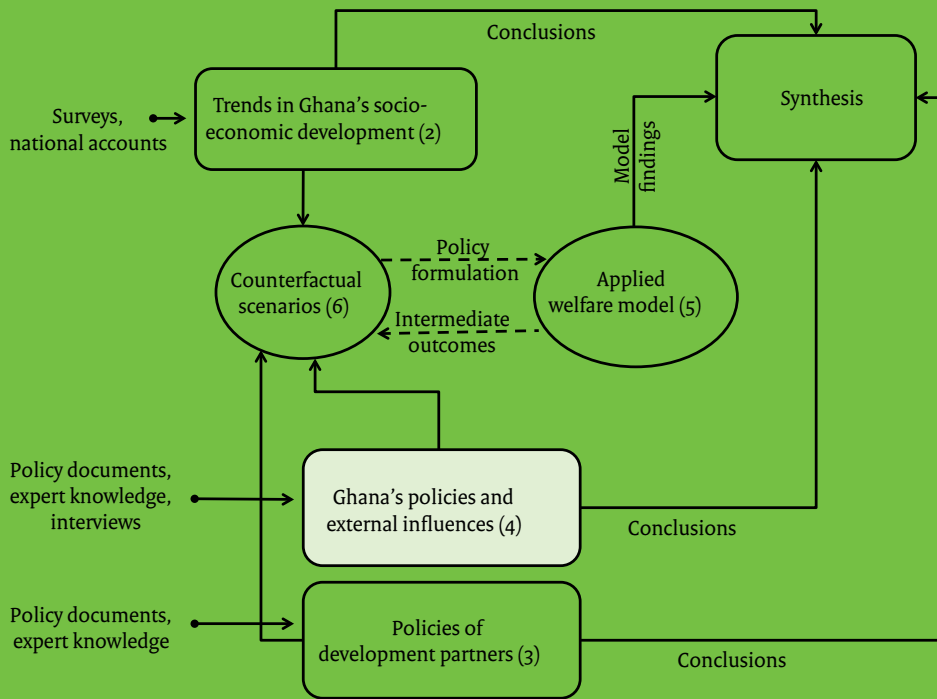
4

Ghana's policies and external influences

4.1   Introduction

This chapter describes Ghana's policies in the period 2006-2011, with special emphasis on the level of the country's autonomy in relation to the external influence, the partnerships and the changing international context. Particular attention is paid to the influence of donor countries on policy formulation and implementation. The analysis combines factual developments with perceptions based on the interviews that were held with a group of government officials and other stakeholders.

The plan of this chapter is as follows. Section 2 sketches the historical socioeconomic context. Section 3 discusses the significance of foreign aid. Section 4 considers the role of migrant communities, while sections 5 and 6 take a closer look at specific policies, viz. those in the field of agriculture and foreign trade, respectively. Section 7 considers the consequences of the increasingly important role of emerging economies; and section 8 reviews internal developments. The final section concludes and summarises the main development challenges.

4.2   Historical context

In 1957, Ghana was the first country in sub-Saharan Africa to gain independence from colonial rule. At the time, the country was relatively prosperous, and it progressed well in the early days. In the course of the 1960s, however, good governance was impeded by mismanagement and corruption. The economy started to decline and faced a severe crisis in the early 1980s. Starting in 1983, the IMF and the World Bank supported an economic recovery programme set up by the National Democratic Congress (NDC). This structural adjustment programme was neoliberal in spirit and aimed at macro-economic stabilisation through the liberalisation of the foreign exchange markets, the privatisation of state enterprises, the lowering of tariffs on foreign trade and the liberalisation of the financial sector.

The adjustments contributed to macro-economic stability and economic growth, but progress was hardly noticeable for a large part of the population, especially because budget cuts had a negative impact on public services. In response, the government started a Program of Actions to Mitigate the Social Costs of Adjustment (PAMSCAD) in 1989. Due to weak targeting and financial problems, the programme was not effective, however. In the course of the 1990s, the government distanced itself from neoliberalism as a result of internal pressure (Whitfield, 2010). The reaction was to suspend new international loans to Ghana.

A process of political reform was underway during the same period, starting with the adoption of the 1992 Constitution that led to successive democratically elected governments, and the 1992 Bank of Ghana Law that provided the central bank with monetary independence. In 1995, the newly established National Development Planning Commission (NDPC) put together *Vision 2020*, a blueprint for Ghana's socio-economic

development. The document sought to make Ghana a middle-income country by 2020 and provided policy directions for economic management. The outline for a strategy for achieving balanced social and regional development encouraged private sector activity and export. In response, the IMF resumed its support in 1998.

The Ghanaian economy recovered at the beginning of the new millennium, partly as a result of higher prices and increased production of gold and cacao, and a further depreciation of the national currency. When a new government took power in 2001, the development strategy was replaced by the Ghana Poverty Reduction Strategy (GPRS I, 2002-2006). To become eligible for debt relief under the heavily indebted poor countries (HIPC) initiative, the development partners required a focus on poverty reduction (Prima Braga and Dömeland, 2009). The conditions for debt relief were a solid and sustainable economic policy and a policy that aimed to reduce poverty, including investment in education and health. Together with its successor (GPRS II, 2006-2009) and the Ghana Shared Growth Development Agenda (GSGDA) 2010-2013, GPRS became the framework for social and economic policy making in Ghana today.

GPRS I was formulated against the backdrop of the general economic crisis of the late 1990s. The aim was to 'realign the macroeconomic situation as a necessary condition for the implementation of sectoral policies specifically targeted towards reducing the incidence of poverty' (GPRS I, page 1). Policy priorities were: (a) macro-economic stability, (b) production and gainful employment, (c) human resource development and the provision of basic services, (d) good governance, and (e) special programmes for the vulnerable.

Like poverty reduction strategy papers in other countries, GPRS I contained an extensive list of policy objectives, but it was not very specific on how to realise these objectives (ODI / CDD, 2007). Another weakness was that it bore the characteristics of poverty reduction strategies 'sponsored by creditor institutions in that epoch', while the participatory process used in its preparation had not been effective with associated implications for very limited national ownership and autonomy (GPRS II, page 3).

While GPRS I focused on poverty reduction programmes and projects themselves, GPRS II saw the acceleration of economic growth as the way to reduce poverty. It identified the following priorities: (a) continued macro-economic stability, (b) private sector competitiveness, (c) human resource development, and (d) good governance and civic responsibility. The follow-up strategy, GSGDA, was more a medium-term strategy based on the continued pursuit of macro-economic stability and the sustainable exploitation of Ghana's natural resource endowments in agriculture, minerals and oil and gas supported by strategic investments in human capital, infrastructure, human settlements, science and technology, and innovation to drive industrialisation and, in particular, manufacturing (GSGDA, 2010).

4.3 The role of foreign aid

The role of donors

At the High Level Forum in Rome in 2003, donors and recipient countries agreed that aid should be aligned with the partner countries' priorities and that donors should harmonise their aid. This principle was further developed in the Paris Declaration of 2005, where it was also agreed that donors would deploy at least two-thirds of their aid through 'programme-based approaches', and that they would spend at least half of bilateral aid via agencies in the partner country. Following the Accra Agenda for Action of 2008, developing countries would set their own development strategies, improve their institutions and tackle corruption while donors would align their assistance with these strategies.

It was felt that general budget support could be a good way to move forward, along with sector-wide approaches (SWAp, see chapter 3). In Ghana, nine development partners started to provide Multi-Donor Budget Support (MDBS) from 2003 onwards, namely Canada, Denmark, Germany, the Netherlands, Switzerland, the United Kingdom, the European Commission, the World Bank and the African Development Bank.

MDBS, originally intended to finance development projects identified by the Ghanaian government, gradually served a second objective. Through policy dialogue and conditionality, the development partners attempted to enforce reform, especially on issues of good governance (IOB, 2012). Budget support became a means of 'buying your way in'. In particular, the Performance Assessment Framework (PAF) that was created as a monitoring mechanism for the policy dialogue became a mechanism for aid conditionality.

Several reports have been written on the functioning of MDBS since its introduction in Ghana in 2003 (ODI/CDD, 2007; Betley and Burton, 2011; IOB, 2012 inter alia). It has been argued that the dual purpose of MDBS has created a relatively confrontational dialogue structure at the expense of an open discussion over ownership and partnership (ODI/CDD, 2007). The donors, from their point of view, claimed that government efforts to combat poverty, improve institutions and tackle corruption were insufficient. Policy makers and other observers in Ghana, on the other hand, felt that the development partners were interfering too much with internal policies and had been using their harmonised agendas to pursue their own interests (Whitfield, 2010). While in theory budget support is like a blank cheque, in practice the mixture of technical assistance, conditionality and a policy dialogue is more fluid. There is a quid pro quo, as donors ask for a seat at the table to discuss programme strategies and their implementation, and identify indicators and triggers.

The hesitancy of the development partners to transfer full control of the aid that they provide suggests that the partner countries only have limited ownership and limited autonomy, at least at the implementation level (IOB, 2012). To some extent, this is understandable since the development partners are accountable to their own constituencies, and have to account for the money they spend. Stories about corruption and bad fiscal management in a number of recipient countries have triggered a tightening of

control of aid expenses. This also explains why donors insist on solid public financial management. In addition, they also have to explain at home why the money was well spent, and therefore they are forced to show results (hence *their* insistence on results). One of the most important explanations, however, is the policy change by development partners. Rather than insisting on the quality of socio-economic policies as an entry condition, donors have attached conventional conditionalities. Budget support was supposed to act as an incentive for (governance) reform (IOB, 2012). However, it is doubtful whether conditionality works, especially because it is often unclear what consequences to attach to default (Collier, 1997; Adam *et al.* 2004; Bigsten, 2006).

As a side effect, the policy dialogue with the donors involves high transaction costs in the sense that a plethora of documents need to be prepared for the various meetings. For instance, the framework memorandum of the MDBS calls on the government to provide a wide array of reports, including one on the means of verification for all the targets and triggers, reports on budget execution and poverty-reducing expenditures, audits of selected financial flows, the annual budget statement, the audit report of the consolidated fund, public expenditure tracking surveys, the annual progress report and the annual report on the African Peer Review Mechanism for Ghana. Given the government's limited institutional capacity – which was confirmed by respondents interviewed for this study – the administrative burden of MDBS is very large indeed.

One may say that vis-à-vis its traditional development partners, Ghana is gradually owning more of its development strategy. Until the turn of the century, ownership and autonomy were very limited, and the country had little means to deviate from the prescriptions of its development partners. The alignment of aid with Ghana's own priorities has been better since then. Indeed, despite the above-mentioned criticism, it has been argued that the MDBS initiative has improved the architecture for policy dialogue and has contributed to more ownership of the reform programmes (Betley and Burton, 2011). What is definite is that a wide range of methods and fora for policy dialogue have been put in place. The annual meetings of the Consultative Group on the MDBS and the sector working groups, 15 in total, have become important vehicles of communication between Ghanaian ministries and agencies, and Ghana's development partners.

Significance of foreign aid

Foreign aid is an important element in the macro-economic and socio-economic policy of the Government of Ghana. It helps to finance the deficit on Ghana's balance of payments and allows the government to increase expenditures without increasing the budget deficit. Budget support, as opposed to project aid, has a particularly strong impact on the fiscal space of the government. Between 2003 and 2010, budget support constituted more than 10% of the government's annual budget, ranging from 10% in 2008 to almost 15% in 2009. Osei *et al.* (2005) conclude that aid has reduced domestic borrowing in Ghana. The authors found a positive, not a negative, impact on tax revenue.

ODA to Ghana has been on the rise in the past decade (see table 4.1). The inflow only declined slightly in 2007, but in 2008 the upward trend resumed again, in spite of the negative impact of the financial crisis on the economies of Ghana's development partners. The crisis has assisted the country with an increased flow of donor resources, especially from the Eurozone through its Euroflex facility, which is meant to cushion Ghana from the crisis.

Table 4.1 Ghana ODA envelope in USD millions (2003-2010)								
	2003	2004	2005	2006	2007	2008	2009	2010
General budget support (MDBS)	277.9	309	281.9	312.1	316.6	368.2	525.2	451.4
Sector budget support (SBS)		7.7	31.3	37.2	70.1	104.9	175.2	167.8
Total budget support	277.9	316.7	313.2	349.3	386.7	473.1	700.4	619.2
SWAp					12.1	15.2	86.9	81.2
Earmarked support		7.7	31.3	37.2	58	89.8	88.2	86.5
Project aid	494.4	600.6	657.5	698.6	927	947	912.5	841.8
Total excluding debt relief	**772.3**	**925.0**	**1002.0**	**1085.1**	**1383.8**	**1525.1**	**1788.0**	**1628.7**
Budget support	36%	34%	31%	32%	28%	31%	39%	38%
Project aid	64%	65%	66%	64%	67%	62%	51%	52%
HIPC	154.2	174.1	196.9	209.8	246.1	158.4	191.9	168.8
MDRI				97.5	96.6	71.1	97.7	67
Total debt relief	**154.2**	**174.1**	**196.9**	**307.3**	**342.7**	**229.5**	**289.6**	**235.8**
IMF	76.6	38.7	38.2	116.6			200	200

Source: Quartey et al. 2010.

Under the HIPC initiative, the government was obliged to increase poverty reduction expenditures. These covered activities that focused on basic education, primary health care, 'poverty-focused' agriculture, rural water, feeder roads and rural electricity sector. MDBS helped to finance these expenditures, while development partners insisted on progress on the MDGs through the MDBS conditionalities (underlying principles) and the policy dialogue (including the PAF). Between 2003 and 2011, there were significant increases in these expenditures. As a percentage of government expenditures, the increases grew consistently from 27% to about 35% in 2006. In 2007, the share declined to a low of 23% before rising again to a level of 30% in 2011.

Table 4.2	Resources provided by development partners for GPRS and GSGDA, by thematic area, 2006-2012 (USD million)					
	2006	**2007**	**2008**	**2009**	**2010**	**2011**
Disbursements:						
Macro-economic stability					20	326
Competitiveness of private sector	357	323	613	635	38	12
Agriculture, natural resources					159	212
Oil and gas development					3	2
Infrastructure					604	290
Human development	329	317	192	249	305	187
Governance	57	154	232	210	251	140
Total	**743**	**794**	**1,037**	**1,093**	**1,379**	**1,167**
Total resources:						
Macro-economic stability					790	1123
Competitiveness of private sector	575	855	1,525	1,161	55	15
Agriculture, natural resources					237	370
Oil and gas development					203	423
Infrastructure					1,198	858
Human development	669	816	675	797	1,203	644
Governance	314	277	533	752	540	778
Total	**1,559**	**2,086**	**2,751**	**2,710**	**4,227**	**4,210**

Source: Computed from data provided in NDPC's annual progress report on the implementation of GPRS I, GPRS II, GSGDA.

4.4   Role of migration

An important source of foreign income in addition to aid and FDI is the inflow of remittances from abroad. Migration is an important phenomenon in Ghana. The country has substantial immigration from other African countries, while about 825,000 Ghanaians live abroad, most of them in other African countries. The 1970s witnessed large-scale migration of professionals such as teachers, doctors and nurses, initially to other Anglophone African countries. The booming Nigerian economy also attracted many Ghanaian labour migrants. International emigration accelerated during the 1980s, owing to the continued economic crisis (Anarfi and Kwankye, 2003). Since the 1990s, Ghanaians have moved to the United States, Canada and Europe, especially the United Kingdom, Italy, Germany and the Netherlands (Ter Haar, 1998). According to estimates of the Office for National Statistics, in 2011 about 94,000 Ghanaians lived in the United Kingdom. By then,

about 47,000 people from Ghana lived in Italy. Official figures for Germany mention about 23,000 people with a Ghanaian passport (2002).

Emigration has had a positive as well as a negative impact on Ghana. Remittances by Ghanaian migrants are increasing and according to recent estimates they are almost twice as high as official development assistance. Note that the estimates differ substantially – we are relying on Ghanaian data (Bank of Ghana, statistical bulletin, June 2012). Although the balance of payments does not record remittances separately but includes them in total private transfers, the Bank of Ghana does report private inward transfers to individuals via banks in its monetary policy reports. These transfers may be considered as a lower bound on actual remittances by all Ghanaians abroad. The average during the period 2006-2011 was USD 1.6 billion (5% of GDP).

Figure 4.1   *Private remittances from abroad, 2006-2011*
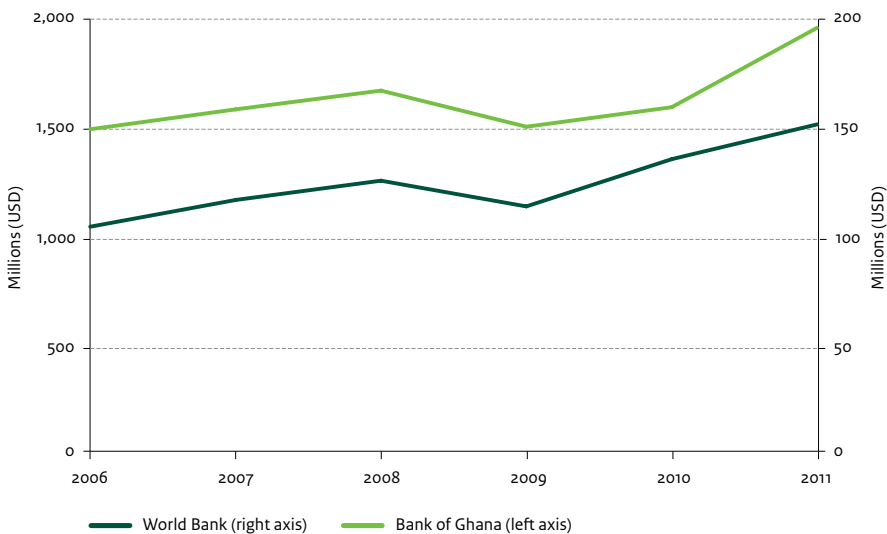
Sources: World Bank annual remittances data, Bank of Ghana, statistical bulletin, June 2012.

On the other hand, the brain drain (in the health sector, especially to the United States, the United Kingdom, Germany and Italy) also has a negative impact. The loss of highly skilled workers has had repercussions on Ghana's labour market, where it has impacted negatively on vital sectors such as education and health care. Between 1993 and 2002, roughly half of all doctors and a third of all nurses left the country after training. The cost to Ghana is that these highly skilled people pay less than 10% of the cost of training. The rest is borne by the country. Research shows that skilled migration has a negative effect on productivity and may lead to an increase in poverty levels. According to Djiofack *et al.* (2013), the negative effect of productivity loss due to the emigration of skilled labour is higher than the combined effect of remittances and productivity gains from unskilled emigration.

4.5   Policy developments in the agricultural sector, 2006-2011

The agenda of the GPRS I (2003-2005) was to modernise agriculture, make it pro-poor and include smallholder farmers. The GPRS II (2006-2009) focused on accelerating the growth of the economy to achieve middle-income status through structural transformation and by developing the private sector, diversifying the export base and increasing agricultural productivity, among other things.

The Food and Agricultural Sector Development Policy framework (FASDEP I) was developed in 2002 as a framework for the implementation of strategies to modernise the agricultural sector. In 2006, however, a Poverty and Social Impact Analysis of FASDEP I identified shortcomings in the framework's formulation of objectives, including poor identification and targeting of programme beneficiaries, weak problem analysis resulting from insufficient involvement of beneficiaries and a lack of proper coordination among relevant ministries, departments and agencies (MoFA, 2007).

A second FASDEP was formulated in 2007 to serve as the framework of a relatively long-term policy agenda for achieving the agricultural sector component of the GPRS II. The objectives of FASDEP II were aligned with the pillars of the New Partnership for Africa's Development (NEPAD) and the Comprehensive Africa Agriculture Development Programme (CAADP), an African initiative to accelerate agricultural growth, improve food security and strengthen environmental resilience across African agrarian economies. FASDEP II was also aligned with the sub-regional ECOWAS Common Agricultural Policy that guides interventions in agricultural development in the region. This reflects the Government of Ghana's commitment to the regional and sub-regional process. CAADP has seen sustained support from the donor community. For example, the 2009 G8 Joint Statement on Global Food Security endorsed CAADP and was committed to providing substantial resources to support agriculture and food security. Donor efforts have been directed towards mobilising resources for agricultural investments for FASDEP II through the Medium-Term Agriculture Sector Investment Plan for 2009-2015.

The agricultural sector, food self-sufficiency and food security, 2006-2011
The current sector development policy guidelines (FASDEP II) on enhancing food self-sufficiency and food security emphasise several initiatives in agriculture. These include continued research to improve priority commodities, to encourage sustainable land and water management, and the integration of crop and small ruminant development. In addition, objectives include improved access to irrigation, mechanisation and extension services, and increased adoption of integrated crop pest management measures. Finally, linkages to markets should be improved.

Since rural development comprises more than agriculture, attention is paid also to the diversification of activities into off-farm livelihood options. Special programmes target issues related to food security such as nutrition, food storage and distribution, while early

warning systems and emergency preparedness should contribute to improved resilience of rural populations.

FASDEP II specifically seeks to reduce the huge import of rice by increasing productivity and production levels by improving varieties and increasing the production and use of seeds. Other policy measures include enhancing mechanisation, expanding the cultivation of inland valleys and the more efficient use of existing irrigation systems.

Overall, the approach taken to enhance food security and improve the position of rural populations is to increase farm productivity by promoting and supporting the development of selected crops with proven potential to contribute significantly to food security. Increasing agricultural productivity is viewed as crucial for reducing food imports, lowering domestic food prices and achieving goals such as food security and poverty reduction.

Ghana's food security and poverty reduction efforts, however, have suffered some strains during the recent price hikes. The government's reaction and the distributional effects of the food crises has been the subject of intense debate. For example, while the government responded to the 2007-2008 food crisis by lowering import duties to prevent higher import prices, particularly for rice, in the 2010-2011 crisis it raised duties with the aim of encouraging higher domestic production (FSG, 2011). However, high local food prices hardly triggered an increase of agricultural production (Ackah *et al.*, 2010). Instead, it rendered many rural households poorer, because they too are net consumers.

The significance of this observation is that any policy that restricts food imports through tariffs, in this instance rice, will only reduce food security of the most vulnerable people, as significant investments in agriculture must be made first to increase competitiveness and supply responsiveness.

Donors and Ghanaian agricultural policy, 2006-2011

Over the last decade, the number of donors providing significant levels of development assistance in agriculture has risen (OECD, 2004; ODI/CDD, 2007). To what extent the influence of Ghana's development partners has been decisive in guiding the agricultural investments under FASDEP II remains to be seen. The British pro-poor focus in agricultural interventions, the Japanese and FAO interests in irrigation systems, and the German focus on extension issues may have had an influence on specific directions taken by the Ghanaian government. The Netherlands' involvement after FASDEP prioritised food security, in line with the Ghanaian government's prioritisation of the same issue.

FASDEP II is a rallying point where donors can indicate their intentions to provide technical assistance and funding in support of MoFA programmes. The harmonisation of policies requires cooperation between the Government of Ghana and its development partners in developing budget-support mechanisms with individual donors in key sectoral areas, integrating annual policy, planning implementation and review processes, and streamlining and aligning FASDEP with multi-donor budget support.

Ghana reviewed FASDEP II in 2008, in consultation with the relevant national stakeholders and development partners. The latter began coordinating their activities in 2002, long before the implementation of CAADP in Ghana. It is felt sometimes that the poor coordination of national agricultural policies may give donors substantial influence in Ghana's agricultural policy through the choice and conceptual design of projects.

NL-EU influence in the agricultural sector and food security situation, 2006-2011
The key issues addressed here are whether the Netherlands and the EU in particular influenced the development of the Ghanaian agricultural sector between 2006 and 2011, and whether these external influences were aligned with national objectives for agricultural development and food security. The issues raised here are based on the interviews.

Overall, there is consensus that donor efforts have been instrumental in consolidating CAADP's underlying framework within the Ghanaian FASDEP II and mobilising resources for agricultural investments for the programme through the government's medium-term agricultural sector investment plan. Also, MoFA works closely with donors and other stakeholders through the Agricultural Sector Working Group (ASWG). ASWG is an engagement forum for discussing policy implementation issues on agricultural performance, such as transparency in the allocation of funds in MoFA's budget for priority areas. Sector working groups have therefore become part of the aid architecture.

The Netherlands' aid and non-aid activities in Ghana are intended to assist Ghana in food security issues, among other ways by ensuring the sustainability and productivity of cocoa production, important for the Netherlands as a major importer of Ghana's cocoa. The support aims to strengthen institutions in cocoa (COCOBOD), eradicate child labour, encourage responsible spraying, promote agri-business, improve incomes for farmers and promote the certification of cocoa. The Netherlands is assisting COCOBOD in their private sector policy approach by financing stakeholder workshops and harmonising agricultural policy issues with donors.

The EU has engaged less with the agricultural sector than others, although it supports the development of the Afram Plains as an agricultural area. Furthermore, the EU supported MoFA with aid to enhance data collection for MoFA's monitoring and evaluation activities. The EU's trade policies under EPA or REPA may affect Ghana's exports to the EU, while the EU's Common Agricultural Policy may affect Ghana's trade with the EU as well. Generic EU trade policies affecting Ghana include phytosanitary and sanitary requirements for imports.

Figure 4.2 sketches the main agricultural trade relations between Ghana and the EU in 2011 (excluding cocoa and timber). The figure shows that excluding the main traditional exports (cocoa, 80% in 2011; and timber, 2% in 2011), the main agricultural exports from Ghana to the EU were fish (7%, mainly tuna), fruit (5%, mainly pineapple), animal and vegetable oil (2%) and vegetables (1%). Conversely, the EU exports animal products (mainly meat, poultry, poultry offal and milk, 40%), fish (6%) cereals (13%) and vegetables (6%).

Figure 4.2 *Trade in agricultural products between the EU and Ghana (2011)*

Total value in USD million

■ EU import from Ghana   ■ EU export to Ghana
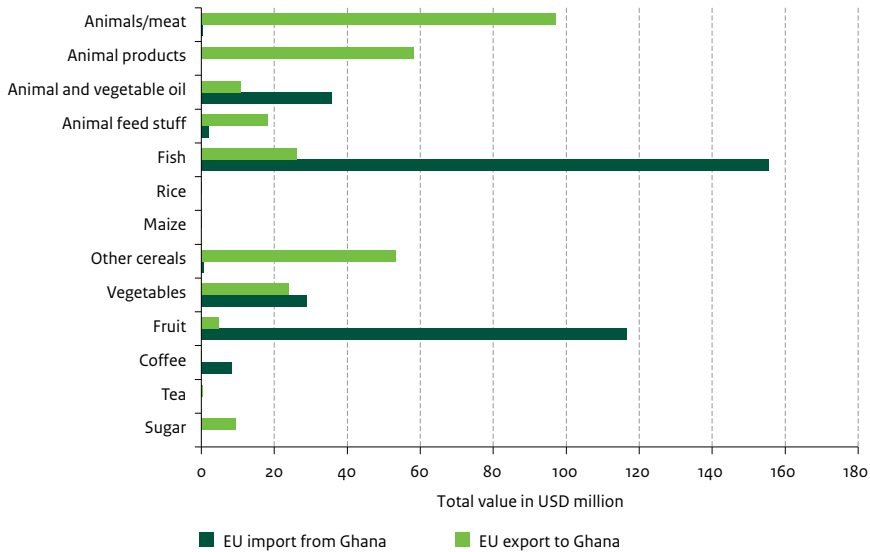
Source: UN Comtrade.

In addition to policies pursued by the EU and the Netherlands, consumption patterns in OECD countries as well as efficiency in capital intensive production methods may harm specific sectors, as is the case with poultry in Ghana. Consumer preference for chicken fillet has relegated wings and legs to the category of by-product that can be disposed of at a low price, while the efficiency of the large-scale intensive poultry sector in the EU, but also in Brazil and the United States, suggests that even freezing and transporting chicken meat to Ghana remains profitable (see figure 4.3). In 2011, 60% of EU exports of meat to Ghana consisted of poultry cuts and offal.

Although low meat prices have benefitted the urban poor in the coastal regions, they may have had at the same time a discouraging impact on the performance of the domestic poultry sector, which in spite of a fair annual growth rate of 9% between 2006 and 2012 did not manage to raise its rather low market share of 38% (MoFA, 2013).

Figure 4.3   *Sources of poultry imports, 2006-2012*
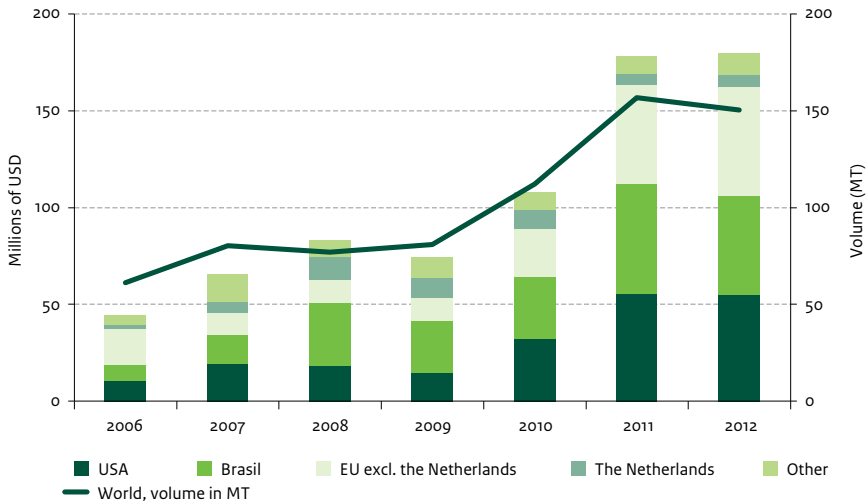
Note: Supply is defined as production available for human consumption.
Source: UN Comtrade database (2013).

In order to be able to assess the potential impact of a relaxation of EU agricultural barriers and subsidies for Ghana, it is also instructive to look at the composition of domestic supply and demand and Ghana's main exports in the agricultural sector. Figure 4.4 gives an overview of Ghana's main crops in terms of production and demand. These crops are cassava, yam, plantain, cocoyam and maize. With the exception of maize, production of these crops in the EU is low. Nevertheless, trade in maize between Ghana and the EU is very low (see figure 4.2).

Figure 4.4   *Domestic food production and demand (2012)*
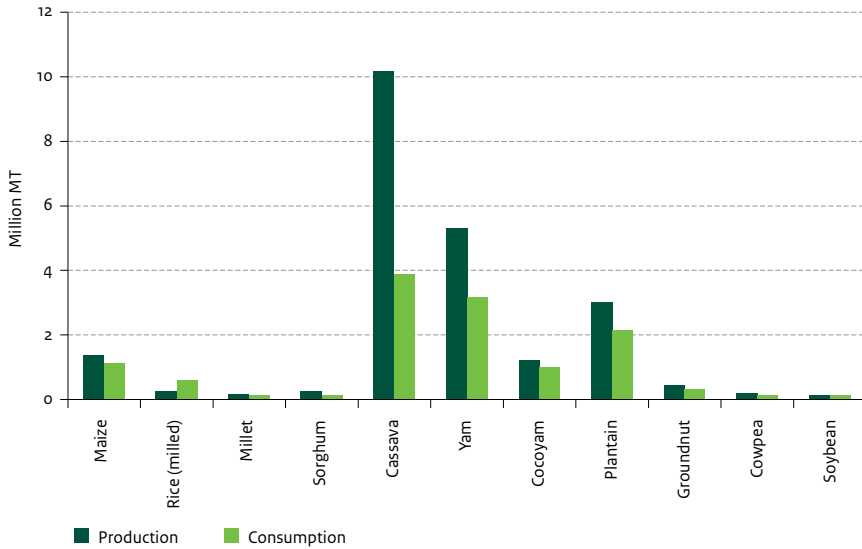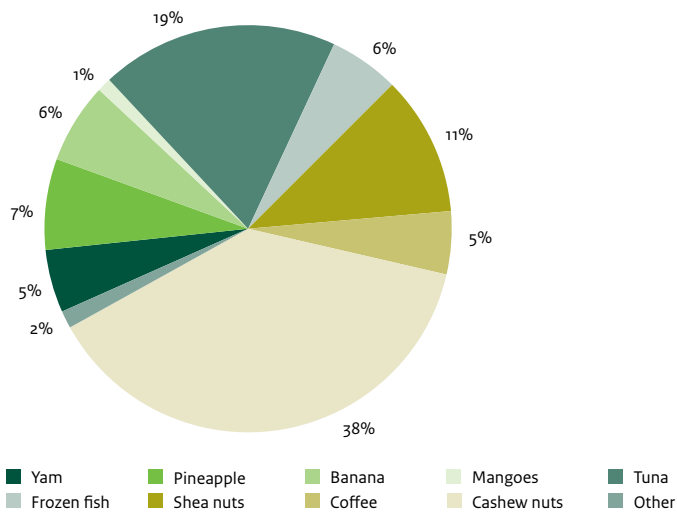

Source: ISSER (2013).

The EU is also not an important competitor when it comes to Ghana's main export products either. Figure 4.5 shows the share of specific commodities in the export of the major non-traditional export commodities (excluding cocoa and timber).

Figure 4.5   *Value of major non-traditional agricultural export commodities (2012)*

Source: ISSER (2013)

To summarise, it may be concluded that on the main agricultural markets, farmers in Ghana and the EU are not each other's direct competitors. The products that are the main exceptions to this rule appear to be poultry and vegetable oil. Nevertheless, also for the other commodities a change in the level of protection of EU farmers, through income subsidies or (non-) tariff barriers, may have an impact on agricultural production in Ghana, viz. indirectly via worldwide substitution of commodities and changes in world market prices.

4.6   Trade policies

The objective of diversifying the Ghanaian economy and moving away from the export of primary products towards manufactures was at the core of the Nkrumah administration's trade policies in the early days of independence from 1957 onwards. The administration drafted multi-year development plans aimed at import substitution in order to modernise the economy – with industrialisation as the cornerstone.

The import substitution strategy was backed by active trade and foreign exchange policies. The exchange rate was fixed – though subject to infrequent devaluations – and import quantities were controlled through the allocation of foreign exchange and high tariff rates. The fixed exchange rate regime led to a highly overvalued official exchange rate, an active parallel market in foreign exchange, capital controls and the allocation of foreign exchange based on import licenses. In turn, this led to a shrinking trade sector to which the government responded with more interventions, restrictions and controls.

This policy changed in the early 1980s, in reaction to economic recession in the 1970s and early 1980s. Ghana's adoption in 1983 of the World Bank and IMF's economic recovery Programme and structural adjustment programme was the start of a new trade policy that had the long-term objective of replacing quantitative restrictions with price instruments and creating a competitive environment with more liberal, outward-oriented market policies. Reforms included tariff adjustments, import liberalisation, the liberalisation of foreign exchange, the deregulation of domestic market prices and institutional reforms that particularly affected revenue-generating bodies such as the Customs, Excise and Preventive Service. Conscious efforts were made to dismantle the import licensing regime by reducing the number of products categorised as banned or restricted.

The stabilisation and adjustment policies were generally maintained throughout the 1990s. The state continued to implement extensive economic reform and trade policies aimed at transforming the economy from a largely state-controlled economy with inward-looking policies to a market economy. Other trade reforms in the 1990s included specific export promotion measures. The objective was to create an enabling environment for achieving middle-income status by 2020, as outlined in Ghana's Vision 2020 development strategy.

Tariff rates remained Ghana's main trade policy instrument after the elimination of quotas and other quantitative restrictions. By the end of the 1990s, overall tariff rates had been

reduced, the tariff structure had been considerably simplified and few non-tariff-barriers were applied anymore. Ghana implemented a relatively simple tariff structure in 2000, comprising four bands: 0%, 5%, 10% and 20%; the average applied tariff was almost 15% (WTO Trade Policy Review, 2001). In an effort to harmonise Ghana's tariff structure with ECOWAS and WTO provisions, the 20% special import tax imposed on selected non-essential imports in 2000 was eliminated in 2002. The trade policy was applied on an MFN basis for commodities from all countries except those that had trade agreements with Ghana.

In 2005, a new trade policy was adopted in the context of a new strategic vision that aimed to have Ghana achieve middle-income status as early as 2012 and become a leading agro-industrial country in Africa. This new policy was based on a two-tier industrialisation strategy: one tier would focus on boosting exports and the other on strengthening domestic sectors that have to compete with imports. Thus, the strategy of using trade policy for industrialisation has been a recurring one in Ghana. In addition to the trade policy, a Trade Sector Support Programme was designed to expand Ghana's production base and remove trade bottlenecks in the economy.

Logistics – the range of activities for moving goods across borders, such as transport, warehousing, cargo consolidation, port transactions, border clearance, distribution and payments systems – was one of the bottlenecks. In West Africa, administrative bottlenecks are adding to this problem, especially when goods are transported by road. This is one of the reasons why there is little trade between ECOWAS countries. Other reasons obviously include the quality of infrastructure and the lack of means to insure freight during transport.

According to a report published by the World Bank in 2012, there is much to be gained by boosting trade performances through improved logistics – perhaps even more than through fully liberalising the financial sector. A competitive logistics network is the backbone of international trade. In that respect, Ghana scores 2.5 out of 5 on the World Bank's Logistics Performance Index, indicating that the country still has a long way to go (ISSER, 2013).

Regional relations

Ghana has been actively involved in the regional integration process (ECOWAS). Ghana has received non-reciprocal preferential treatment from several trading partners, including the EU (see chapter 3 for details on the EU's trade relation with Ghana in the period 2006-2011). Furthermore, Ghana benefits from the United States African Growth and Opportunity Act, which offers incentives to African countries to continue their efforts to open their economies and build free markets.

ECOWAS represents an economy of 300 million people, so the potential gains from trade and exploiting economies of scale are huge. Yet WTO's World Trade Report 2011 indicates that intra-ECOWAS trade only accounted for 8%-9% of total merchandise trade. The ECOWAS trade liberalisation scheme has still not been fully implemented. The registration process for products to qualify is too onerous and slow. Traders face harassment and corruption from border officials. There are numerous trade logistics issues and disputes over trade

barriers among ECOWAS countries. One of the key problems is that too many states in West Africa, including Ghana, rely heavily on tariff revenue to fund basic government expenditures.

Ghana is putting in place measures to implement the ECOWAS regional integration process. For example, it is implementing the West Africa Monetary Zone programme, refining trade policy to reflect protocols, and strengthening links between domestic and regional trade policies.

4.7   Emerging economies: Donors, investors and trading partners

The role of emerging economies, such as Brazil, India, China and South Korea (BICK), as donors, investors and trade partners has become more pronounced during the second half of the 2000s, although Ghana's relationship with these countries goes back to the early post-independence period.

Donors

Aid from BICK countries consists primarily of project aid for infrastructure rather than programme support. The Chinese mainly provide (concessional) loans. A well-known example is the financing of the Bui Dam project, where the donor explicitly chose to build a dam rather than invest in railroad expansion or rehabilitation, based on projected returns on investments made. Table 4.5 summarises Chinese aid to Ghana, ranging from the Bui Dam project of more than USD 600 million to the USD 1.34 million refurbishment of Peduase Lodge. Grants are generally small, however, particularly when compared to the aid efforts of traditional donors.[11] In that regard, the Chinese prefer to remain observers in the MDBS group and have decided to decline the invitation to become involved in the Ghana Joint Assistance Strategy (Tan-Mullins *et al.*, 2010).

Chinese development cooperation differs from that of traditional donors in three ways. First, there is a stronger focus on project aid; second, aid is predominantly comprised of loans rather than grants; and third, there is an absence of conditional ties, other than those related to repaying the loans, including collateral (Tan Mullins *et al.*, 2010). Therefore, China keeps its interference in Ghanaian domestic policies and governance structures to a minimum.

Brazil is gradually emerging as an aid partner in developing economies with technical cooperation accounting for about 50% of its USD 1 billion of aid (AfDB, 2011). Brazil's

[11]   If you recall from chapter 3, the Netherlands alone already provided on average USD 90 million annually to Ghana in the period 2006-2012, and even the figures for 2012 alone (USD 41 million) exceed the Chinese grants by far.

cooperation with Ghana focuses on modernising Ghana's agricultural sector and is organised through the Brazilian Agricultural Research Corporation.

Table 4.3 Summary of Chinese aid to Ghana			
Project	Date	Modality	Amount
Ofankor-Nsawam stretch of Accra-Kumasi road	2002	Interest-free loan	USD 30 million
The National Theatre	2003	Grant	USD 2 million
Afife irrigation project	2003		USD 3 million
Police and military barracks expansion	2003	Grant	USD 3.9 million
Upgrading telecommunication network, building of a school and malaria centre	2006		USD 66 million
Security communication between agencies	2006	Concessional loan	USD 30 million
Bui Dam project	2007	Concessional loan and buyers' credit	USD 622 million
Various developmental projects	2007	Interest-free loan, grant	USD 4 million, USD 1.33 million
Landing sites for fishing communities	2008	Interest-free loan	USD 99 million
Office complex for Ministry of Defence	2008		USD 7.5 million
Peduase Presidential Lodge	2008		USD 1.34 million
Chinese loan for infrastructural development	2011		USD 3 billion
Human resources development – scholarships			

Source: Adapted from Giles Mohan (2010, Figure 1).

Investors

Africa's rich endowments of oil and minerals make the continent an attractive destination for investors seeking to invest in natural resources. As a result, Africa has seen a dramatic increase in FDI inflows over the past two decades. In Ghana, FDI from BICK countries has largely been geared towards the exploitation of natural resources, including land, minerals and metals (AfDB, 2011).

Chinese investment in Ghana has been growing steadily. In 2007 alone it was almost double the sum of all FDI received from China between 1995 and 2006. Recent FDI from China is concentrated in the manufacturing, building, construction and general trade sectors (Tsikata *et al.*, 2010). China's presence in Ghana has increased Ghana's bargaining power with donors (Tan-Mullins *et al.*, 2010, p. 875).

Brazil's investments in Africa and Ghana are largely focused on agriculture. Since 2000, Brazil's investments in Africa have been increasing steadily and in 2009 they exceeded the USD 10 billion mark (AfDB, 2011). These investments mostly involve natural resources and agriculture.

The Ghana Investment Promotion Council indicated in 2008 that India had the highest number of new large projects in Ghana, and that most Indian companies in Ghana are performing well on both the local and international markets. The majority of Indian investments in Ghana concentrate on agriculture and manufacturing. In addition, most pharmaceutical companies in Ghana are collaborating with Indian firms to manufacture and supply high-quality, affordable drugs to Ghana's health sector.

There are countries outside the BICK group that are important for FDI in Ghana as well. For example, Lebanon, the United Kingdom, the United States and Germany are increasingly investing in Ghana, while the top-three African countries with an interest in the Ghanaian economy are Nigeria, Cote d'Ivoire and South Africa (William, 2011).

Trading partners

China is by far Ghana's most important trading partner from the BICK group (figure 4.6). Figure 4.6 also shows that the share of BICK countries in Ghana's total imports increased somewhat in the period 2006-2011, from 18% in 2006 to 24% in 2011, down from 27% in 2010.

Similar figures for exports indicate that the share of BICK countries in Ghana's total exports was limited, varying from a low of 2% in 2009 to a high of 7% in 2008, with an average of 4% in the period 2006-2011. Hence, BICK countries may present alternative outlets for Ghanaian products in the future, this has yet to materialise.

Figure 4.6   *Share of BICK countries in Ghana's imports, 2006-2011*
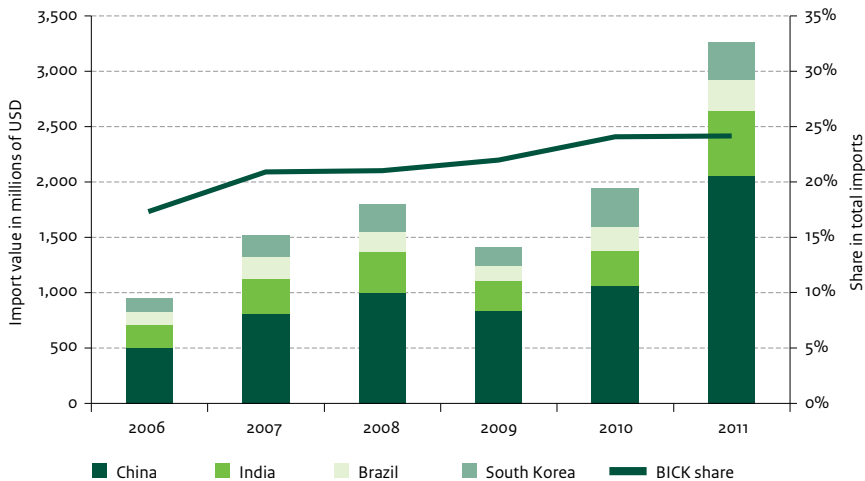
Source: UN Comtrade

4.8 Internal developments: The discovery of oil and increased income from exports

In 2006, Ghana discovered oil in its territorial waters. Soon it became clear that the expected revenues and windfalls might provide Ghana with the fiscal space to own its development agenda and finance its own national development strategy. For instance, the Growth and Poverty Reduction Strategy (GPRS, 2006-2009) was designed with a funding gap of about USD 1.79 billion, which was to be financed by external inflows and resources from capital markets. However, with Ghana embarking on commercial oil production in 2011, this gap could be financed with a year's oil revenue (Osei and Domfe, 2008). If used appropriately, the theoretical fiscal space provided by oil revenue could support Ghana's fiscal and monetary policies as well as ease credit constraint on the private sector (CEPA, 2010).

Oil revenue has had a major impact on the budget. According to the Petroleum Revenue Management Act, 2011 (PRMA, Act 815), 70% of the projected petroleum receipts, or Benchmark Revenue, is earmarked for the Annual Budget Funding Amount (ABFA), as approved by Parliament, with the remaining 30% allocated to the Ghana Petroleum Funds (GPFs). In addition, the allocation to the GPFs should be distributed to the Ghana Heritage Fund (GHF) and the Ghana Stabilisation Fund (GSF) at the ratio of 3:7 respectively. However, it should be noted that the Benchmark Revenue is less than 20% of total oil revenues (Ministry of Finance, 2013). The Ghana National Petroleum Company may lift a specified number of barrels from the Jubilee oil field (3.9 million barrels out of a total 24.5 million in 2011, and 4.9 million out of a total of 26.4 million in 2012). Subsequently, the associated revenues are divided as stated in the PRMA.

In 2012, 5.7% (USD 31 million) and 2.4% (USD 13 million) of petroleum receipts were allocated to GSF and GHF respectively. GSF was established to mitigate the impact on public expenditure during periods of unanticipated revenue shortfalls, whether caused by a fall in the petroleum price or through adverse production changes. GHF was established to provide an endowment to support the welfare of future generations after the oil fields have been depleted.

The ABFA is used to maximise the rate of economic development and to promote equitable distribution of national wealth and equality among citizens. Its use is guided by a long-term national development strategy aligned with a medium-term expenditure framework as approved by Parliament. The Ministry of Finance and Economic Planning is responsible for the management of oil revenue, while the PRMA specifies further checks and balances in the governance structure to ensure transparency in spending.

Table 4.4	Annual Budget Funding Amount (ABFA), cedi million, 2011, 2012			
	2011		**2012**	
	Expenditure	**% of total**	**Expenditure**	**% of total**
Expenditure and amortisation of loans for oil and gas	20.0	7.6	100.0	19.3
Road and other infrastructure	227.6	87.0	232.4	45.0
Agriculture modernisation	13.2	5.0	72.7	14.1
Capacity building	0.75	0.3	112.0	21.7
Total	**261.4**	**100.0**	**516.8**	**100.0**

Source: MoFEP (2012).

An amount of GH¢ 512.1 million (approximately EUR 127.5 million) was included in the budget in 2012, which was more than double the amount in 2011 and represented 2. 5% of the budget as compared to 1.9% in 2011. Table 4.6 shows that the ABFA is targeting infrastructure. This focus on productivity – as opposed to spending the windfall gains on public consumption – was seen as a positive step by all interviewees. Nonetheless, they also indicated that the size of oil revenue not yet sufficient to replace donor support.

4.9   Challenges, external influence and graduation

After reviewing Ghana's development in 2006-2011 in chapter 2, donor policies in chapter 3 and Ghana's policies in this chapter, it can be concluded that the prospects for Ghana's development are promising, but there a still a number of challenges on the road ahead. First, the country's macro-economy is still very fragile and sensitive to internal and external shocks, according to fiscal indicators. This fragility is the result of Ghana's recent growth in GDP being driven to a large extent by mining and oil exploration, with the services sectors growing in the slipstream, but with manufacturing and agro-industry lagging behind. Second, although foreign direct investment and commercial loans from abroad are important ways of financing economic growth, increasing dependency and over-concentration in only a few sectors is not sustainable. Hence, the challenge is to strike the right balance between remaining an attractive destination for new and incumbent investors, and reaping enough of the benefits in terms of domestic employment, retained profits and taxes.

Third, there is a clear need for Ghana to create employment opportunities and generate income for large groups of people. They will depend on the country's ability to face the challenge of building human capital. The skills and productivity of the labour force are still inadequate to support successful industrialisation. In this respect, universal access to health facilities and high-quality education are two areas that leave much to be desired.

Fourth, there appear to be persistent regional disparities in development, and this could threaten the country's stability, which is Ghana's main asset that sets it apart from many of its neighbours.

Finally, the challenge for traditional donors is how to deal with the emerging presence of BICK countries in Ghana, where coordination or competition are two alternative ways of interacting. Given that BICK countries have their own agenda (and their presence in Ghana is only a part of this agenda), this challenge will have to be dealt with outside the context of the MDBS group.

Given these challenges and in view of the increased, but still limited agency of Ghana, it seems that the development partners have a certain responsibility in maintaining their policy coherence and focusing their future PCD agenda. Continued dialogue is needed to achieve this, and consultations and small scale meetings with relevant stakeholders, scientists and policy makers could play a role here – as the interviews held for this study and the interactions during this study's seminar at the University of Ghana in December 2013 have shown.

One issue that came up at a seminar for this study in December 2013 and in interviews is the necessity of continued support for transparency in the public sector and economic management in the country, especially in agriculture. For example, an agricultural development strategy in response to the rural poverty problems is yet to be implemented, although both a policy framework (FASDEP) and a consultation platform (ASWG) have been established in this area. In that regard, some concerns were voiced that the liberalisation of trade, specifically of imports, has left the agricultural sector too much exposed to international competition, and, also that the structure of the agricultural sector itself is inadequate to respond to changes in international trade conditions.

The graduation of Ghana from a lower to a middle income country has a clear bearing on these issues of internal economic management and changing external policy landscape. The questions arises whether it is not too early for gradually phasing out ODA. Ghana is going to face increasingly harder and more commercial terms on its official loans. In view of Ghana's debt financing and the limited austerity of its financial policies, these tendencies clearly present a risk for sustainable development in the long term. Yet, graduation is not an unfortunate 'handicap', but rather a step towards more autonomy and self-reliance. In this process, 'traditional' relations with development partners may continue to serve a purpose, even in the medium run, albeit that overall, these relations themselves need to develop and adjust.
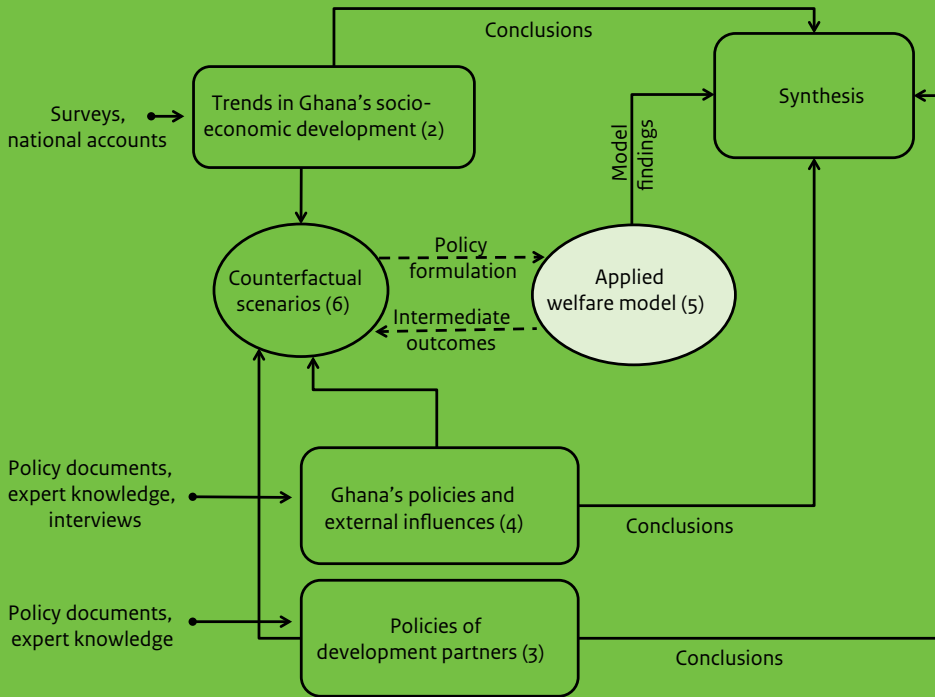
5

Applied welfare model

5.1   Introduction

This chapter describes and applies the conceptual and empirical modelling framework that is used to implement the method of counterfactual analysis discussed in chapter 1. The framework is designed to simulate the socio-economic developments in the context of rapidly changing boundary conditions, as described in chapter 2, and also tries to recreate the donor and domestic policy landscape described in chapter 3 and chapter 4 respectively. The framework is rooted in general-equilibrium and social welfare theory (Ginsburgh and Keyzer, 2002) and consists of a Social Welfare Model (SWM) that is calibrated to reflect trends in the various sectors of the Ghanaian economy and in the income patterns of the various population groups in the period 2006-2011. The calibration employs a Social Accounting Matrix (SAM) for the year 2006, the base year of the study

The SWM will reproduce in a quantitative and systematic way the characteristics of the Ghanaian economy in 2006, including the decomposition of the domestic supply-demand balance by commodity, the allocation of GDP by sector and the income-expenditure patterns by population group, while accounting for the macro-economic implications of all this. Because of its ability to simulate the economy in response to observed changes in the drivers, the SWM can show these outcomes also for subsequent years and hence set the stage for a numerical simulation of the 'factual' as well as various 'counterfactuals' in the next chapter.

A distinction is made between one 'factual' and several conceivable 'counterfactuals'. The factual consists of a baseline simulation of actually observed trends in 2006-2011 within the observed boundary conditions under which the economy operated. Next, counterfactuals will take the form of 'if-then' scenario simulations. The 'if' part consists of a policy change – with all its direct implications and indirect effects as a result of responses by other agents – that affects the boundary conditions, while the 'then' part is a model estimate of the implied change in Ghana's development path, especially in terms of sectoral growth patterns and regional income patterns.[12]

This chapter is organised as follows. The next section describes the SWM and its main characteristics and properties. This is followed by a section on the 2006 SAM, which gives a detailed snapshot of the Ghanaian economy for the base year 2006 and which serves as the data integrating device for the SWM.[13] Section 4 contains the factual, which consists of a calibrated base year solution for 2006 and simulation outcomes for subsequent years (until 2011) under a set of assumptions that reflect the main driving forces that actually constituted the boundary conditions of the Ghanaian economy. This includes results on the poverty impact of high growth at the national and sub-national levels.

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[12]   A distinct feature of the welfare approach is that income redistribution effects between regions are clearly presented as the poorer regions have a lower weight in the social welfare function.

[13]   A technical description of the model can be found in annex II.

5.2   Characteristics and properties of the Social Welfare Model

The model used to simulate numerically the Ghanaian economy belongs to the family of general equilibrium models. Most of these are of the Computable General Equilibrium type (CGE). A CGE model presents economic relationships by means of a system of equations derived from general equilibrium reasoning. It is usually characterised by a number of variables that exceed the number of equations, and, in order to ensure that the number of equations match exactly the number of endogenous variables, CGE models resort to 'closure' rules to fix the value of certain variables. The choice of variables that are made exogenous is something that may be contested, for example when it concerns prices or export and import patterns. Controversy about which closure rules to apply is part of a more general discussion on the relevance of CGE models that started with the early contribution of Sen (1963). It is striking that CGE models have been criticised for their focus on a system of equations that can be solved through the inversion of a Social Accounting Matrix, rather than focusing on market-clearing prices that can be computed through a fixed-point mapping (Scarf, 1967). Accordingly, applications of CGE models tend to show a certain non-compliance with the fundamentals of economic equilibrium theory, which limits their relevance to simulate the Ghanaian market economy.

Models of the Applied General Equilibrium (AGE) type try to deal with this criticism (Ginsburgh and Keyzer, 2002). Compared to CGE models, AGE models stay close to their theoretical foundations by explicitly formulating excess demand that corresponds to each set of prices and by seeking a price vector that removes any excess demand. What is more, the AGE-approach has an immediate link to welfare economics and vice versa. This latter point is important because the way the social welfare model presents an economy proves to be a natural and powerful tool for making detailed numerical simulations of a market economy (Keyzer and Van Veen, 2012). On the other hand, compared to macro-economic models and CGE models, the social welfare approach is elaborate in terms of implementation.

Nevertheless, a more elaborate approach is justified for the current study on policy coherence for development in Ghana. A wide range of development policies fall under the umbrella of PCD and, moreover, the aim is to assess these policies at a detailed sectoral and social level, keeping track of both macro- and micro-responses to a changing environment. This is exactly what the AGE approach purports to do.

Formally, the model is an applied general equilibrium model in which population groups, sectors and traders maximise their own objective (utility and profit respectively), and in which price signals are computed that reflect scarcity in terms of the efforts of the producers and the wants of the users. The social component of the model consists of the taxation of some sectors and some population groups, and the subsidies and transfers to other sectors and other groups.

The model simulations are based on variables and parameters that are exogenous to the computations, but potentially influenced by donor policies and Ghana's own policies. The following are the main variables that constitute the driving forces and boundary conditions within which the Ghanaian economy functions.

- Population growth and internal migration between regions;
- Human capital formation by region (10 regions);
- Gross fixed capital formation and distribution by sector (49 sectors);
- Government expenses on public administration and defence;
- Taxation of profits by sector; indirect taxation by good; subsidies health and education; and
- World market prices for imports and exports by commodity.

In addition, the model has certain parameters that are of particular relevance for the simulation of counterfactuals, because policy changes can have an immediate impact on them. In that sense, one could say that these parameters too are the driving forces of the Ghanaian economy.

- Ownership of capital by sector (population groups, government, foreign);
- Government share in domestic saving and shares by population groups; and
- Size and composition of the trade deficit (remittances, aid, savings/FDI, profit outflows).

Based on these variables and parameters, the following outcomes are generated endogenously.

- Gross production, intermediate demand and GDP growth by sector;
- Wages, capital income, transfers, remittances and consumption by population group;
- Imports by commodity (both in values and in quantities);
- Private consumption and exports by commodity (both in values and in quantities);
- Savings (government, foreign and by population group); and
- Import and export prices, producer, intermediate use and consumer prices.

5.3   Social Accounting Matrix for Ghana 2006

National accounts form the main data integrating device to describe economic outcomes for the population as a whole, while Social Accounts are a means to disaggregate the outcomes for the various population groups. In the case of Ghana, official national accounts estimates for the period 2006-2011 were used, and the details used to create an impression at the level of Ghana's 10 regions are taken from the fifth round of the Ghana Living Standards Survey (GLSS) and an existing SAM for 2005 (Breisinger, Thurlow and Duncan, 2007; GSS, 2007b; GSS, 2013).

As compared to the existing 2005 SAM, adaptations have been made on two main points. First, the production structure is adjusted to the new GDP series released by the Ghana Statistical Service. These series involved an upward correction of GDP by as much as 70%, while the share of the service sectors increased from 36% to almost 50%. The second major

adjustment concerns an extension from 2 population groups (rural-urban) to 10, each representing one of Ghana's regions. Estimates of income and expenditure patterns were based on the GLSS 5, while estimates of regional population growth were based on the Population Census of 2000 and 2010. Finally, various macro-indicators were used from official publications.

The 2006 SAM is detailed and, by construction, it is consistent. The detail is reflected in the social stratification of population groups I (10 regions), the economic classification of production sectors J and goods K (20 agricultural goods, 17 industrial goods and 9 services). For each population group and for each sector, the SAM equates the income to the expenditure, while the domestic supply-and demand balance is assured for each and every good or service. The SAM keeps track of the inter-sectoral linkages and the trade and transport requirements, while assuring that the ensemble of accounts moves within the three boundaries of the economy, namely the government budget, the balance of payments and the savings-investment account.

Each row composes the income (or destination) side of a budget and each column the expenditure (or origin) side. In the applied welfare model of this study, four additional accounts are added to these three indices, labeled 'labour', 'government', 'foreign' and 'saveinvest'. The account for labour represents the labour market in the sense that the row in that account represents the labour income of the various groups, while the column represents the labour cost in the various sectors. The government account is included to keep track of the government budget. The foreign account represents the balance of payments. Finally, the save-invest account keeps track of the investments and the required savings by the various economic agents.

The structure of the SAM for Ghana is illustrated in Figure 5.1.As noted before; the essential accounting property is the equality between the row total and the column total. This assures that for each population group and for the government, expenditure (column) cannot exceed income (row). Likewise, for each sector, gross production (row) reflects the cost of intermediate inputs, and the distribution of GDP over labour and non-labour income, taxes and payments for factor services from abroad (column). The account of a good or service and the labour account indicates that total demand (row) must equal total supply (column). The foreign account reflects that imports plus net factor payments (row) equal exports plus official and private transfers plus net savings from abroad (column). Finally, the savings and investment account assures that the total of the savings (row) is adequate to finance the investment (column).

In a way, each cell of the SAM can be seen as a payment of the entity in the column to the entity in the row, or, conversely, a receipt of the row-entity from the column-entity. For example, ('government', 'foreign') concerns the net inflow of money from official transfers, official grants, and official debt and debt servicing. The table below provides a summary of the Ghanaian economy in 2006, where the total of all households I is referred to as 'GHANA-I'; the total of all sectors J as 'GHANA-J' and the total of all goods and services K as 'GHANA-K'

Figure 5.1 *Structure of the 2006 SAM for Ghana*

	House-hold I	Sector J	Good or services K	Labour	Govern-ment	Rest of the world	Invest-ment	
House-hold I		Capital income		Labour income	Trans-fers	Overseas remit-tances		House-hold income
Sector J			Produc-tion					Sector income
Good or service K	Private con-sump-tion	Inter-mediate input	Trade & transport margins		Public admin-istration	Exports	Invest-ment demand	Total demand
Labour		Labour cost						Labour demand
Govern-ment	Personal tax	Com-pany tax	Duties and net indirect taxes			Net official pay-ments		Govern-ment revenues
Rest of the world		Outflow of profits	Imports		Debt servicing			Pay-ments to ROW
Savings	House-hold savings				Govern-ment savings	Foreign savings		Total savings
	House-hold expen-diture	Sector expen-ses	Total supply	Labour supply	Govern-ment expen-ses	Pay-ments from ROW	Total invest-ment	

Table 5.1 shows that Ghana's GDP at basic prices was GH¢ 17,810 million in 2006, namely the gross output value of GH¢ 27,992 (row GHANA-J and column GHANA-K) less the value of GH¢ 10,182 for intermediate inputs (row GHANA-K and column GHANA-J). This is equivalent to an average per capita income of USD 879, slightly less than USD 2.50 per capita per day.

| Table 5.1	Overview of the 2006 SAM (cedi millions)							
	GHANA-I	**GHANA-J**	**GHANA-K**	**LABOUR**	**GOVERN-MENT**	**FOREIGN**	**SAVE-INVEST**	**GHANA**
GHANA-I		5,104		12,302	677	1,519		19,602
GHANA-J			27,992					27,992
GHANA-K	17,457	10,182	6,887		955	4,627	3,369	43,477
LABOUR		12,302						12,302
GOVERN-MENT	453	265	895			848		2,461
FOREIGN		139	7,703					7,842
SAVE-INVEST	1,691				829	848		3,369
GHANA	19,602	27,992	43,477	12,302	2,461	7,842	3,369	119,534

Source: ISSER (2013, chapter 9).

Looking at the allocation of GDP in 2006 (column GHANA-J), it appears that labour income (GH¢ 12,302 million or 69%) is more than twice as large as non-labour capital income (GH¢ 5,104 million or 29%), while relatively small taxations on profits (GH¢ 265 million or 1.5%) and remunerations due to foreign ownership (GH¢ 139 million or 0.8%) make up the balance.

The household account (GHANA-I) shows that households receive a small net transfer from the government (transfer GH¢ 677 million less taxes GH¢ 45 million). This national total masks substantial domestic transfers between regions, as Figure 5.2 shows. Both in terms of the total and in terms of per capita redistribution of income, the three northern regions and the Volta and Brong Ahafo regions receive net transfers, with Greater Accra contributing the most.

Figure 5.2 *Regional transfers, 2006*
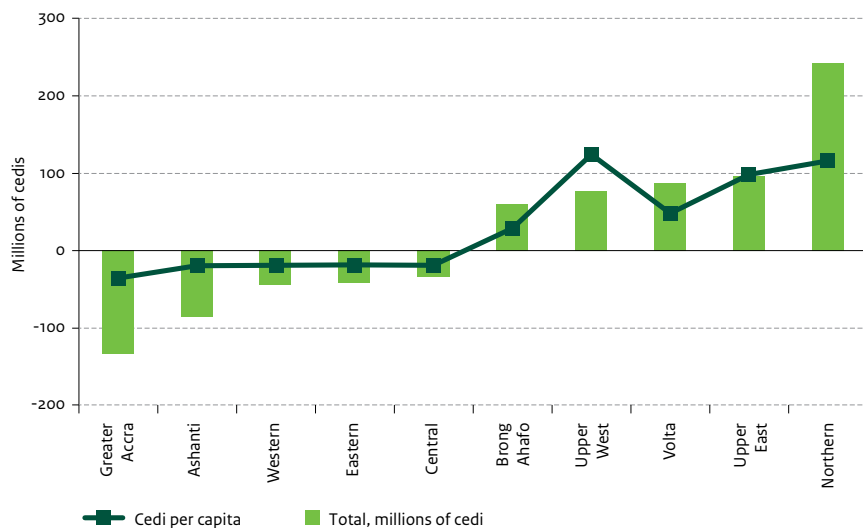
The 2006 SAM further reflects that Ghanaians receive a substantial income from overseas remittances (GH¢ 1,519 million). The private savings are fairly low though (GH¢ 1,619 million), comprising less than 9% of total income. As the savings and investment account (saveinvest) indicates, these private savings constitute about half of the total cost of fixed capital formation (GH¢ 1,691 million out of GH¢ 3,369 million). The remaining half is financed in equal proportions by the government (GH¢ 829 million) and by foreign investors (GH¢ 848 million).

It is striking that more than one third of the total revenues of the government budget consists of the net official payments from abroad (GH¢ 848 million), another one third concerns indirect taxes (GH¢ 895 million), while personal and company taxation (GH¢ 453 and GH¢ 265 million) constitute 20% and 10% of the revenues, respectively.

The balance of payments account (foreign) is further confirmation of the basic features of the Ghanaian economy in 2006. The deficit on the trade balance was sizeable (GH¢ 3,076 million or 17% of GDP) and showed that the total import bill depended strongly on official transfers and on overseas remittances (respectively GH¢ 848 and GH¢ 1,519 million), and a supplementary inflow of foreign capital (GH¢ 848 million).

5.4   Factual: Simulation of the economy 2006-2011

The growth and composition of GDP is a key outcome of development. The outcome for the period 2006-2011 is summarised in figure 5.3. The figure shows the high growth of the Ghanaian economy since 2006 (on average close to double-digit growth). At an estimated income that averaged about USD 4 per capita per day in 2011, Ghana is now well above the official international threshold for low-income countries. Yet, as discussed in chapter 2, Ghana's lower middle-income status conceals the persistence of poverty in certain population groups and regions, especially in the northern parts of the country.

Another noteworthy observation is the rapidly changing landscape in terms of contributions to GDP by the various sectors. Services continues to be the largest income earner, while growth in agriculture seems to have stagnated over the past couple of years. Indeed, the total income of the industrial sector is overtaking the total income from agriculture, which is primarily due to sectoral growth related to oil and mining. Given the predominance of agriculture in terms of employment and the concentration of poverty among small-scale farmers, these trends may have important implications for poverty reduction and equity outcomes in the Ghana Shared Growth and Development Agenda (GSGDA).

Figure 5.3   *Growth and composition of Ghana's GDP, 2006-2011 (in current USD)*
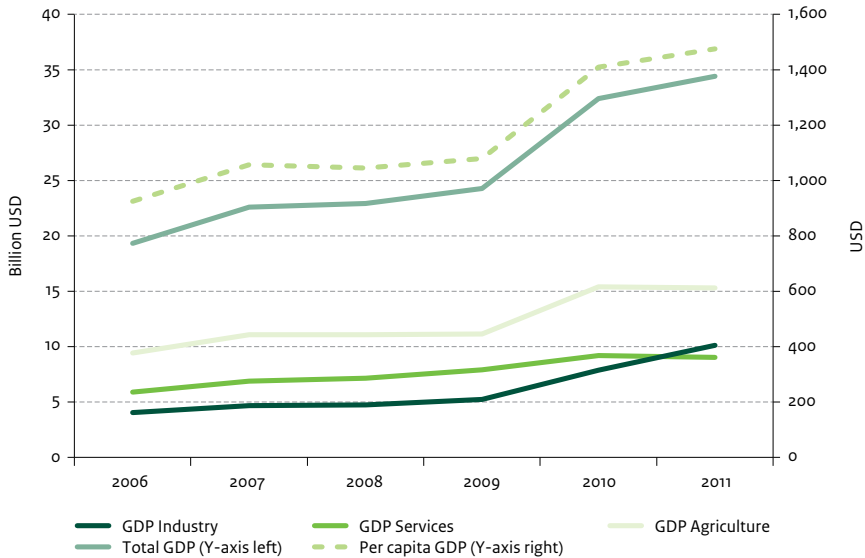
Source: Model simulations, calibrated to reproduce the actual GDP (GSS, 2013).

Poverty patterns

As chapter 2 has illustrated, there is a clear north-south gradient in living standards. Per capita incomes also follow this trend: regional per capita incomes are reproduced in table 5.2 below. Regional poverty figures were only available for the base year, and hence, for subsequent years these have been estimated. This was done as follows. First, the income distribution in 2006 for each of the 10 regions in Ghana has been estimated based on the data in the GLSS 5 (GSS, 2007b). Details of this estimation and the estimated income distributions are included in annex II of this report. Using the per capita income and the estimated income distribution, regional poverty figures for 2006 follow, using the national poverty line as the cut-off point.

Second, poverty rates have also been computed for the simulated growth path in the period 2007-2011, and they suggest that the effects of growth on poverty are something that must be addressed. On the one hand, the Kuznets hypothesis of a U-shaped relation between growth and equality (Kuznets, 1955, 1963) emphasises that growth in the early stages of development may lead to more poverty, as income inequality increases. On the other hand, more recent research seems to point to a much more stable income distribution (see, for example, Ravallion, 1995), which would imply that growth has a positive impact on poverty even at the level of low per capita incomes. However, the evidence remains inconclusive and can be highly country-specific, as Adams (2004) argues, for example. In addition, depending on how income is distributed, even a small increase in inequality can have a major impact on poverty (as confirmed in an empirical study by Bruno et al., 1998).

For this study, the income distribution in the year 2011 by region has been estimated separately from that in 2006 by applying the regional income growth while keeping the shapes of the regional income distributions fixed. This allows the computation of the growth elasticity of poverty. Table 5.2 summarises the estimated reactions, ranked from highly responsive to almost non-responsive, a ranking that almost follows the ranking in GDP per capita in 2006.

| Table 5.2 Implied reaction of poverty to GDP growth, 2006-2011					
	2006		2011		Implied reaction
	GDP per capita (USD)	Poverty rate (%)	GDP per capita (USD)	Poverty rate (%)	
Ashanti	906	15.1	1,289	9.9	-0.81
Greater Accra	1,640	12.0	2,554	7.5	-0.66
Central	867	20.0	1,244	13.9	-0.71
Western	889	17.8	1,270	12.5	-0.69
Eastern	865	20.0	1,237	14.6	-0.63
Volta	717	51.8	1,025	39.7	-0.54
Brong Ahafo	776	29.2	1,107	22.5	-0.53
Upper East	727	51.2	1,024	42.3	-0.43
Northern	597	69.9	851	62.8	-0.24
Upper West	537	87.7	772	83.7	-0.10
Ghana	**945**	**29.0**	**1,410**	**22.3**	**-0.47**

Source: SOW-VU's own computations.

Overall, the incidence of poverty is estimated to have fallen from 29% to 22.3%. These outcomes are illustrated again in figure 5.4, which shows that poverty rates have decreased in every region, but progress in the regions that had the highest incidences of poverty in 2006 has been very modest indeed.

Figure 5.4   *Regional poverty rates, 2006 and 2011*

Source: SOW-VU's own computations.

Applied welfare model

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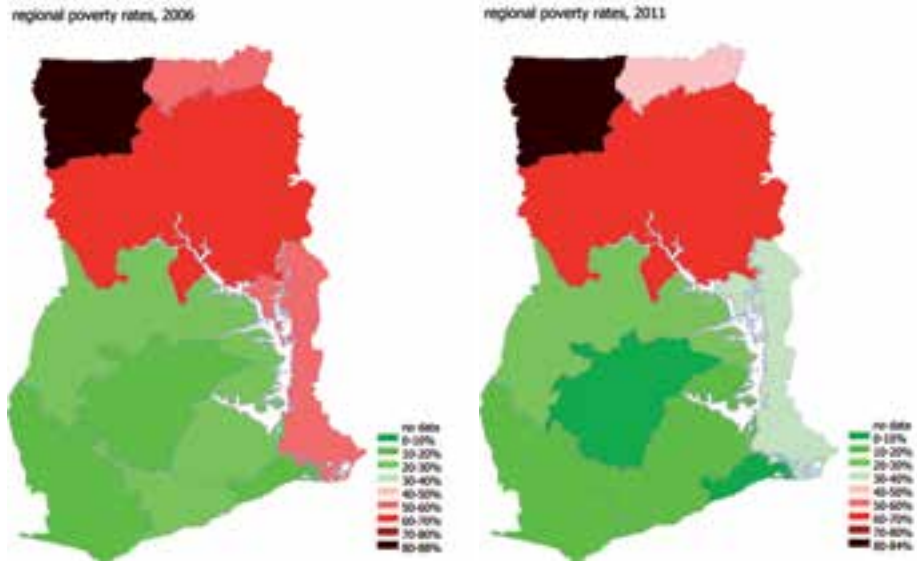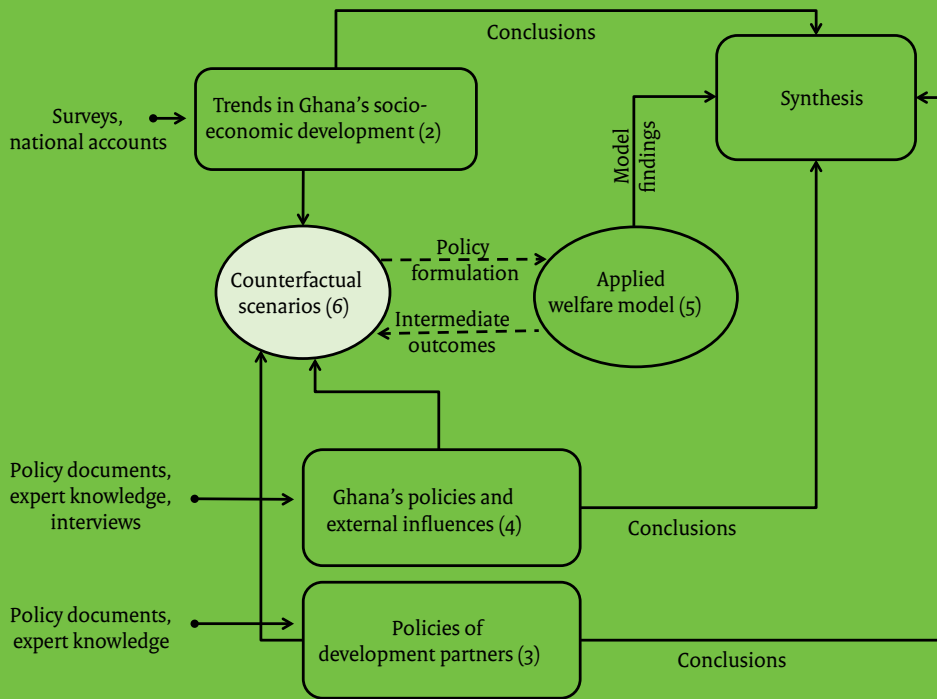
Counterfactual scenarios

6.1   Introduction

The previous chapters described socio-economic developments in Ghana in the period 2006-2011 and analysed the driving forces that actually led to these developments. In this chapter, we consider counterfactual scenarios for the same period and raise the question of what would have happened to the socio-economic situation under these scenarios. In this context, a scenario is defined as a coherent set of assumptions on driving forces of the economy. Each of the counterfactual scenarios is characterised by specific policy changes of the Netherlands/EU and credible policy reactions by the Ghanaian government. The counterfactual scenario analysis comprises a qualitative and quantitative assessment based on information presented in chapters 2, 3 and 4 and a quantitative simulation of effects using the applied welfare model outlined in chapter 5. This chapter focuses on the formulation of policy scenarios and their analysis by means of the applied welfare model. Section 6.2 addresses the implementation of a counterfactual scenario in general terms. The subsequent sections discuss the specific counterfactuals case by case. A summary concludes the chapter.

6.2   Concept and implementation

The counterfactuals were developed in terms of differences with the historically observed driving forces discussed in the previous chapter. Therefore, their description is rooted in factual events. Each counterfactual reflects specific policy changes made by the Netherlands/EU. These changes have been translated into adjustments of driving forces, also taking into account how the Ghanaian government would have reacted to these foreign policy changes, within the boundaries of policy making set out in chapter 4. The Applied Welfare Model is used to check the consistency of the counterfactual scenario and to calculate its impact on Ghana.

The main theme of the analysis is whether the policies of the Netherlands/EU have contributed to growth and poverty reduction in Ghana, i.e. whether they have been coherent with Ghanaian development objectives. More specifically, the question each counterfactual asks is whether this contribution could have been larger, with special emphasis on the coherence between non-aid and aid policies. However, economic growth and poverty reduction do not necessarily move in tandem, so these scenarios may score differently on these different aspects. For environmental protection, the third aspect of development that will be considered, the relation with growth and poverty reduction is generally less clear. Here, we will have to make a distinction between short-term and long-term effects, acknowledging that looking back to the years 2006-2011 hardly covers long-term effects of environmental policies.

Even though social conditions have improved in Ghana, there is still severe inequality (see chapter 2). The discrepancy between the predominantly rural north and the predominantly urban south is a particular cause for concern, because poverty in rural areas is considerably higher than in urban areas. Therefore, the outcomes of the counterfactual scenarios will be

shown by region. Changes in per capita income are used as an indicator of the impact on growth, while the estimated regional distribution of income (see chapter 5 and annex II) is subsequently used to compute the impact of the average income changes on poverty rates. The impact on poverty obviously differs between regions, but it is also asymmetrical with respect to the direction income change has taken, which reflects the nature of the income distribution. This implies that changes in the incidence of poverty do not necessarily follow the same pattern as changes in per capita income, which warrants a separate discussion on the impact on poverty.

The counterfactual scenarios address six policy areas. The first one concerns the impact of aid itself, in particular Dutch aid. The other ones concern the impact of non-aid policies. The chapter discusses, respectively, the EU-Ghana bilateral trade agreement, the EU's market protection in the agricultural sector, the Dutch-Ghanaian tax treaty, migration from Ghana to the EU (in particular to the Netherlands) and the Voluntary Partnership Agreement between Ghana and the EU on trade in wood products. Hence, most of these coherence issues refer to EU policy and less specifically to Dutch policy.

The factual simulation of developments in Ghana in the period 2006-2011, as presented in chapter 5, is the 'base scenario' or 'base run'. This factual simulation reflects historical socio-economic developments in Ghana in this period, both by sector and by region. We iterate the fact that the study is retrospective and restricted to the relatively short period 2006-2011 and, hence, that the assessment of policies that have longer term impacts is only partial. Especially for the long term effects of changes in agricultural and environmental policies, the interpretation of the results must take careful account of this short to medium perspective.

6.3   Counterfactuals: Dutch aid

Chapter 3 outlined the Netherlands' development cooperation relationship with Ghana in the past 15 years. In the years 2006-2011, the Netherlands was one of Ghana's main donors, with a yearly contribution of more than USD 100 million. These funds were mainly in the form of general budget support and sector support, and were used for health, education, water and sanitation, environment and governance. After 2009, the Netherlands scaled down its financial commitment to development cooperation. It reduced the size of its grants, but also introduced other instruments. Aid policies for Ghana for the coming years correspond to the objective of ending the aid relationship between the two countries by 2020.

The counterfactual scenario simulates a situation in which current policies would have been implemented a few years earlier, a policy choice that clearly could have been made since it would have been consistent with the call, already made in 2004-2005, to revise development policies.

The first scenario ('ending aid') assumes that all bilateral support by the Netherlands to the health sector (USD 30 million annually) and the environment (USD 8 million annually) has been eliminated, as well as all budget support (USD 30 million annually). This means a total annual reduction of USD 68 million. An analysis of the response by other donors to the factual reduction of aid to Ghana by the Netherlands in 2012 (DFID, 2012) leads us to believe that other donors would not step in to replace the Netherlands' funding, although they may reallocate part of their own assistance from education to health. Since operating costs (specifically salaries) are borne by the Government of Ghana, the reduction in aid is assumed to directly affect investments in the education and health sectors. The counterfactual assumes that the Ghanaian government would not have cut its current expenditures. Neither would it have reallocated investment funds from other sectors to investments in health and education.

Figure 6.1a summarises the regional effects on per capita income in 2011. The effect of lower investments in the years 2006-2011 builds up cumulatively, resulting in a considerable negative impact on output in health and education in 2011. In addition, each year it leads to a reduction in the demand for construction, and, hence, to lower production. Overall in Ghana, per capita income in 2011 is 1.6% lower than in the base run. Given that the per capita operating surplus for education, health and construction is higher in the south than in the middle or the north (with ratios of 3:1.5:1 for education and health, and 3:1:1 for construction), any decrease in activity in these sectors will have the largest impact in the south. This is clear from figure 6.1a, which shows that decreases in per capita income become larger when going from north to south.

Figure 6.1 *Change in per capita income (a) and poverty (b), ending aid counterfactual*
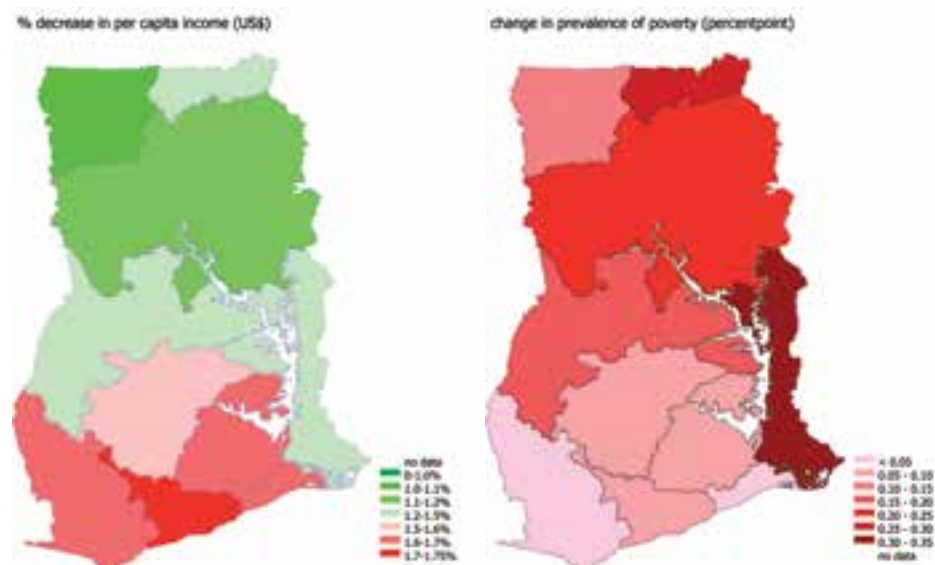
The impact on poverty is shown in figure 6.1b. The most striking results are in the Volta region, where the decreases in per capita income are relatively modest (1.2-1.5%), whereas the impact on poverty is the highest overall (an increase of more than 0.3 percentage points). On the other hand, the relatively strong decrease in per capita income in the central region only leads to an increase in poverty of 0.05 percentage points. Apart from the Volta region, the north-south division is visible in the impact on poverty, with the northern and middle regions being affected more severely than the southern ones. Overall in Ghana, the prevalence of poverty increases from 22.3% to 22.4% of the total population when compared to the base run outcomes for 2011.

The second scenario (changing aid modalities) includes all the assumptions of the previous one, but assumes that grants are replaced by loans. The loans, with an assumed grace period of three years, lead to an increase of production capacity in the private sector via additional annual investments in water and sanitation (USD 38 million), reproductive health (USD 15 million) and the food processing sector (USD 15 million). At the same time, the input-output structure is adjusted: the water and sanitation sector and the food processing sector require relatively more engineering services and the health sector relatively more pharmaceuticals. These changes represent the modernisation of technology induced by focusing on the private sector.

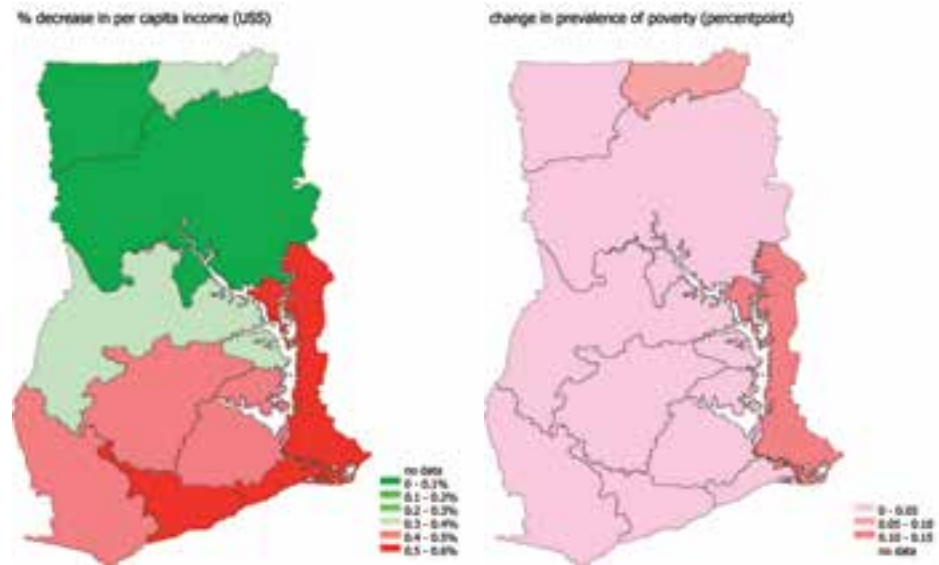**Figure 6.2** *Per capita income (a) and poverty (b), changing modalities of aid counterfactual*

Figure 6.2 summarises the regional effects on per capita income in 2011. Overall, the negative effects of the 'ending aid' scenario are dampened in the short run, as debt service is still minimal due to the grace period and infrastructure has been installed that can enhance productive capacity in the private sector. Nevertheless, the impact on per capita income

remains negative – 0.4% lower than the base run in Ghana as a whole in 2011, basically as a result of the loan repayments due from 2010 onwards and the larger input requirements.

6.4   Counterfactuals: Economic Partnership Agreement

This section focuses on trade relations between Ghana and the EU. Since trade policies are the exclusive competence of the EU as a whole and not of individual member states, the Netherlands cannot be viewed as a separate agent for these counterfactuals.

Chapter 3 described the different rules and regulations that have defined trade relations between Ghana and the EU. To summarise, until December 2007 Ghana benefited from preferential tariffs for Ghanaian products entering the EU market. After that, the EU offered Ghana a unilaterally adopted EU Regulation (EC) No. 1528/2007 as a bridging solution until an interim Economic Partnership Agreement (EPA) would be signed (and ratified). The EPA also stated that Ghana would have to open its markets gradually to EU goods. So far, ECOWAS and the EU have still not reached an agreement (see chapter 3). Without the EPA, Ghana will lose free market access to the EU and the EU's Generalised System of Preferences will then apply to exports from Ghana to EU.

Two counterfactual analyses were developed to assess the impact of the EU's EPA policy. The first counterfactual assumes that the EU would have halted its negotiations with ECOWAS already in 2006, and (therefore) not have offered the interim solution of free market access under Regulation 1528/2007. It also assumes that under the threat of increased tariffs on exports to the EU, and in line with the continued liberalisation efforts over the past three decades, Ghana would have signed and ratified the interim EPA, and already started liberalising its own imports from the EU from 2006 onwards, reducing the tariff rates each year by some 20%, with the exception of specific sensitive commodities (rice, wheat, meat, dairy, tomatoes, onions, sugar, tobacco, beer, frozen fish, industrial plastics and second-hand clothes). This scenario leads to changes in relative prices since liberalised commodities become cheaper. It also leads to lower government import tariff receipts. The revenue consequences (USD 330 million in 2011) are assumed to be passed on to households in the form of lower transfers and higher income taxes.

Figure 6.3a summarises the effects on income per capita in 2011, after six years of liberalisation. Overall in Ghana, there would be a small positive effect of 0.2%, but the effects differ substantially between regions, with the southern regions benefitting and the northern regions suffering. Reduced government income from tariffs leads to a reduction of net transfers from the government, which hits the northern regions hardest. There are positive effects as a result of lower production costs (because of the lower prices of intermediate goods), and output growth driven by an increase in consumer demand (because of the lower prices of consumer goods). For the northern regions, the effect on income as a result of reduced government transfers override the positive effects, but the opposite is true for the southern regions.

Figure 6.3 *Per capita income (a) and poverty (b), early EPA scenario*
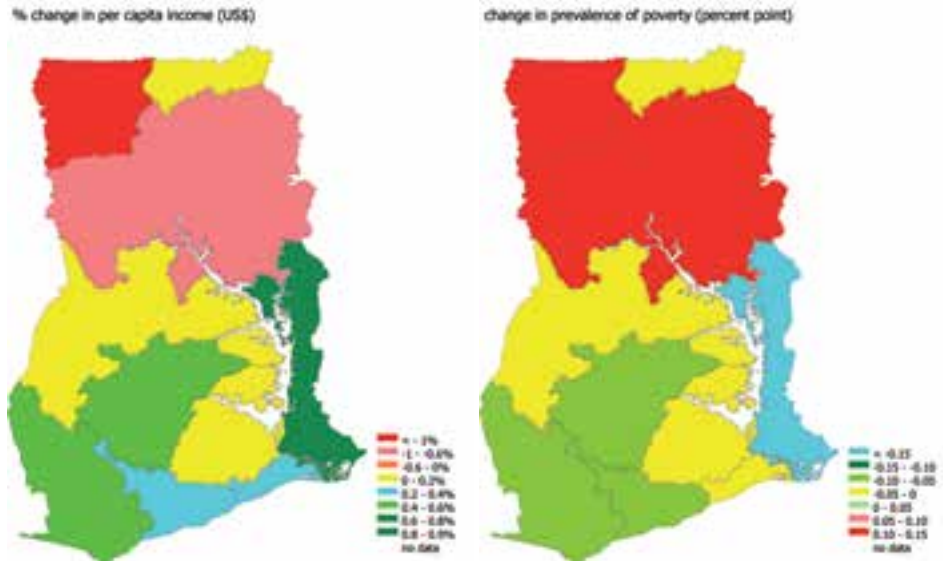
Overall in Ghana, poverty is reduced from 22.3% to 22.2%, but as figure 6.3b illustrates, there is an increasing imbalance of income distribution. Poverty rates react positively in the south and the middle, while the largest decrease in the prevalence of poverty occurs in the Volta region, viz. 0.15 percentage points, while the upper west and northern region, the two poorest regions, see an increase in poverty of the same magnitude.

A second counterfactual considers what would have happened if Ghana had not entered negotiations for an EPA at all. This counterfactual presents the same factual controversies that prevented Ghana from ratifying the agreement, in particular the obligation to start liberalising its own imports. In this counterfactual, without an EPA, changes to Ghanaian import tariffs are not obligatory, but exports of several products to the EU would have faced tariffs from 2008 onwards. Though rather extreme, considering the EU's current maximum import duties (WTO, 2014), this scenario assumes that all Ghanaian exports to EU except cocoa beans, gold and crude oil would have faced a 10% entry tariff. Given the geographical spread of Ghana's exports, the EU tariff would affect on average about 30% of these flows, In addition, the failure to negotiate an EPA would probably have increased reluctance to invest in the country, illustrated by a 10% decrease in FDI from 2008 onwards.

Figure 6.4a summarises the regional effects of there not being an agreement on per capita income: there are large losses, especially in the south (on average 3% in the four southern regions, with the central region hit the hardest). Northern regions are less affected by the trade restrictions and reduced FDI, as is to be expected, but still experience negative effects, since reduced growth also implies that less funds are available for transfers to these regions. For Ghana as a whole, the effects are negative: incomes in 2011 are on average 2.9% lower

than in the base run. Hence, the combined effects of higher barriers for exports and lower investments have a profound effect on the Ghanaian economy, particularly in regions with the highest economic activity and dependence on trade.

Poverty rates rise throughout the country, most radically in the Volta and northern regions, where the prevalence of poverty increases by 0.40-0.60 percentage points compared to the base run (figure 6.4b). Overall in Ghana, the prevalence of poverty increases from 22.3% to 22.5%, which is all the more serious since these increases are predominantly in the poorest regions.

Figure 6.4 *Per capita income (a) and poverty (b), no agreement scenario*
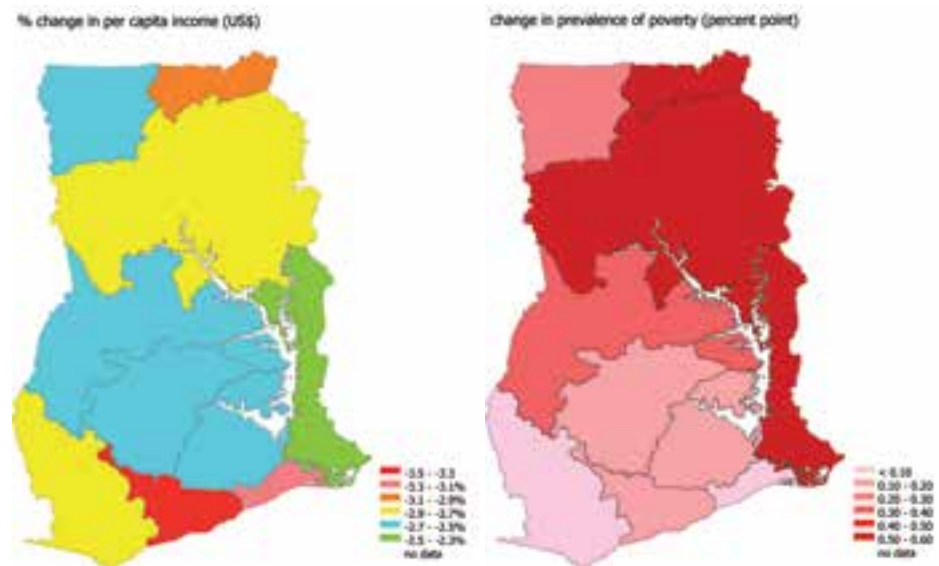
The two scenarios do not suggest a promising future as both of them lead to higher poverty in what are already the poorest regions. A third option would be for the EU and Ghana to adopt an approach, whereby the EU requires only a minimum number of WTO-compatible concessions and simultaneously accepts more exceptions, a longer period for convergence. The recent regional EPA seems to have moved in this direction. If so, it would not only encourage exports and protect domestic industries, but at the same time, it would not restrict Ghana from pursuing further regional integration within the ECOWAS setting or in concluding trade agreements with upcoming economies such as the BICK countries.

6.5   Counterfactuals: Reduced market protection in the EU

Since 1992, the EU has gradually replaced its system of domestic price support in agriculture with a system of income support for farmers, which depends on factors such as the area and location of the farm, on past payments and on respect for environmental standards and animal and plant health. Currently, about 90% of payments are decoupled from production. However, there is still a direct impact on EU's agricultural production via foreign trade measures.

The CAP could affect Ghana in several ways. First, EU tariffs on agricultural imports may reduce Ghana's export volumes and its farmers' revenues. In the period under consideration, Ghana benefitted successively from the Cotonou Agreement and EU Regulation 1528/2007, exempting the country from agricultural export restrictions to the EU (apart from transitional arrangements for sugar and rice). Second, Ghana's economy may be affected indirectly by changes in world market prices. These changes can be caused either by changes in the degree of income support to EU farmers, or by adjusting EU import tariffs.[14]

To assess the potential impact of the CAP on Ghana, we present a counterfactual scenario with reduced market protection in the EU. More precisely, we are lowering EU import tariffs in the period under consideration (2006-2011), creating a situation in which the EU would have been able to secure a larger number of regional trade agreements than it actually did. The scenario does not include the impact of farmer income support.[15]

The scenario starts from the assumption that the tariff reductions would have led to greater net import volumes into the EU of 2, 20, 6, 4 and 6 million tons for rice, wheat, maize, oils and sugar respectively. Comparing these volumes to actual world trading levels and applying price elasticities with respect to these levels (determined on the basis of a review of the literature) of .30, .20, .25, .20 and .20 respectively makes it possible to translate the changes in EU trade volumes into world price increases of 2.0%, 3.4%, 1.8%, 1.4% and 2.4% respectively for the five commodities mentioned above. These are the exogenous changes that Ghana faces in this counterfactual.

The impact of these changes on the socio-economic situation in Ghana depends on the extent to which world market prices are transmitted to consumers and producers. As chapter 4 argued, Ghana's farm sector is not very responsive to changes in international

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[14]   The EU has gradually abolished export refunds (see chapter 3).

[15]   The analysis of the impact of these decoupled (income) subsidies on farmers in Ghana is highly complex and depends on assumptions about farmers' behaviour. Income support may have the same kind of effect as import levies. In the short run, the reaction of Ghanaian farmers would be comparable with the scenario presented here. Boysen and Matthews (2012) simulated the impact for Uganda of a scenario in which all CAP as well as other agricultural policy instruments, including export subsidies, import tariffs, domestic support and production quotas, are eliminated. The author concluded that the impact on Uganda would be very small. Positive effects are felt mainly in rural areas. In urban areas, the effect would be negative. Overall, the authors find a (small) negative impact on the Ugandan GDP. Costa et al. (2009) also find a (small) negative impact of CAP liberalisation on GDP in Africa. There is a small positive welfare effect, however.

grain prices, due to a combination of three factors: (i) differences between local and foreign varieties, (ii) high transport costs and high post-harvest losses, and (iii) unequal distribution of market power caused by past neglect of the sector. Therefore, in the short run, changing world food prices will have a relatively larger impact on consumers than on producers.

Figure 6.5   *Per capita income (a) and poverty (b), reduced market protection scenario*
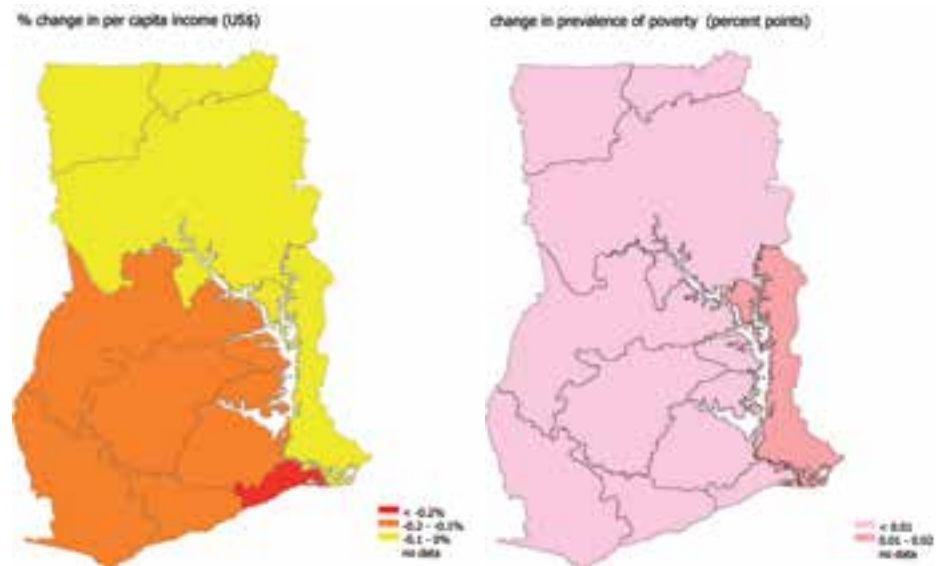
As Figure 6.5a shows, the effect of reduced market protection in the EU on income is small, ranging from minus 0.2% to 0% across all regions. The effect is negative due to reduced consumer demand for manufactured goods and services, following high food prices. Changes in poverty rates are equally small (Figure 6.5b). In fact, there is not a single noticeable effect on the poverty rate throughout Ghana. However, the impact of this scenario on consumer welfare is more significant, thanks to higher consumer prices. In fact, these higher prices have a different impact across regions: the negative impact on welfare is more substantial in the south than in the north, because the diet in the south includes more imported goods, especially rice, wheat and sugar.

It is perhaps surprising that the outcomes of this scenario suggest that EU market protection benefits Ghana in the short run, particularly the southern region. However, it must be noted that the results depend on Ghana's being an importer of wheat and rice. In the short run, Ghanaian and EU farmers do not compete in the same (export) markets (see chapter 4). The conclusions would probably be different if Ghana were a major grain exporting country. The counterfactual would also have been different if Ghana had not had tariff-free access to the EU in the period under consideration. In addition, here too, the interpretation of results must keep in mind that the simulations cover a period of five years only and do not account for possible major changes in the production structure in the

longer run in response to changing relative prices. At the same time, the scenario presents rural development with a challenge, because the impact of the counterfactual would have been better for the farming sector if Ghana's grain supply had been more price responsive. The results also correspond to conclusions from other studies, which included the impact of EU farmer subsidies. Empirical research on the effects of the CAP (or CAP liberalisation) generally agrees that the impact in developing countries is minor (see Costa et al., 2009; Gohin, 2009; Boysen and Matthews 2012). Moreover, these studies are based on data that cover the years in which export subsidies and product-related payments were far more important. However, while coupled payments have a significant impact on production and trade, there is controversy about the magnitude of the impact. It is probably smaller in magnitude than for coupled payments (Boysen and Matthews, 2012). In order to qualify for income support, farmers must observe a number of conditions in the areas of management practices and environmental, health and animal standards. These conditions may add to the cost of production.

6.6   Counterfactuals: Bilateral tax treaty

On 1 January 2009, a bilateral tax treaty between the Netherlands and Ghana entered into force, as discussed in chapter 3. The primary objective of the treaty was to prevent double taxation and tax evasion. At the same time, lower withholding taxes were expected to have a positive impact on (Dutch) investments in Ghana. This counterfactual analyses the impact of this treaty on Ghana's economy. This counterfactual asked two important questions: (a) what are the consequences of the treaty for Ghanaian tax receipts, and (b) does the treaty actually lead to additional foreign investment in Ghana? Our arguments are based on the evidence provided in earlier chapters.

Foreign direct investment in Ghana has increased twentyfold since 2000, according to the World Bank's World Development Indicators (see chapter 2). Net FDI amounted to USD 3.2 billion in 2011, 8.2% of Ghana's GDP. FDI from the Netherlands increased as well, as discussed in chapter 3. In 2007, the total stock of Dutch FDI in Ghana was limited (to about USD 75 million). In 2010, the total stock of investments had increased to USD 3.3 billion.

Chapter 3 also concluded that it is improbable – though a superficial analysis might suggest otherwise – that the tax treaty is responsible for a strong increase in Dutch FDI. Apparently, it is not the Dutch-Ghanaian tax treaty per se but its combination with the general tax climate for foreign companies in the Netherlands that has created interesting opportunities for international companies to reduce total tax payments via the creation of an SPE. In this case, the treaty acts as a financial intermediary between foreign branches of an international concern to which it also belongs. It is more than likely that the investments would have been made anyhow. Nevertheless, the tax treaty probably had some kind of an impact. Excluding SPE investments, Dutch FDI increased in 2010, raising the FDI stock from USD 49 million to USD 86 million (see chapter 3). While this development corresponds to the strong increase of FDI in Ghana, it is tempting to suggest that the tax treaty did have some kind of impact, even if minor.

Data are equally hard to obtain on the question of the impact on tax revenues in Ghana. Direct information from the Ghana Revenue Authority on the ownership structure of companies paying corporate tax is not available for this study, nor is it possible to estimate corporate tax revenue based on published government statistics. Although taxes on 'income, profits and capital gains' are steadily increasing, from GH¢ 0.7 billion in 2006 to GH¢ 3.2 billion in 2011, i.e. from 3.5% to 5.4% of GDP (World Bank, 2014a), the statistics are too aggregated to be able to draw conclusions, even on developments regarding tax receipts on all FDI. Therefore, we have made our own estimates for this report. For an investment stock of USD 2.5 billion, a repatriation rate of return of 15% and 3% less dividend tax gives us an estimate of foregone earnings of USD 11.25 million for 2010 and 2011.

The counterfactual scenario assumes that the tax treaty had been concluded earlier and was in effect from 2007 onwards. To be able to assess the size of the effect – if some of the regular 'Dutch' investments were encouraged by the tax treaty – the scenario also assumes that the treaty was responsible for a minor increase in FDI of USD 20 million annually from 2007 to 2009. In more general terms, the scenario suggests that the series of bilateral tax treaties that were recently completed have helped to improve the foreign investment climate in Ghana. On a negative note, the treaty would have led to a reduction of tax receipts in Ghana, as a result of lower withholding taxes on outflows of dividends and royalties and lower corporate taxes, adding up to USD 10 million annually in the same years.

In this scenario, changes in FDI and tax receipts have opposite income effects, albeit both minor. The impact of investment dominates this scenario. The total effect of the tax treaty is slightly positive (0.13% change in per capita income with respect to the base run), with the benefits being spread fairly evenly across the country. Overall poverty declines marginally.[16] The impact of lower tax revenue translates into a 0.04% reduction in income in 2011 compared to the base run. For Ghana, the tax revenue effect is limited because withholding taxes were already relatively low (compared to other countries).

6.7   Counterfactuals: Migration policies

As discussed in chapter 4, international migration is an important phenomenon for Ghana. Not only does the country host a large number of immigrants from other African countries, but many Ghanaians also live abroad. In 2010, their number was estimated at 825,000 (officially registered first-generation migrants), of which 225,000 resided in the EU, in particular in the United Kingdom, Italy and Germany (World Bank, 2014b). Remittances by Ghanaian migrants are increasing, and according to recent estimates they are almost twice as high as official development assistance. In the period 2006-2011, the average annual total amount is estimated at USD 1.6 billion. On the other hand, migration also has negative impact in terms of brain-drain. The loss of highly skilled workers has repercussions on Ghana's labour market, where it impacts negatively on vital sectors such as education and

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[16]   Given the spatial homogeneity and the small impact, a map is not presented here.

health care. The EU's Blue Card arrangement, a work permit for skilled migrants, is relevant in that respect.

This chapter considers two counterfactual scenarios. The first one represents a harsher climate in the Netherlands, in which all illegal migrants were sent back to their countries of origin in 2006, without any additional assistance. The total number of illegal Ghanaian immigrants and the amount of their remittances are unknown, which makes this scenario somehow speculative. However, to give an idea of a potential impact, the assumption here is that there are 12,500 illegal Ghanaian migrants in the Netherlands, with an average remittance of USD 2,000 per year. If these immigrants had been sent home, Ghana's population would have slightly increased, but remittances would have decreased by USD 25 million annually. The impact of this counterfactual would be a slight overall decrease in per capita income of 0.1 % for the country.

The second counterfactual is more challenging. It focuses on the additional migration of skilled labour. It assumes that the EU would have attracted 10,000 skilled Ghanaians in 2006 (in addition to the actual flow) under a precursor to the Blue Card arrangement. Given that roughly half of all doctors and a third of all nurses in Ghana left the country after training between 1993 and 2002, mainly to the United States and the United Kingdom, this seems to be a credible assumption and is perhaps even a low estimate. Assuming an annual remittance of USD 4,000 per person, that would amount to USD 40 million in additional remittances to Ghana each year. However, the migration of skilled labour also has implications for human capital in Ghana. Assuming that the 10,000 migrants are representative of the top one million members of Ghana's labour force, then the average loss of per capita human capital in 2006 (according to the definition of the welfare model discussed in chapter 5) would amount to approximately 0.5%. It assumed that this loss would remain the same throughout the period 2006-2011 (no catch-up effect of human capital formation).

Model simulations show that the consequences of the loss of human capital outweigh the benefits of the additional remittances.[17] While it is true that skilled migrants send home USD 4,000 per person, the loss in value added in 2011 appears to be about USD 12,000 per migrant, hence the migration of high-skilled labour accounted for a net loss of USD 8,000 per migrant. In per capita terms, this is a loss of USD 3.50 per Ghanaian, or 0.25% of the per capita income in the base scenario.

To put these welfare model outcomes in perspective, it is worth noting that Brossard (2008) indicates that the cost of tertiary education in Anglophone African countries is estimated to be five times the per capita GDP, which for Ghana would come to an estimated USD 7,000 (using an average GDP per capita in the period 2006-2011 of USD 1,400). The estimated monthly salaries of senior medical staff in Ghana range from GH¢ 1,600 to GH¢ 4,000 (the higher figure was published by the *Daily Graphic* but contested by the Ghana Medical

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[17]   These outcomes correspond to findings for Cameroon (Djiofack *et al.*, 2014).

Association). Using the lower estimate, this translates to a yearly wage of around USD 15,600, which suggests that even our simulations underestimate the cost of migration in terms of foregone labour productivity.

Figure 6.6 shows the impact on per capita income and poverty by region. As one may expect, the impact in the south is higher than in the middle or the north, but since the scenario does not distinguish between regions, the differences in relative decline remain limited. The same applies to the changes in poverty, which increase marginally across the country.

Figure 6.6   *Per capita income (a) and poverty (b), more skilled migration scenario*
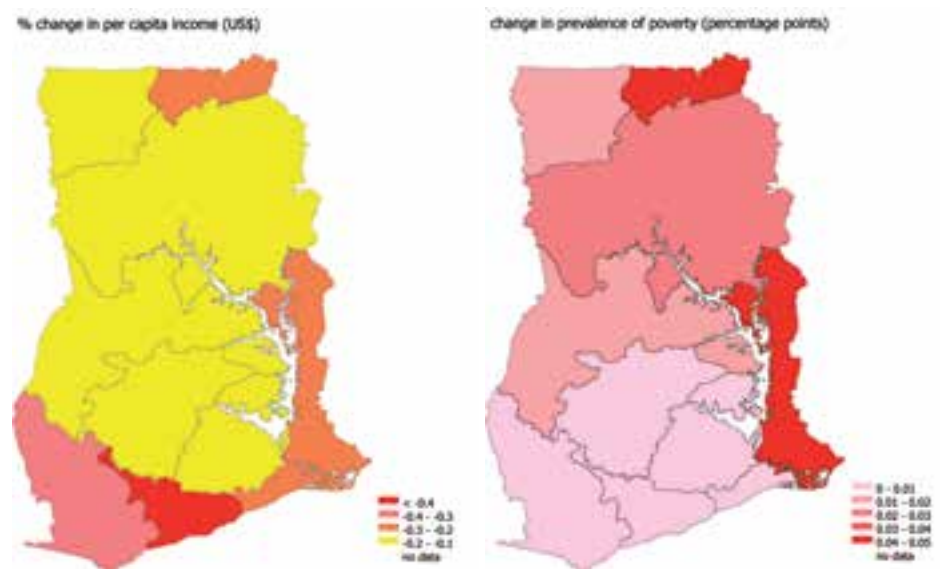
To summarise: the migration of unskilled or low-skilled labour clearly benefits the country (witness the decline in per capita income if migration is generally restricted). But a unilateral decision by the EU to grant access only to highly skilled labour imposes a cost on Ghana. In the latter case, investing in people will not pay off in the country of origin. Instead, it the EU that will benefit from these highly productive people without having to foot the bill for their education. In fact, the EU can even select those people who are in the top of their cohort. The findings correspond to the results of other studies, which conclude that the emigration of skilled labourers has a negative impact on productivity and leads to higher poverty rates (see chapter 4 and Djiofack et al., 2013).

6.8   Counterfactuals: Voluntary Partnership Agreement

The forestry sector is important for Ghana's economy. In the period 2006-2008, wood production accounted for 4% of GDP and 5% of merchandise exports (GSS, 2010). The total value of wood exports in 2008 was roughly USD 240 million. Around 40% of it was exported to the EU (FCG, 2008). By 2012, the forestry sector still contributed 2.5% of GDP, but the value of wood exports had declined to around USD 130 million. These exports have diminishing the amount of forest land in Ghana, from 5.2 million ha in 2008 to 4.8 million ha in 2011. This trend confirms ongoing concerns about the sustainability of Ghana's forestry sector. From 2014 onwards, all Ghanaian wood exports will be certified for the European market via the FLEGT (Forest Law Enforcement, Governance and Trade) license system (see chapter 3).

Counterfactuals for the period 2006-2011 can only reveal the short-term consequences of forestry policies on income and export earnings. Since the model only cover the effects for the period 2006-2011, the maintenance of a larger stock of trees cannot be assessed in terms of its economic value for future generations. Hence, the model scenarios can only make a limited contribution to the analysis of this aspect of policy coherence.

Taking this limitation into account, this section presents a counterfactual situation where a licensing system would have been operational already in 2007, in combination with the EU Timber Regulation. Ghana's forestry regulation would have been stricter then than it actually was in the period 2007-2011, resulting in less timber output, and therefore also less timber exports. On the other hand, the export price would have risen since other countries would face the difficulty of meeting the EU's demand for certified timber. This scenario also takes into account extra financial support from the EU and the World Bank for institutional improvements (see chapter 3).

Based on time series data on forestry production, the scenario predicts that output would have been 25% lower than it actually was. Furthermore, it assumes that export prices would have been 10% higher (on average in all countries of destination, caused by higher costs associated with sustainable production techniques) and that there would have been additional support to the tune of USD 10 million annually. The sector would require 20% more intermediate inputs from professional services. The impact on per capita income is minor in such a short period of time, as the reduction in wood output is largely offset by higher wood prices, and also by the movement of labour to other sectors. Overall in Ghana, the effect in 2011 is a decrease in per capita income of 0.17%.

The regional spread of effects is summarised in figure 6.7, which shows that the effects vary from a decrease of 0.19% in the Ashanti region to a decrease of 0.02% in the upper west region, in accordance with the regional distribution of value added within the wood and

forestry sectors. Given the minor impact on per capita income, the effects on poverty are also modest.[18]

Figure 6.7   *Per capita income (a) and poverty (b), VPA scenario*
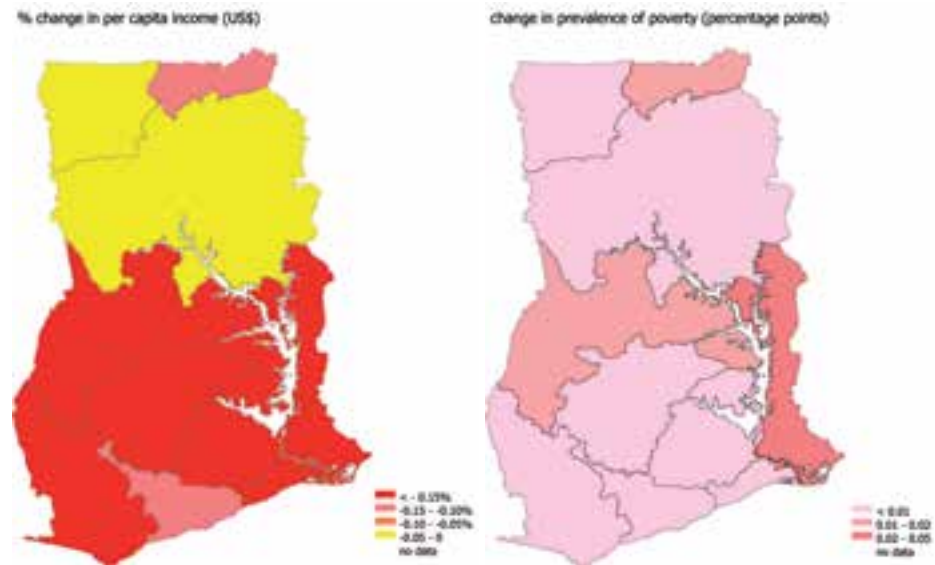
There is a clear regional concentration of deforestation caused by the use of wood fuel in a limited number of districts, namely Donkorkrom (eastern region); Kintampo, Nkoranza, Wenchi (Brong Ahafo region); and Damongo (northern region). Given that there are already distinct signs of overexploitation in these areas, the long-term effects on forests and people who depend on forestry are cause for great concern.

6.9   Summary

This chapter assessed the coherence and impact of Dutch and EU policies on Ghana by simulating the effects of several counterfactual scenarios. In addition to the aid policy itself, the counterfactuals focused on five topics of policy coherence. In fact, only one of these topics (the 2009 Dutch-Ghanaian tax treaty) addresses a purely Dutch policy issue, while a

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[18]   Poverty enters the deforestation discussion via another avenue as well. The use of wood is very common throughout Ghana and has even become more widespread in the north. According to the Energy Commission (2014), 90% of wood fuel is obtained from natural forests, amounting to 18 million MT in the year 2000 (with only 12 million MT produced for export or other use), while projections for 2020 indicate an increase to 25 million MT and above. Hence, it seems that much more could be gained in terms of promoting sustainable forest management if alternatives for wood as fuel and more efficient use of wood as fuel would be promoted, e.g. by introducing improved technologies for charcoal production

second one (migration) combines elements of Dutch and EU policies. Three other topics (trade agreement, agricultural policy and forestry agreement) primarily touch on the coherence between EU-wide policies and development objectives.

This report has assessed impacts by means of a general equilibrium model. This model was used to assess counterfactual scenarios for the period 2006-2011. The focus therefore lies on short- and medium-term impacts and, as noted before, a full assessment that also considers the long-term impacts, such as on the Economic Partnership Agreement (EPA) or the effects of the Common Agricultural Policy (CAP), is outside the scope of this study. In addition, none of the counterfactual scenarios has targeted regional elements. Hence, regional differences in outcomes are due to the differences in relative importance of sectors and commodities across regions.

Regarding Dutch aid, the counterfactual shows that cancelling Dutch development aid would have led to a serious reduction of output in the health and education sectors if the Ghanaian government would not have stepped in to fill the gap. Therefore, the outcomes of this counterfactual may be a signal for the Ghanaian government to avoid reducing long-term investment plans in health and education when donors adjust their aid policies, whereas for donors, and the Netherlands in particular, the outcomes may be a signal to reflect once more on the right moment to reduce aid in dialogue with Ghanaian stakeholders.

Regarding the EU-Ghana trade agreement, it is not an option to maintain the special regulations that prevailed in the past. Yet the counterfactuals show that neither the full and early adoption of the EPA nor its total rejection are particularly promising options for the country as a whole. What is more, both strategies would have led to even higher poverty in the poorest regions. So the danger of incoherence between policy and development policies is clear. There is another, more desirable option, in which the EU requires only a minimum number of WTO-compatible concessions and simultaneously accepts more exceptions, a longer period for convergence. Such an option encourage exports and protect domestic industries, but at the same time, it would not restrict Ghana from pursuing further regional integration within the ECOWAS setting or in concluding trade agreements with upcoming economies such as the BICK countries. The recently concluded EPA between the EU and the West African region seems to be moving in this direction.

Regarding agricultural protection, changes in EU tariffs would not have had a significant impact on Ghana, primarily because Ghana has enjoyed zero-duty tariffs for its exports to the EU under the Cotonou Agreement and EU Regulation 1528/2007. If anything, the outcomes even suggest that reducing import tariffs would benefit Ghana, and its southern region in particular. The counterfactual presents rural development in Ghana with a challenge, because the impact of the counterfactual would have been better for the farming sector if Ghana's grain supply had been more price responsive.

As for the impact of the tax treaty, we need to revise the preconceived idea that foregone tax revenues would do the Ghanaian government great harm. The negative impact of lower tax

revenues is relatively limited, because withholding taxes were already low in Ghana. If – but only if – the tax treaty helps to attract some more foreign direct investment, then the overall impact could be positive.

Regarding migration, there is clearly a major problem of incoherence between policy and development objective, because enhancing the migration of unskilled labour would benefit Ghana, but immigration is severely restricted by the Netherlands and the EU. And enhancing the migration of skilled labour leads to brain drain in Ghana but is welcomed in the Netherlands and the EU. The counterfactual simulations show that the effects of the brain drain on Ghana's economy can be particularly significant and generally outweigh the benefits of the remittances sent home by these skilled migrants.

Finally, regarding sustainable forestry, the counterfactual scenarios suggest that if the VPA between the EU and Ghana had been introduced earlier, it would have slightly decreased per capita income. However, simulations for the period 2006-2011 can only capture the short-term impact of forestry management, whereas the benefits are expected to occur in the longer term. An issue of major concern is the domestic use of fuel wood for cooking.

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References

Annexes

Annex I   Persons interviewed

1. Dr. Regina Adutwum, Director-General, NDPC
2. Mr. Ken Owusu
3. Prof. Gyan-Baffour MP Wenchi – Ranking Member, Parliamentary Committee on Trade and Industries, and former Director-General of NDPC, from Minority side
4. Mr. Mathias Ntow MP Aowin – Vice-Chairman, Parliamentary Committee on Trade and Industry, from Government side
5. Dr. Owusu Afriyie Akoto, MP Kwadaso – Ranking Member, Parliamentary Committee on Food, Agriculture and Cocoa Affairs
6. Dr. Akoto Osei MP Tafo, former Minister of State, MoFEP
7. Mr. Asimenu, Director Legal, MoFEP
8. Mr. Ransford Danquah, Head EU Desk, MoFEP
9. Dr. Alhassan Iddrisu, Director, Economic Research and Forecasting, MoFEP
10. Mrs. Nellie Mireku , Economic Research and Forecasting, MoFEP
11. Mr. Mawuli Gaddah, Agricultural Unit, Real Sector Division
12. Ms. Helen Allotey, Director, Debt Management Division, MoFEP
13. Dr. Joseph Kwadwo Asenso, Team Leader Knowledge Economy and Services Unit, MoFEP
14. Mr. K. Ntim Donkoh, Chief Commercial Officer, MoTI
15. Ms. Edinam A. Adzosil Adjei-Sika, Head of Cooperation, Brazilian Embassy in Accra, Ghana
16. Ms. Irene Vida Gala, Brazilian Ambassador to Ghana
17. Ms. Angela Dannson, Deputy Director, MoFA, PPMED
18. Dr. Joe Amoako-Tuffour, Senior Advisor, ACET
19. Ms. Sophia Sakyi, Dutch Embassy in Accra, Ghana
20. Mr. Thierry van Helden, Dutch Embassy in Accra, Ghana
21. Ms. Eva Mends, MoFEP
22. Mr. Peasah, Bilaterals, MoFEP
23. Mr. Kofi Sakyiama Antiri, Director, Ghana Investment Promotion Centre
24. Mr. Michael Agyekum Acheampong, Ghana Investment Promotion Centre
25. Mr. Berko, Forestry Commission
26. Ms. Eugeneia Okyere, Ghana Investment Promotion Centre

Annex II Technical specification of the applied welfare model

The following model has been implemented in GAMS (Brooke et al., 2010).

Definition WOIJK (welfare optimum, multiple-good open-economy with government)

Consider welfare weights $\alpha_i > 0$.

Let $H_i > 0$ be initial the human capital with end-of-period valuation ψ_i, let $K_j > 0$ be the initial fixed sector capital, let $\bar{I} \geq 0$ be the gross fixed capital formation and let $\bar{C} \geq 0$ be the public consumption.

Furthermore, let (ξ^Y, ξ^X) be the net indirect taxation on supply and demand, respectively.

Finally, let $(\bar{p}^M, \bar{p}^E)$ be import and export prices and let $\bar{S}$ be the net resources originating from abroad.

Allocation $(c_i, \ell_i, \Delta H_i)$, (q_j, l_j), (e, m) and (X, Y) is a welfare optimum if it solves:

$$W(\alpha, H, K, \psi; \bar{I}, \bar{C}, \xi^Y, \xi^X; \bar{p}^M, \bar{p}^E, \bar{S}) =$$

$$\text{maximise}_{\substack{c_i, \ell_i, q_j, e, m \geq 0, \Delta H_i \\ \ell_i \leq \bar{\phi}(T)_i \\ X, Y}} \sum_i \alpha_i \left[uN(\mathbf{c}(c_i), \ell_i) + \psi_i (H_i + \Delta H_i) \right] - \xi^Y Y - \xi^X X$$

subject to

$$X \leq Y \qquad\qquad (p)$$

$$Y \leq Bq + m \qquad\qquad (p^Y)$$

$$\sum_i c_i + \bar{I} + \bar{C} + Aq + DY + e \leq X \qquad (p^X)$$

$$\sum_j l_j \leq \sum_i l_i \qquad\qquad (w)$$

$$\bar{p}^M m \leq \bar{p}^E e + \bar{S} \qquad\qquad (\rho)$$

$$q_j \leq f_j(l_j, K_j)$$

$$\ell_i \leq \phi \left[(c(c_i) - \Delta H_i), H_i \right]$$

where W is a welfare value function and (p, p^X, p^Y, w, ρ) are Lagrange-multipliers.

Proposition (welfare and equilibrium, multiple-good open-economy with government)

If the interior of the constraint set of program WOIJK is non-empty, then a welfare optimum exists. The welfare optimum WOIJK with associated Lagrange-multipliers $p > 0$, p^X, p^Y, $p^q = [p^Y B - p^X A]$, $w > 0$ and $\rho > 0$ identifies equilibrium CEIJK with net transfers:

$$
\begin{aligned}
T_i = {} & p^X c_i - w \ell_i \\
& - \sum_j \theta_{ij} (I - \theta_j^G) [p_j^q q_j - w l_j] - \rho \overline{\Pi}_j^F] \\
& + \theta_j^G (I - \theta^G) [p^X \overline{I} - \rho \overline{S}^F] \\
& - \rho \overline{T}_i^P.
\end{aligned}
$$

Price structure

Price		Margin	Model symbol
EXPORT PRICE (Free-On-Board)			$\rho \, \overline{p}^E$
	+	export duty & exchange rate	
User price	`		p^X
	+	net indirect taxes	
FINAL PRODUCT PRICE			p
	+	trade and transport margin	
Producer price			p^Y
	+	import duty & exchange rate	
IMPORT PRICE (Cost-Insurance-Freight)			$\rho \, \overline{p}^M$

Micro accounts

Going row-by-row and column-by-column, the accounts that compose the SAM are linked to the modelling framework as follows.

Household account

Row i composes the total income of the population group from its involvement in the sectors, from its supply of labour, from government transfers and from overseas remittances:

(i,j) $\qquad$ $:\theta_{ij}(1-\theta_j^G)\left[(1-\tau_j)\,[\,p_j^q q_j-w\,l_j]-\rho\,\overline{\Pi}_j^F\,\right]$

$(i,labour)$ $\qquad$ $:w\ell_i$

$(i,government)$ $\qquad$ $:T_i$

$(i,foreign)$ $\qquad$ $:\rho\,\overline{T}_i^P$

The corresponding column composes the allocation of this income over consumption and savings:

(k,i) $\qquad$ $:p_k^X c_{ik}$

$(savings,i)$ $\qquad$ $:\theta_i^I(1-\theta^G)\,[\,p^X\,\overline{I}-\rho\,\overline{S}^F]$

It may be noted that the SAM-entry $(government,i)$ representing personal direct taxes is not mentioned explicitly here because personal taxation are modelled as a negative 'transfer' T_i and the entry will be consolidated with the corresponding SAM-entry $(i,government)$ on the other side of the budget.

Sector account

For sector j, the row is the value of gross production:

(j,k) $\qquad$ $:p_k^Y b_{kj} q_j$

while the column identifies the profits accruing to the households, the intermediate demand, the wages, the company taxes plus the payments related to public participation and, finally, the remuneration of factor services due to foreign ownership:

(i,j) $\qquad$ $:\theta_{ij}(1-\theta_j^G)\left[(1-\tau_j)\,[\,p_j^q q_j-w\,l_j]-\rho\,\overline{\Pi}_j^F\,\right]$

(k,j) $\qquad$ $:p_k^X a_{kj} q_j$

$(labour,j)$ $\qquad$ $:w\,l_j$

$(government,j)$ $\qquad$ $:\tau_j[\,p_j^q q_j-w\,l_j]+\theta_j^G\left[(1-\tau_j)\,[\,p_j^q q_j-w\,l_j]-\rho\,\overline{\Pi}_j^F\,\right]$

$(foreign,j)$ $\qquad$ $:\rho\,\overline{\Pi}_j^F$

Account of good/service

For good k, the row composes the destination, starting with consumption, followed by intermediate use, use by other goods (in case the good concerns trade, transport or processing), use by the government, export, and, finally, the addition to the stock (in case of a capital good):

(k,i) $\qquad$ $:p_k^X c_{ik}$

(k,j) $\qquad$ $:p_k^X a_{kj} q_j$

(k,k') $\qquad$ $:p_k^X d_{kk'}(Bq)_{k'}$

$(k, government)$ $: p_k^X \overline{C}_k$

$(k, foreign)$ $: \rho \, \overline{p}_k^E e_k$

$(k, saveinvest)$ $: p_k^X \overline{I}_k$

Likewise, column k gives the origin of the value of the good, including the production, mark-ups from trade, transport or processing, duties plus indirect taxes and, finally, imports:

(j, k) $: p_k^Y b_{kj} q_j$

(k^1, k) $: p_k^X d_{k'k} (Bq)_k$

$(government, k)$ $: \xi_k^X \left[\sum_i c_{ik} + \overline{I}_k + \overline{C}_k + (Aq)_k + D[Bq+m]_k + e_k \right] + \xi_k^Y [Bq+m]_k$

$(foreign, k)$ $: \rho \, \overline{p}_k^M m_k$

Labour account

The account for 'LABOUR' contains the employment of labour in the various sectors (row) and reflects the distribution of total employment over population groups (column).

$(labour, j)$ $: w \, l_j$

$(i, labour)$ $: w \, \ell_i$

Government account

On the 'GOVERNMENT' account, the revenues concern company taxes plus revenues from participations, duties and indirect taxes on the various flows and, finally, net official payments from abroad.

$(government, j)$ $: \tau_j [p_j^q q_j - w \, l_j] + \theta_j^G \left[(l-\tau_j)[p_j^q q_j - w \, l_j] - \rho \, \overline{\Pi}_j^F \right]$

$(government, k)$ $: \xi_k^X \left[\sum_i c_{ik} + \overline{I}_k + \overline{C}_k + (Aq)_k + D[Bq+m]_k + e_k \right] + \xi_k^Y [Bq+m]_k$

$(government, foreign) : \rho \, \overline{T}^G$

The expenditure side is composed of the net transfers to households, the use of goods and services and, finally, the government savings:

$(i, government)$ $: T_i$

$(k, government)$ $: p_k^X \overline{C}_k$

$(savings, government) : \theta^G [p^X \overline{I} - \rho \, \overline{S}^F]$

One may observe that SAM-entry $(foreign, government)$ is empty. That entry represents the official payments of the government (amortisation and debt servicing) and, in the modelling framework, these payments are netted out as part of the net official payments from abroad on the income side of the government account.

Balance of payments

On the entry 'FOREIGN', the row are the payments for factor services provided to the various sectors plus the imports of goods and services.

$$(\,foreign, j\,) \qquad\qquad : \bar{\Pi}^{F}_{j}$$
$$(\,foreign, k\,) \qquad\qquad : \bar{p}^{M}_{k}\, m_{k}$$

The column total is the sum of exports, overseas remittances, official transfers and foreign savings:

$$(\,i, foreign\,) \qquad\qquad : \bar{T}^{P}_{i}$$
$$(\,k, foreign\,) \qquad\qquad : \bar{p}^{E}_{k}\, e_{k}$$
$$(\,government, foreign\,) : \bar{T}^{G}$$
$$(\,savings, foreign\,) \qquad : \bar{S}^{F}$$

Items on the balance-of-payments are commonly expressed in \$ and convertible into cedi after multiplication by exchange rate ρ .

Saving and investment account

The final account 'SAVEINVEST' contains the gross fixed capital formation in the column:

$$(\,k, saveinvest\,) \qquad\qquad : p^{X}_{k}\, \bar{I}_{k}$$

while the row-entries decompose the required savings by source:

$$(\,savings, i\,) \qquad\qquad : \theta^{I}_{i}\,(1 - \theta^{G})\,[\,p^{X}\,\bar{I} - \rho\,\bar{S}^{F}\,]$$
$$(\,savings, government\,): \theta^{G}\,[\,p^{X}\,\bar{I} - \rho\,\bar{S}^{F}\,]$$
$$(\,savings, foreign\,) \qquad : \rho\,\bar{S}^{F}$$

National and regional income distributions

The model simulates the per capita income in the ten regions of Ghana in the period 2006 to 2011. To infer from this the poverty dynamics, we first estimate the regional (log-normal) income distributions on the basis of the 2005/2006 Ghana Living Standard Survey, apply the national poverty line and adjust the figures to the reflect the regional poverty pattern that prevailed in 2006 (GSS, 2007). Next, applying the income growth for each region and keeping the shape of the income distribution and the poverty line fixed, we impute the poverty pattern for 2011. The procedure is illustrated in Figure A.1 for the base-run and at the national level. Similar pictures apply to each of the ten regions and to each of the six counterfactual scenarios.

Figure A.1   *National income distribution*

Base-year 2006 (poverty rate 29%)
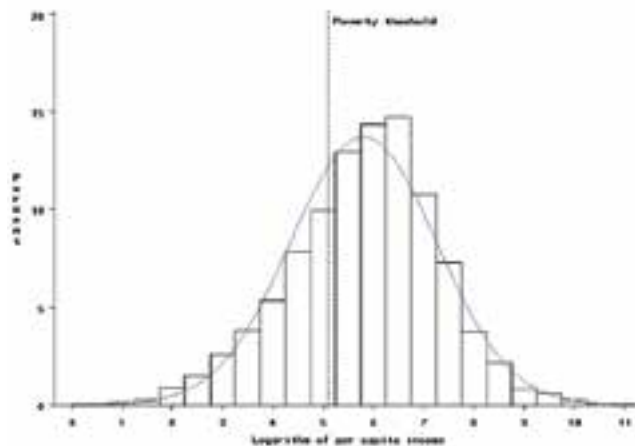
Situation in 2011 according to base-run simulation (poverty rate 22%)
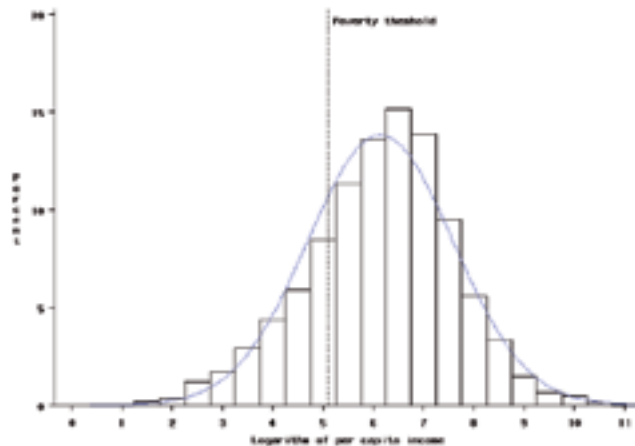
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Over the past decades, awareness has increased among OECD countries that non-aid policies might conflict with aid policies. This realisation has led to a call for better coordination across different policy fields, referred to as Policy Coherence for Development (PCD). This IOB study outlines the results of a pilot for analysing the options for coherence of Dutch and EU policies for development objectives in Ghana.

The study uses scenarios to estimate the potential effects of Dutch and EU policies. A major conclusion is that in the short run the effects of non-aid policies are quite limited, at least in quantitative terms. Migration policies are an exception. In addition, ending Ghana's free access to the European market would also have a major negative impact on income.

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