THE THEORETICAL AND EMPIRICAL ANALYSIS OF TRADE INTEGRATION AMONG UNEQUAL PARTNERS: IMPLICATIONS FOR THE SOUTHERN AFRICAN DEVELOPMENT COMMUNITY

THESIS

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DECLARATION

Except for references specifically indicated in the text, and such help as I have acknowledged, this thesis is wholly my own work and has not been submitted for degree purposes at any other university.

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ABSTRACT

The re-acceptance of South Africa into the international community has cleared the path for the closer integration of South Africa with its neighbours in a broader southern African regional union. In particular, the countries of the Southern African Development Community (SADC), which South Africa joined in August 1994, have committed themselves to the formation of a free trade area (FTA) over an eight-year period.

The most likely impediment to this process is the perception of a highly unequal distribution of the economic gains and losses of such an arrangement. This reflects the particular context of SADC: one of a comparatively undeveloped region, dominated by a relatively large, more industrially advanced country, which is itself small by international standards. The essential question with which this study is concerned, therefore, is whether, despite the existing inequalities in the region, a FTA among SADC members could be mutually beneficial to South Africa and its partners.

The thesis applies orthodox and new trade theory to the analysis of economic integration among unequal partners. Using the theoretical analysis, and with reference to empirical studies of such experience elsewhere in the world, it attempts to provide an assessment of the existing body of literature on the possible effects of a SADC FTA. In the light of this discussion, and from its own preliminary empirical analysis of the possible pattern of inter-sectoral versus intra-sectoral specialisation which may result on union, the study suggests ways in which a fuller evaluation of the welfare implications of a southern African FTA may be achieved.

The thesis argues that the orthodox theory based on perfect competition provides an insufficient framework for the analysis of the likely effects of a SADC FTA. It finds that, firstly, in an alternative analytical framework which retains the assumption of perfect competition, there may be other criteria for judging the success of a regional union that are neglected by orthodoxy, particularly in the case of developing countries. Secondly, the new trade theory based on imperfect competition and product differentiation provides useful insights into the possible effects of a regional union among countries at unequal levels of development. The formal extension of this body of literature to the theory of economic integration is clearly called for.

It is found, however, that neither orthodox customs union theory, nor its suggested alternatives and extensions, enable one to conclude, *a priori*, that the formation of a FTA in the southern African region could not be beneficial to both South Africa and its smaller partners. Further, the present empirical studies on SADC do not take account of the full range of factors necessary for a complete welfare assessment of the possible effects.

Since the outcome of integration depends on the empirical circumstances of the particular case, and since the information necessary for a comprehensive welfare evaluation is not currently available, the study concludes that the countries of the region have committed themselves to a FTA without any definite knowledge of its likely effects.

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INTRODUCTION

In August 1996, the countries of the Southern African Development Community (SADC) signed a trade protocol which provides for the phased reduction and eventual elimination of import duties and other charges over an eight-year period (*Business Day*, 26 August 1996).[1] The proposed formation of a SADC free trade area (FTA)[2] will have important implications both for the current re-negotiation of the Southern African Customs Union (SACU)[3] Agreement and for South Africa's trade negotiations with the European Union. The essential question, however, is whether such an arrangement would be economically beneficial for the participating countries, either individually or collectively.

The subject of regional economic integration in southern Africa has a long history, dating back to the origins of the SACU in the late nineteenth century. However, with the political transition in South Africa, the question of the country's future economic interaction with other states and regional economic groupings in southern Africa has become a subject of intensive debate in academic and policy circles. There has been a proliferation of research in the field of regional integration and co-operation, both within the region and across the continent as a whole.

This renewed concern with regionalism also reflects the emergence of major trading blocs elsewhere in the world. The United States, until recently a staunch supporter of multilateralism, has joined Canada and Mexico in the North American Free Trade Area (NAFTA), and will seek to conclude free trade agreements with other groups of Latin American states under the Enterprise for the Americas Initiative. European integration has widened and deepened, and there are moves towards a FTA among the Association of South East Asian Nations (ASEAN). With respect to North-North and North-South integration, it has been argued that, for smaller countries, the new regionalism is an

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1 The current members of SADC are Angola, Botswana, the Democratic Republic of Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. The Democratic Republic of Congo and Seychelles were admitted in September 1997, by which time this study was substantially complete.

2 In a FTA, tariffs and quotas are removed among member countries, but each maintains its own restrictions against the rest of the world.

3 SACU includes Botswana, Lesotho, Namibia, South Africa and Swaziland. A customs union is a FTA with a common external tariff against the rest of the world.

instrument for ensuring future market access as fears grow of a new wave of protectionism in the global economy (de Melo and Panagariya, 1993: 20). New South-South agreements have also emerged, notably the Southern Cone Common Market (MERCOSUR) in Latin America.

These developments have raised concerns that poorer countries outside the major blocs, in Africa in particular, will be marginalised unless they, too, move towards meaningful integration. The idea of a continental common market for Africa is an old one, which was given new impetus by the Organisation of African Unity's 1980 Lagos Plan of Action, envisaging the establishment of four regional common markets that would merge by the end of the century (Maasdorp and Whiteside, 1993: 31).[4]

Despite this international climate, current opinion on the economic desirability and feasibility of a SADC FTA varies considerably. Implicit in the southern African literature is the critical question of the prospects for mutually beneficial trade integration among a group of developing countries differing greatly in *per capita* income, economic size and stage of development. However, it seems that no definitive analysis has been undertaken of the potential effects of a FTA on the countries of the region. Further, it is unclear in many of the southern African studies how their diverse views and conclusions were derived, whether they are consistent with the theory, and hence whether they have been properly established.

This study will attempt to address some of the key questions relating to economic integration among unequal partners, with reference to the theoretical literature and empirical studies of such experiences elsewhere in the world, and hence in effect to assess the current state of the debate on trade integration in the SADC region.

Plan of the thesis

The first two chapters of the study provide the necessary background for a consideration of the prospects for a mutually beneficial free trade arrangement among

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[4] The 1991 Abuja Treaty adjusted the time frame to 2020, with the establishment of full economic and monetary union by 2025.

the members of SADC. Chapter 1 outlines the essential features of existing southern African regional organisations and bilateral agreements, as well as the WTO's provisions on regional arrangements. The implications of the WTO rules, and processes such as South Africa's trade negotiations with the European Union, for a SADC FTA are also considered. Chapter 2 describes some of the main features of the economies of the SADC region, with international comparisons. Differences in *per capita* income, size, growth performance and economic structure are examined, in relation to those within other regional arrangements, such as NAFTA and MERCOSUR, which involve countries of differing size and levels of development. Since the impact of a southern African FTA is likely to depend largely on its effects on manufacturing production and trade within the region, the comparative manufacturing structures of the SADC countries are considered in some detail, as are the volume, direction and structure of southern African trade flows.

Chapter 3 surveys a number of recent studies on the viability of trade integration in the SADC region. An attempt is made to synthesise the main features of the views and conclusions reached in these studies, with a view to a more detailed analysis of the arguments on which they are, implicitly or explicitly, based.

The following two chapters attempt to address the key issues relevant to the analysis of trade integration among unequal partners, drawing on the general theoretical literature and empirical case studies of experience elsewhere in the world, to permit an assessment of some of the arguments and conclusions reached in the southern African literature. Chapter 4 examines the theoretical analysis of trade integration in a perfectly competitive framework. The discussion considers the orthodox conditions for a beneficial customs union or free trade area, in terms of the conventional trade creation-trade diversion analysis, and their implications for the prospects of a mutually beneficial SADC FTA. The chapter then explores some non-traditional perspectives on the conditions for successful integration, and their implications for the conventional assessment of the merits of regional integration based solely on the balance between trade creation and trade diversion. The analysis specifically considers whether, in an alternative analytical framework, there may be other criteria for judging the success of regional unions than the conventional ones, particularly in the case of developing countries.

Chapter 5 extends the theoretical framework of the previous chapter in three important ways. Firstly, by relaxing the assumption of perfect competition, it considers the implications of trade integration in the presence of increasing returns to scale, focusing on the *inter*-industry resource reallocation effects of integration in a regional union among unequal partners. Secondly, it abandons the assumption of homogeneous products, allowing for product differentiation and a consideration of the possible *intra*-industry resource reallocation effects of integration. In each case, the analysis draws on empirical studies of experience in regional unions elsewhere, among countries of differing size and levels of development, and attempts to draw inferences for SADC. Finally, the discussion moves away from static analysis, to consider the possible dynamic effects of integration, with a focus on the possible polarisation effects of integration among unequal partners.

In the light of the preceding analysis, the two subsequent chapters of the study consider the Evans (1996, 1997a) Regional Trade Model for Southern Africa (RTMSA), probably the most analytically ambitious attempt to address, empirically, the question of the economic desirability of a southern African FTA. The Evans studies appear to provide the only detailed sectoral estimates available to date of the effects of the formation of a SADC FTA on the individual members of SADC. Given the intense debate about the sectoral and distributional implications of a southern African regional union incorporating South Africa, and the interest of policy-makers in the region in the further development of the model, the focus on the RTMSA seems warranted.

Chapter 6 outlines the structure and mechanics of the RTMSA in an attempt to demonstrate clearly how relative price changes resulting from the removal of intra-SADC tariffs, in a given sector, work through the model to affect the key economic variables under analysis. In particular, the analysis in this chapter seeks to clarify, through algebraic manipulation of the model's equations, the manner in which the model's structure and assumptions affect the direction and magnitude of the predicted changes in intra-SADC imports and exports, imports from the rest of the world, import-competing supply and employment. While technical, this discussion provides essential background for a critical assessment, in Chapter 7, of the model's assumptions, and the inferences drawn from the results of the simulations undertaken to date.

The discussion in Chapter 7 draws on the theoretical analysis in Chapters 4 and 5, as well as similar empirical studies conducted for other regional groupings, in an attempt to provide an assessment of the RTMSA. An examination is made of the simulation results obtained to date and the conclusions drawn from these results on the desirability of a SADC FTA. The analysis then considers, specifically, whether the model's elasticity assumptions tend to bias the simulation results in any systematic way, particularly with respect to the likely trade creation-trade diversion consequences of the FTA. Finally, a preliminary analysis is made of the directions in which the RTMSA could usefully be extended to provide the basis for a fuller assessment of the desirability and feasibility of a SADC FTA, in the light of the discussion in previous chapters.

The concluding chapter attempts to synthesise the key issues relevant to the analysis of regional trade integration among countries of unequal size and levels of development, and their implications for the formation of a SADC FTA. It considers, in the light of this, the current state of the debate in the southern African literature, and suggests ways in which a more complete assessment of the possible welfare effects of the FTA may be pursued.

CHAPTER 1

ECONOMIC INTEGRATION IN SOUTHERN AFRICA

1.1 Introduction

The purpose of the present chapter is to provide a picture of existing arrangements for regional co-operation in southern Africa, and the implications of processes such as the re-negotiation of the Southern African Customs Union Agreement and South Africa's trade negotiations with the European Union (EU) for the formation of a SADC free trade area (FTA), as well as the multilateral obligations of SADC members to the World Trade Organisation (WTO). Such a picture provides important background for any attempt to assess the desirability and feasibility of a SADC FTA.

Section 1.2 introduces the existing regional organisations in southern Africa, and attempts to highlight their major problems and achievements to date. Sections 1.3 and 1.4 outline the essential features of some of the more prominent bilateral trade agreements in the subcontinent, both involving South Africa and between other SADC countries. Section 1.5 considers the WTO provisions on regional arrangements, their relation to existing southern African organisations, and their implications for the proposed SADC FTA, while Section 1.6 examines the importance of South Africa's trade negotiations with the EU. Section 1.7 concludes.

1.2 Existing regional groupings in southern Africa

South Africa's apartheid policies placed the country at political odds with its majority-ruled neighbours. Until recently, economic co-operation arrangements in the region reflected this divide. Of the four existing economic groupings in southern Africa, two date from the colonial period and have always included South Africa, while the other two, formed in the early 1980s, excluded South Africa (one being specifically formed to counter the country's hegemony in the region).

In order of establishment, these groupings are: the Southern African Customs Union (SACU), the Common Monetary Area (CMA), the Southern African Development Community (SADC) (formerly the Southern African Development Co-ordination Conference, SADCC), and the Common Market for Eastern and Southern Africa (COMESA) (formerly the Preferential Trade Area for Eastern and Southern African States, PTA).

1.2.1 The Southern African Customs Union (SACU)

The only formal integration arrangement[1] in southern Africa is the SACU between South Africa and Botswana, Lesotho, Namibia and Swaziland (collectively known as the BLNS countries). The origins of the SACU date back to the 1889 Customs Union Convention between the Cape of Good Hope and the Orange Free State Republic. By 1906, all the current SACU members, except Namibia, were part of a customs union, together with Southern and North-Western Rhodesia.[2] The present SACU Agreement was negotiated in 1969, and is a successor to the 1910 agreement between the newly-formed Union of South Africa and the three High Commission Territories (as Botswana, Lesotho and Swaziland (BLS) were then known). South Africa treated the former South West Africa as part of the customs union when it began to administer the territory in 1915. Namibia's membership was formalised only after its independence in 1990 (Maasdorp, 1990a: 11-16; Maasdorp and Whiteside, 1993: 33).

Since economic integration arrangements among developing countries have seldom been successful, it is interesting to note that the SACU has been in existence in one form or another for nearly a century.

The 1910 agreement between South Africa and BLS provided for:

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[1] There are various degrees of formal integration, the main ones being (in order of increasing level of commitment) free trade areas, customs unions, common markets and economic unions.

[2] A Customs Union Convention in 1903 established a union covering the Cape, Natal, Orange River Colony, Transvaal, Southern Rhodesia (Zimbabwe), Basutoland (Lesotho) and Bechuanaland (Botswana). Swaziland was admitted in 1904 and North-Western Rhodesia at the end of 1905 (Maasdorp, 1990a: 14-15). The 1903 Convention was therefore also the origin of the current trade agreement between South Africa and Zimbabwe (see Section 1.3.1 below).

i) the free interchange of manufactured goods and the maintenance of a common external tariff (CET) against the rest of the world (ROW);

ii) conformity of the BLS countries to South Africa's tariff laws; and

iii) payment by South Africa to BLS of a share of the total pool of customs and excise revenue in proportion to their level of trade between 1906 and 1908. South Africa received 98.7 per cent of the revenue, while BLS together earned only 1.3 per cent.

The agreement was re-negotiated in 1969 at the instigation of the (newly-independent) smaller countries, whose main concerns were the continued application of a customs and excise revenue-sharing formula based on their trade levels sixty years previously, the polarisation effect (the tendency for industry to be attracted to the most developed sector of the union), the price-raising effect of South African-determined tariffs, and loss of fiscal discretion due to the lack of control over customs and excise policies which were unilaterally determined by South Africa.

The 1969 agreement allowed for, *inter alia*:

i) a revised method of calculating the division of revenue;

ii) the establishment of a Customs Union Commission for consultation among member states; and

iii) measures enabling BLS to protect the development of certain industries.

The new revenue-sharing formula (Appendix 1) was intended to compensate BLS for participating in a customs union with a more economically developed country. It included a "compensation factor" or multiplier of 0.42, which meant that the smaller countries would receive 42 per cent more from the common revenue pool than they individually paid into it. However, the new formula also included BLS imports from South Africa, raising the smaller countries' revenue above that which would be received on imports from outside the SACU area alone. This was evidently an attempt to reproduce the revenue the smaller countries would earn outside the customs union if they were imposing tariffs in such a way that prices were equal to those within the SACU. Effectively, then, BLS would receive the revenue due to them, plus compensation for trade diversion (that is, for the price-raising effect of the CET). The

new formula therefore provided compensation for price-raising effects *before* the application of the compensation factor of 0.42 (Walters, 1989: 44).[3] The inclusion of the compensation factor itself was then intended to compensate BLS for the polarisation effects of the SACU Agreement and for loss of fiscal discretion.

The revenue-sharing formula was amended in 1976, with the introduction of a stabilisation factor to ensure a more consistent basic average rate of duty for BLS. Fluctuations in this rate had made it difficult for the smaller countries to predict available revenue for government expenditure. The amended formula ensured that the rate of duty could not decline below 17 per cent nor exceed 23 per cent. The range was based on a target rate of 20 per cent, which was considered to be "the norm" for similar countries.

In 1981-82, further amendments to the SACU Agreement were sought by BLS. The two areas of concern were the range of the stabilisation factor and the lag in payments from the common revenue pool. The first proposal was that the range of the stabilisation factor be adjusted to 19-25 per cent, given the persistent tendency for the stabilised average rate of duty to fall below the target rate of 20 percent. Secondly, the fact that revenue payments to BLS for a particular fiscal year were spread over a three-year period meant that they were always owed money by the pool. During the lag period, South Africa had free use of the funds, which has been described as an interest-free loan from BLS, the real value of which is additionally eroded by inflation (Mayer and Zarenda, 1994: 21; Maasdorp, 1982: 100). Walters (1989: 43) argues that the fundamental issue is the forecasting technique used, which is believed to underestimate the cash flow systematically. Several alternative forecasting methods were considered at the 1981 discussions, but the formula agreed upon by the Customs Union Commission was rejected by the South African Cabinet in 1982.

The South African position appeared to be that no further amendments could be made

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[3] According to Walters (1989: 44-45), an important question is whether the basic average rate of duty (i.e. customs, excise and sales duty revenue as a proportion of the duty-inclusive value of dutiable imports and domestically-consumed dutiable domestic production) derived from the formula reproduced the "iso-price" tariff or not. An unresolved issue at the 1969 negotiations was whether the basic average rate of duty would fully compensate for trade diversion. (The question was subsequently raised of whether BLS should be compensated at all for trade diversion, since they benefit from the protection afforded by the CET (McCarthy, 1985, cited in Walters, 1989: 45).

unless the Agreement as a whole was re-negotiated. This was viewed as an attempt to pressurise the smaller countries into accepting homeland membership of the SACU. South Africa saw the SACU as a vehicle for channelling funds to the homelands, but the BLS countries' refusal to recognise their "independence" prevented their direct inclusion in the Agreement, since any change in SACU membership had to be unanimously approved. South Africa consequently entered into separate bilateral agreements with the former homelands, and paid them revenue out of its own share (Maasdorp and Whiteside, 1993: 42).

Despite problems with the formula, it is clear that the revenue-sharing provisions of the SACU Agreement do offer substantial benefits to the smaller members. The revenue received from the common pool forms a significant part of their government revenue: 55.1 per cent for Lesotho, 33.6 per cent for Namibia, 18.6 per cent for Botswana, and about 40 per cent for Swaziland in 1991-95 (World Bank, 1997a: 196-197; Zarenda, 1997: 59). The indirect cost, of course, is that South Africa unilaterally determines the rates of duty.[4]

South Africa now finds the revenue-sharing provisions of the Agreement unacceptably draining (Maasdorp and Whiteside, 1993: 42; McCarthy, 1994: 173; Zarenda, 1997: 58-59). South Africa's share of the pool fell over period 1969/70 to 1992/93 from 96.1 per cent to 66.4 per cent. The most marked reductions occurred after 1990, mainly as a result of rapid increases in Botswana's imports and the formalisation of Namibia's SACU membership after independence (Maasdorp, 1994: 20).[5] Zarenda (1997: 59) reports that Namibia's separate SACU membership accounted for about a third of the drop. Further, it must be borne in mind that South Africa elected to pay the TBVC states (as if they were SACU members) out of its own share.[6]

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[4] South African Reserve Bank *administration* of the common pool is not seen as a contentious issue. Indeed, the BLNS countries benefit by not having to incur the costs of revenue collection.

[5] Since most BLNS imports come from South Africa, it could be argued that rapid growth in these countries which, given their high import propensities, translates into rapid growth in imports, generates exports and hence income for South Africa. This could be regarded as some justification for South Africa's falling revenue share (McCarthy, 1994: 177).

[6] The percentage shares of the pool reported above are those which accrued to South Africa *before* any transfers were made to the TBVC states. According to these figures, South Africa's share in 1990/91 was 74.6 per cent. After transfers to the TBVC states, South Africa's residual was reduced by some 20 percentage points to 54.8 per cent. It has been argued that it is the figures *net* of TBVC transfers which reflect South Africa's interpretation of its position (Maasdorp and Whiteside, 1993:

More generally, the size of the revenue pool may shrink as tariffs are lowered under South Africa's offer to the WTO, with adverse implications for BLNS government revenue in particular.[7] However, the effect of the offer on tariff revenue is difficult to predict. McCarthy (1994: 179) suggests, for example, that lower tariffs and a more outward-oriented trade policy may result in larger trade volumes, and perhaps even an increase in revenue. Another consideration is that about half of the revenue pool is, in any event, comprised of excise duties. Official opinion in South Africa appears to be divided on whether lower tariffs will reduce the revenue pool or have a neutral effect (Davies, 1994: 11-12).

By 1994, a complete re-negotiation of the SACU Agreement had been set in motion, reflecting the deep dissatisfaction of all parties with its present form. The revenue-sharing provisions of the Agreement and the issue of consultation among member states are central aspects of the re-negotiations, which are scheduled to be completed in the near future. South Africa's concern that the revenue payments have become too onerous will be met by the BLNS perspective that the current formula provides *inadequate* compensation for trade diversion, polarisation and the loss of fiscal sovereignty. However, as the CET is lowered under South Africa's offer to the WTO, the issue of compensation for its price-raising effects (trade diversion) will be of less concern (Sisulu *et al.*, 1994: 73). Likewise, if a suitable framework is agreed on for consultation and adequate participation by BLNS in SACU decision-making (perhaps via BLNS representation on the Board of Tariffs and Trade under a suitable voting system), then the issue of compensation for loss of fiscal discretion may also become less important. The question of compensation for polarisation will remain, however, and may be addressed via some kind of industrial development fund rather than the revenue-

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42; McCarthy, 1994: 173).

[7] It is doubtful whether there was any meaningful consultation between South Africa and other SACU members regarding South Africa's offer. Zarenda (1997: 62-63) maintains that the BLNS countries were not consulted at all. However, Maasdorp (1994: 17) reports that a Joint Technical Group was set up in August 1993 to examine South Africa's draft offer and other matters related to the SACU re-negotiations. Stoneman (1994: 7) notes that the Working Group was set up at an extraordinary SACU meeting on 17 August 1993. The BLNS countries were invited to assist with the preparation of South Africa's offer on industrial goods, which was due by the end of August. The agricultural offer had already been made (without consultation).

sharing formula.[8]

Zarenda (1997: 60) has written that "SACU has not at any stage in its existence claimed to be a development-focused institution rather than a convenient political arrangement". However, McCarthy (1994: 170) argues that the architects of the 1969 SACU Agreement sought to change its structure from a revenue distribution mechanism to a development-oriented arrangement. For the smaller members of SACU, nonetheless, the revenue-sharing provisions of the Agreement appear to have been of overriding importance, even since the 1969 Agreement. It should be noted, though, that while SACU revenue payments remain the main source of government revenue for Lesotho and Swaziland, they have become considerably less important for Botswana. As McCarthy (1994: 171) argues, thus, the tendency to treat BLNS as a homogeneous group within SACU is no longer appropriate. The current re-negotiations may provide the opportunity for regional economic development to become the main impetus of the SACU Agreement (McCarthy, 1994: 183).

Some other southern African countries have reportedly expressed an interest in joining the SACU. Given the current conflict in the organisation over revenue-sharing, it is extremely unlikely that any new member would be admitted under the present revenue-sharing provisions. Although this problem could perhaps be overcome through differentiated revenue-sharing arrangements for new members of the union, it does not appear that an enlarged SACU is being contemplated.

1.2.2 The Common Monetary Area (CMA)

The BLS countries adopted the use of South African currency in the second half of the nineteenth century, and Namibia did so after the First World War. However, it was only in 1974 that the first formal monetary agreement, the Rand Monetary Area (RMA)

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[8] More detail on the issues to be raised in the SACU re-negotiations can be found in Davies (1994), Maasdorp (1994) and Sisulu *et al.* (1994). Other important negotiating issues will doubtless include the lag in payments from the customs pool, whether excise duties should continue to be included in the pool, and the implications of a Secret Memorandum of Understanding attached to the 1969 Agreement for the infant industry protection provisions of the arrangement. The effect of SACU on industrial development in BLNS (including the existence of the Secret Memorandum) is considered further in the discussion of polarisation in Section 5.4.

Agreement, was signed between South Africa, Lesotho and Swaziland; Botswana elected not to join.

The Agreement allowed for:

i) Lesotho and Swaziland to issue their own currencies for internal use, but the rand was to be used for foreign exchange transactions and was legal tender throughout the area;
ii) free movement of capital among member countries;
iii) access to South African money and capital markets;
iv) allocation of foreign exchange from the South African Reserve Bank;
v) compensation for interest that would have been earned by Lesotho and Swaziland on external reserves;
vi) consultation on policy decisions, such as interest rate and exchange rate changes;
vii) the right to authorise the transfer of capital and profits abroad (Maasdorp and Whiteside, 1993: 34).

Member countries retained responsibility for their own monetary policy and control of their financial institutions, but South Africa was responsible for management of the rand and gold and foreign exchange reserves of the RMA.

In 1986, in a move prompted by Swaziland's decision to de-link the *lilangeni* from the rand, the RMA Agreement was superseded by the Trilateral Monetary Agreement (TMA), establishing the Common Monetary Area (CMA). The rand was no longer officially legal tender in Swaziland, although it is still widely accepted there in practice. Exchange rate parity was no longer required between the rand and the Lesotho *loti*, and the rand and the *lilangeni*. The TMA was accompanied by two separate bilateral agreements concluded by South Africa with Lesotho and Swaziland respectively.

In March 1992, the TMA was replaced by the Multilateral Monetary Agreement (MMA) after Namibia formally joined the CMA. A third bilateral agreement was concluded between South Africa and Namibia at the same time (Maasdorp and Whiteside, 1993: 34).

For South Africa, Lesotho, Namibia and Swaziland, the SACU and CMA together almost amount to a common market.[9] The transformation of SACU into a common market ("deepening" the level of integration) would involve Botswana joining the CMA and provision for the free movement of labour between SACU countries. Given South Africa's domestic unemployment problem and the need for internal restructuring, as well as the implications of a "brain drain" from BLNS, this is unlikely to be feasible. It has been argued that such a move may be desirable for Lesotho, given its dependence on migrant labour employment in South Africa (Maasdorp and Whiteside, 1993: 45-46).

1.2.3 The Southern African Development Community (SADC)

SADC was established in 1980 as the Southern African Development Co-ordination Conference (SADCC) with nine members: Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe. Namibia became the tenth member after independence in 1990. South Africa joined SADC four months after the April elections, in August 1994, and hosted the 1995 meeting where Mauritius was admitted as the organisation's twelfth member.[10]

SADCC's original aims were to reduce its members' economic dependence particularly, but not only, on South Africa, and to encourage balanced regional development.[11] In view of the poor record of formal regional economic integration schemes in Africa (particularly the collapse of the East African Community), and elsewhere among developing countries, the founders of SADCC specifically opted for a loose association to promote co-operation and co-ordination rather than formal economic integration. SADCC thus began as a loose organisation facilitating sectoral and project co-operation in fields such as transport, agriculture and food security, mining, energy and tourism. Highest priority was initially accorded to projects in the transport and communications

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[9] A common market is a customs union which also allows the free movement of capital and labour among member countries.

[10] As noted earlier, the Democratic Republic of Congo and Seychelles joined SADC in September 1997.

[11] SADCC's origins date back to a call by Zambian President Kenneth Kaunda in 1974 for the establishment of a "transcontinental belt of independent and economically powerful states". Its formation is also widely regarded as a response to South Africa's plans for a "Constellation of Southern African States" in the late 1970s (Leistner, 1995: 272).

sector, since this was where dependence on South Africa was most acutely felt. Of major importance, too, were the agriculture and food security and energy sectors; an increasing focus on industry and trade only emerged later, with an emphasis on strengthening intra-SADCC trade. Sectoral responsibilities were entrusted to the relevant ministries in member countries.[12]

While the founding SADCC countries' dependence on South Africa and the ROW was by no means been reduced,[13] the following are included among the organisation's achievements in its first decade:

i) to provide a conduit for foreign aid: SADCC was well-regarded by aid organisations, which were particularly interested in sponsoring regional transport and communications projects;
ii) the annual consultative meeting focused the attention of donor countries on southern Africa and South Africa's role in the region; and
iii) significant progress was made in the reconstruction and development of SADCC transport and communications networks (Maasdorp, 1990b: 21; Leistner, 1992: 3; Davies *et al.*, 1993: 29).

After 1990, however, SADCC had to consider the implications of political change in South Africa, as its main *raison d'etre* would be challenged once apartheid was gone. This, together with calls from PTA/COMESA for a merger between the two organisations due to overlapping objectives, led SADCC to reassess its goals in the early 1990s.

A policy document submitted to a SADCC meeting in Maputo in January 1992 spelt out proposals for a move away from project co-operation towards trade integration, proposing a reduction of barriers to intra-SADC trade, greater co-ordination of external tariffs, freer movement of capital and labour, the creation of regional infrastructural

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[12] Responsibilities were allocated as follows: Angola: energy; Botswana: animal disease and agricultural research; Lesotho: tourism; Malawi: fisheries; Mozambique: transport and communications; Swaziland: training; Tanzania: industry and trade; Zambia: mining; and Zimbabwe: agriculture and food security. When South Africa joined SADC, a new "portfolio" was created for it to co-ordinate: finance and investment.

[13] Bilateral and other links with South Africa either remained or increased, and it is reported that 80 to 90 per cent of the organisation's projects are funded by outside donors (Leistner, 1995: 272).

authorities and a development bank, as well as the rationalisation of efforts to promote integration in southern Africa (Maasdorp and Whiteside, 1993: 35).

In August 1992, at the organisation's summit in Windhoek, representatives of the ten member countries signed a treaty transforming SADCC into the Southern African Development Community (SADC). The treaty enshrined the new objectives of deeper economic co-operation and integration, and provided for the negotiation of regional protocols in various sectors, including trade. However, there was little sign over the next few years of any progress towards the implementation of these policies. Donors reportedly became increasingly critical of the lack of progress and political commitment of member states, as well as organisational inefficiency and bureaucracy (Leistner, 1992: 4-5; Leistner, 1995: 272).

South Africa's decision to join SADC in 1994 is consistent with the ANC's pre-election position of the important role the country has to play in the development of an appropriate institutional framework for regional co-operation and integration (Zarenda, 1997: 60-62). Although South Africa is apparently cautious about moves towards trade integration within SADC,[14] it has committed itself to the formation of a SADC FTA by signing the Trade Protocol in August 1996.

1.2.4 The Preferential Trade Area for Eastern and Southern African States/Common Market for Eastern and Southern Africa (PTA/COMESA)

The Preferential Trade Area for Eastern and Southern African States (PTA)[15] was formed in 1983, and currently has 23 members: all the SADC states, except Botswana and South Africa, plus Burundi, Comoros, Djibouti, Ethiopia, Eritrea, Kenya, Madagascar, Rwanda, Seychelles, Somalia, Sudan, Uganda and Zaire (Holden, 1996: 7).

The PTA, a project of the United Nations Economic Commission for Africa (ECA), is part

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[14] Holden (1996: 7) reports that the SADC trade protocol was not signed at the August 1995 summit largely because South Africa persuaded the other members that trade integration would probably lead to trade diversion (to South Africa).

[15] In a PTA, tariffs are lowered among member countries on selected commodities, but there is not yet free movement of goods and services within the area.

of the OAU initiative towards a continental common market. Its original purpose was to promote trade by gradually lowering tariff barriers, although it is ultimately intended to develop into a deeper integration arrangement, with eventual free trade and common market status for its members. As a move in this direction, a new treaty was signed by 20 member countries in December 1994, replacing the PTA with the Common Market for Eastern and Southern Africa (COMESA).[16] Like SADC, in addition to its integration agenda, COMESA aims to promote co-operation in sectors such as transport, communications, agriculture and industry.

In the move towards free trade, COMESA member states are expected to eliminate all tariffs on intra-regional trade on a common list of commodities by the year 2000. Various institutions have been set up to encourage intra-regional trade. The PTA Clearing House was established in 1984 to address the question of non-convertible currencies and the shortage of foreign exchange to pay for imports, facilitating the settlement of accounts between members in national currencies. A joint unit of account (UAPTA) was subsequently introduced to record receipts and payments. The PTA Trade and Development Bank was established in 1986 to provide trade and development project finance, and later began issuing UAPTA travellers' cheques. A monetary harmonisation programme has been adopted, which aims to achieve monetary union by 2025.[17]

The establishment of the Clearing House and PTA Bank are considered to be COMESA's main accomplishments. The former handles about 50 per cent of intra-area trade, with the proportion settled in hard currency decreasing from 87 per cent in 1985 to 47 per cent in 1989. An industrialisation programme (with 52 projects in 1992), the simplification of customs procedures and easier trans-border transport are other positive achievements (Leistner, 1992: 6).

The main problems are that intra-COMESA trade remains low at about 6 per cent of members' total trade, member states have in most cases not complied with decisions to reduce tariffs by target dates, transport and communications links remain weak, and

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[16] According to Holden (1996: 8), Djibouti, Seychelles and Somalia have yet to sign the COMESA treaty.

[17] More detail on the PTA/COMESA institutions and the monetary harmonisation programme can be found in Maasdorp and Whiteside (1993: 24-27), ADB (1993a) and Holden (1996: 8).

most countries face acute shortages of foreign exchange. Other weaknesses include vast disparities in the levels of development of the organisation's member states, its unwieldy size and geographical dispersion, as well as overlapping membership of different regional groupings.

There is obvious conflict between membership of SACU and COMESA, which partly explains South Africa and Botswana's decisions not to join the larger grouping. Lesotho, Namibia and Swaziland have specifically been exempted from reciprocating COMESA tariff cuts (such as they are), because of their membership of SACU. However, dual membership is clearly not tenable.

There has been increasing tension between SADC and COMESA as their objectives have converged. COMESA called for a merger in the early 1990s, which SADC considered to be premature. In 1994, countries with dual membership allegedly resolved to withdraw from COMESA, a decision which was to be finalised in 1996 (Holden, 1996: 7).[18] South Africa's decision to join SADC rather than COMESA, and the signing of the SADC Trade Protocol, appear to be the main reasons for the consolidation of SADC.

1.2.5 The Cross-Border Initiative (CBI)

The CBI, proposed at the Maastricht Conference on Africa in 1990, and sponsored by the World Bank and IMF, the European Union and the ADB, is a recent initiative to promote cross border trade and investment in eastern and southern Africa. There are currently fourteen participating countries: Burundi, Comoros, Kenya, Madagascar, Malawi, Mauritius, Namibia, Rwanda, Seychelles, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe.[19] The CBI envisages the elimination of tariffs on intra-regional trade and the convergence of members' external tariffs to a trade-weighted average of 15 per cent, with a maximum of 25 per cent, by 1998 (Holden, 1996: 9). Some of the participants have expressed concern about the revenue implications of the proposals,

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[18] Zimbabwe reportedly resolved to withdraw from COMESA in 1995, suggesting a firmer commitment to SADC (Leistner, 1995: 274). More recently, Lesotho and Mozambique indicated their intention to terminate their COMESA membership (Mayer and Thomas, 1997: 331).

[19] Every member of the CBI is a member of COMESA, but not *vice versa*.

while countries such as Malawi, Mauritius, Zambia, Zimbabwe and Uganda, which have already liberalised extensively, will not find compliance too onerous (Holden, 1996: 9).

1.3 Bilateral agreements in southern Africa involving South Africa

There are numerous bilateral agreements which exist between the SADC states. In a document compiled at the request of the South African Department of Trade and Industry, Kabemba (1996) outlines the essential features of fourteen such agreements.[20] The current position appears to be that existing bilateral trade agreements will continue to operate during the SADC FTA negotiations, but will cease to be effective once a higher level of integration is reached (Kabemba, 1996: 4).[21]

South Africa has bilateral trade agreements with Zimbabwe and Malawi, and a preferential tariff arrangement with Mozambique. A general feature of these agreements is their asymmetry: South Africa receives a small margin of preference, if any, in return for more favourable access to the South African market.

1.3.1 The Zimbabwe agreement

The preferential trade agreement between South Africa and Zimbabwe dates back to the 1903 Customs Union Convention, which sought to establish a customs union among all British territories in southern Africa.[22] With the formation of the Union of South Africa in 1910, existing arrangements were terminated, and separate customs union

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[20] The initial objective was to include all bilateral agreements signed by SADC states, but this was not possible as the necessary information was not forthcoming from member countries. The objective was to assist in the negotiation of the SADC Trade Protocol, based on the South African government's view that "in order to design an effective and appropriate trade regime for the region, SADC member states need to have a clear idea of what exists on the ground and its implications for a multilateral framework such as SADC and the GATT" (Kabemba, 1996: 3).

[21] According to Kabemba (1996: 2), some of the bilateral agreements surveyed in his study, between SADC countries with COMESA membership, such as Malawi, Zambia and Zimbabwe, lapsed when the initial round of COMESA tariff reductions came into effect. For the members of SACU, there is a moratorium on any new agreements until the SACU re-negotiations are finalised (Kabemba, 1996: 39). In the case of SADC, however, the Trade Protocol allows new agreements among member countries, provided they do not conflict with the provisions of the Protocol (SADC, 1996: 12).

[22] The agreement's common origin with SACU was noted in Footnote 2 above.

agreements were signed between South Africa and its future SACU partners on the one hand, and South Africa and Southern and North-Western Rhodesia on the other.

In December 1948, a new customs union agreement was signed between South Africa, Northern Rhodesia (Zambia), Southern Rhodesia (Zimbabwe) and Nyasaland (Malawi). This was reportedly the first arrangement to be notified as an "interim agreement leading to the formation of a customs union" to the newly-founded GATT (Pomfret, 1988: 85; Kabemba, 1996: 43). The union lapsed a few years later, and gave way to various preferential trade agreements, the most recent of which was signed in November 1964 between South Africa and Southern Rhodesia after the dissolution of the Rhodesian Federation. The agreement was maintained after Southern Rhodesia's Unilateral Declaration of Independence (UDI) in 1965, and is still in operation today. It was reportedly extended by an exchange of letters in 1982 and amended in the same manner in 1986 (Kabemba, 1996: 44; Blumberg, 1994: 11).

The Zimbabwe agreement provides for preferential rates of duty, rebates and quotas on certain goods traded between the two countries.

Under Article 3, goods produced in the country of *either* party and specified in Annexure A (mainly agricultural and food products) may be admitted under import licence either i) free of duty, ii) into Zimbabwe at the "Column C rate",[23] or iii) into South Africa at the most-favoured nation (MFN) rate (Government of the Republic of South Africa, 1964: 11-13).

Article 5 allows goods produced in *Zimbabwe* which are specified in Annexure B to be admitted into South Africa under a wide range of conditions. Annexure B is by far the most extensive of the three Annexures to the agreement, consisting of eleven parts, the first six of which mainly cover preferences for Zimbabwean textile and clothing items, but also some leather items.

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[23] Part II of the most recently available Zimbabwe tariff book contains two columns of duties: general duties ("Column C") and most-favoured nation (MFN) duties ("Column D"). The latter ostensibly apply to goods from WTO member countries and other countries with which Zimbabwe has trade agreements containing the MFN clause (Government of Zimbabwe, 1993: 3). However, there appears to be no difference between the Column C and Column D rates in this book. Blumberg (1994: 11) says of Column C: "It is understood, but not confirmed, that this is a preferential rate". It would appear that it is not, and it is unclear why it should be applied to South Africa rather than the supposed MFN rate.

The goods specified in these parts may be admitted into South Africa either free of duty or at the MFN rate rebated to a specified extent. The rebates granted range from 10 to 50 per cent, but commonly lie between 15 and 30 per cent. Whether the specified goods are admitted duty-free, whether they are rebated at all, and, in some cases, the extent of the rebate, depend in some sections on the local content or, less frequently, the composition of the goods. Further, in some cases, the rebates apply (given any local content or composition requirements) only up to a certain specified value or quantity.

The rest of Annexure B covers specified Zimbabwean goods, mainly other than textile and clothing items, which are admitted into South Africa either free of duty (in some cases up to a specified value only), or at the MFN rate rebated to a specified extent (between 5 and 25 per cent), or at a specified rate of duty. These sections cover a wide variety of goods, ranging from certain food products, through to wood and leather products, enamelware, metal furniture, pharmaceutical products, jewellery and some electronic equipment (Government of the Republic of South Africa, 1964: 37-47).

Article 6 allows goods produced in *South Africa* which are specified in Annexure C to be admitted into Zimbabwe either at the "Column D" rate,[24] or at the "Column C" rate with a 5 per cent rebate[25] (Government of the Republic of South Africa, 1964: 47-53).[26]

The provisions of this agreement are clearly asymmetrical. There are far more goods qualifying for preferential access into the South African market (Annexure B) than *vice versa*, and, in the cases where rebates are granted, the extent of the rebates in Annexure B (for Zimbabwean goods entering the South African market) is greater than in Annexure C (for South African goods entering the Zimbabwean market).

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[24] These include a wide range of items ranging from certain food products and textile and clothing items, bicycles and tricycles, kitchenware and lampware, oil cooking stoves, washing and ironing machines, glass products, certain medical preparations, leatherwork, rubber products and musical instruments.

[25] These include specified clothing items, electric cooking stoves, gold and silverware, jewellery, and certain footwear items. The latter are only rebated if the duty rate is *ad valorem*.

[26] As noted above, however, there appears to be no difference between the Column C and Column D rates in the latest available Zimbabwe tariff book.

Preferential rates accorded to Zimbabwe for textile and clothing items form an important part of the agreement as a whole (Annexure B). The rebates give Zimbabwe an absolute margin of preference for certain products. However, in 1992, South African import duties on textile products were substantially increased, mainly to protect local industry from cheaper imports from the Far East. Although this did not affect Zimbabwe's absolute margin of preference in terms of the agreement, its relative preference was drastically reduced. This is illustrated by the example in Table 1.1 below.

Table 1.1: The effect of a change in South African import duties on Zimbabwe's relative tariff preference

	Absolute normal duty	Absolute Zimbabwean preference	Relative Zimbabwean preference	Duty payable on import from Zimbabwe
Pre-1992	30%	15%	50%	15%
After rise in duty	90%	15%	17%	75%

Source: Kabemba (1996: 69).

Following sensitive discussions over several years, South Africa agreed in principle in August 1995 to reinstate Zimbabwe's relative margin of preference.[27] Finally, it was reported in August 1996 that the existing duty payable on textile and clothing imports from Zimbabwe, which ranged from 63 to 78 per cent following the 1992 duty increases, would be cut to below 30 per cent from September 1996, and to 20 per cent by the year 2000. The 75 per cent Zimbabwean local content requirement was also reportedly relaxed, so that any product which had undergone two stages of processing in Zimbabwe would qualify for the tariff preference (*Business Day*, 6 August 1996).

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[27] Zimbabwe rejected an offer made by South Africa at the time; the dispute was over the 75 per cent local content requirement, the extent of rebates, and quota levels. Further delay was caused by strong resistance to any agreement from the South African clothing and textiles industries, which were concerned about the level of imports from Zimbabwe originating in the Far East (SAPA, 1995, 1996).

1.3.2 The Malawi agreement

Concluded between Malawi and South Africa in 1990, this agreement provides for duty-free access into South Africa of Malawian goods with a local content of at least 25 per cent, except for certain agricultural products and coffee, tea and sugar which require an import permit. South African goods imported into Malawi are still subject to duty, understood to be the MFN rate, although this has not been confirmed. Rules of origin for South African goods appear to depend on the percentage content prescribed in Malawian legislation at a given time (Kabemba, 1996: 19; Blumberg, 1994: 8). Rights and obligations under the agreement are therefore not reciprocal.

Kabemba (1996: 19) argues that the trade agreement has enabled Malawi to increase its exports and attract South African investment. It favours sectors attracting high import duties in South Africa which are sufficiently developed in Malawi to provide a base for value-added manufacturing.

1.3.3 The Mozambique concession

The preferential tariff arrangement concluded between South Africa and Mozambique in 1989 is a non-reciprocal tariff concession granted by South Africa on a short list of specified goods of Mozambiquan origin. Goods are admitted duty-free (within specified quota limits) if the MFN rate is three per cent *ad valorem* or less, or at a ceiling rate of duty of three per cent if the *ad valorem* MFN rate is more than this. The local content requirement is 35 per cent, and goods range from fish and other seafood, cashew nuts and citrus fruit, through to textiles, wooden furniture, and tyres and tubes (GATT, 1993: 50).

The peculiar feature of the arrangement is that it applies only to goods of Mozambiquan origin for consumption in South Africa and Botswana. If they are re-exported to any other SACU member, the difference in duty must be paid. It is unclear why the agreement applies to goods destined for consumption in Botswana, but not Lesotho, Namibia and Swaziland (Kabemba, 1996: 28).

1.4 Bilateral agreements between other SADC countries

There are numerous other bilateral agreements between SADC countries, many of which simply make provision for MFN treatment, sometimes with a list of specified goods. Probably the more important in the past were those involving Zimbabwe, Zambia and Malawi, since intra-regional trade (excluding intra-SACU trade) is most significant for these countries, as shown in Chapter 2. As noted earlier, however, former bilateral agreements between Malawi, Zambia and Zimbabwe have reportedly lapsed, following tariff cuts undertaken in terms of COMESA obligations. This section will therefore focus on bilateral agreements between Zimbabwe and other SADC countries.

1.4.1 Zimbabwe and Botswana

The trade agreement between Zimbabwe and Botswana is a successor to the 1956 customs agreement between the Federation of Rhodesia and Nyasaland; and Basutoland, Bechuanaland and Swaziland. It allows for reciprocal duty-free and import licence-free access of qualifying locally-produced goods (Kabemba, 1996: 13).

Kabemba (1996: 9-13) describes the agreement as "important" and "substantial", noting that trade between the two countries accounted for 14 per cent of total intra-regional trade in 1991.

1.4.2 Zimbabwe and Namibia

Concluded in 1992, the trade agreement between Namibia and Zimbabwe is Namibia's only bilateral agreement with another SADC state. It provides for duty-free access of all locally-produced goods (with respect to customs but not excise duties). SACU approved the agreement, on condition that these goods are not re-exported within the Common Customs Area. The agreement itself makes provision for re-exportation, and is thus a potential vehicle for the re-export of Zimbabwean goods to Angola and other non-SACU countries in the region (Kabemba, 1996: 36-39).

Namibia has traditionally traded very little with the rest of Africa (except South Africa), due to its historical isolation. Since the agreement only came into force in May 1993, no assessment has yet been made of its effects on the volume of trade between the two countries (Kabemba, 1996: 39).[28]

1.4.3 Zimbabwe and Mozambique

This agreement appears to be similar to the one between Zimbabwe and Botswana, providing for duty-free access of locally-produced goods. A list of products qualifying for such access is given in two annexures to the agreement (Kabemba, 1996: 31-34).

1.5 Existing southern African arrangements and the World Trade Organisation

The relevant WTO provisions on regional arrangements are contained in Articles XXIV and XXV of the original GATT, and the 1979 "enabling clause" which emerged from the Tokyo Round of negotiations.

Preferential trade areas were outlawed under the GATT, except for those already in existence when it was signed in 1947 (Winters, 1991: 176).[29] They contravene the cornerstone of the GATT, the Article I MFN clause, which requires that any preference granted by a contracting party to any other country should also be accorded to all other contracting parties, although a waiver may be granted in terms of Article XXV.

Probably the most significant exception to the MFN rule, however, is to be found in Article XXIV of the GATT, which permits customs unions, FTAs and "interim agreements" leading to the formation of a customs union or FTA, provided that they:

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[28] Namibia is reportedly interested in signing a bilateral agreement with Zambia (Kabemba, 1996: 39). However, as noted above, SACU members have agreed on a moratorium on all new agreements until the SACU re-negotiations have been finalised. Whether this is pursued will also presumably depend on progress made in the SADC FTA negotiations.

[29] The "grandfather" clause permitting the continuation of existing preferential trade arrangements was included in the GATT at British insistence, to protect Commonwealth preferences (Pomfret, 1988: 61).

i) cover "substantially all" of potential partners' mutual trade;

ii) include a plan to dismantle intra-area tariffs within a reasonable time period; and

iii) do not result in a higher average external tariff level than those which existed prior to their formation (Winters, 1991: 176).

With respect to customs unions, Article XXIV recognises that establishing a CET may involve tariff increases by some members, and provides that compensatory adjustment (such as a reduction of tariffs on other products) may be required, if any of the increased tariffs conflict with a GATT binding (Kumar, 1995: 2).

The provisions of Article XXIV have been strongly criticised for their vagueness and ambiguity. The "Understanding on Article XXIV", which emerged from the Uruguay Round of negotiations, seeks to address some of these criticisms.[30]

Part IV of the GATT provides that developed countries do not expect reciprocity in negotiations to reduce or eliminate trade barriers with less-developed member countries (Kumar, 1995: 10).[31] The policy, at the time, of granting special concessions to developing countries was further amplified by the 1979 "enabling clause", which not only allows more favourable treatment to be accorded to developing countries under the Generalised System of Preferences (GSP), but also makes provision for regional arrangements among these countries (Jackson, 1993: 123; Kumar, 1995: 10-11).[32]

All SADC member countries are members of the WTO. South Africa is classified as a developed country, while the rest are developing or "least developed". South Africa's developed country status implies that the SACU Agreement, and its bilateral agreements with other SADC countries, do not fall within the ambit of the section of the enabling

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30 A detailed analysis of Article XXIV and the other GATT provisions on regional arrangements is beyond the scope of this study. For more discussion, see Pomfret (1988: 60-101), Jackson (1993) and Kumar (1995).

31 Part IV of the GATT, entitled "Trade and Development", was not part of the original Agreement, but was added as an amending protocol in 1965.

32 The original GATT waiver permitting a GSP for developing countries was granted in 1971 for a period of ten years, but was extended indefinitely by the 1979 enabling clause (Pomfret, 1988: 87). For more on the GSP, see Pomfret (1988: 86-89). The enabling clause does not make any reference to Article XXIV, and the controversial question of whether it provides developing countries with the opportunity of forming regional arrangements outside Article XXIV is likely to be debated by the WTO working party examining MERCOSUR, which was notified in 1992 (Kumar, 1995: 11).

clause providing for regional arrangements among developing countries. Neither would a SADC FTA. However, these arrangements are in line with WTO principles with respect to Part IV of the GATT, and the section of the enabling clause providing for more favourable treatment of developing countries by developed countries. South Africa may nonetheless be vulnerable to demands from other developing countries for similar preferential treatment, since provisions for special treatment were endorsed in favour of *all* developing countries (Blumberg, 1994: 9; Kumar, 1995: 10-13).[33] A SADC FTA incorporating South Africa would therefore have to be properly notified to the WTO and approved under Article XXIV.[34]

It appears that none of the southern African bilateral agreements have been notified to the GATT/WTO, with the exception of the trade agreement between South Africa and Zimbabwe. The 1948 customs union agreement between South Africa, the Rhodesias and Nyasaland was, as noted earlier, the first arrangement to be notified to the newly-founded GATT, and was approved under Article XXIV (Pomfret, 1988: 85; Kabemba, 1996: 43). The subsequent preferential trade agreements were also notified to the GATT, which issued a series of waivers under Article XXV to accommodate them. No waiver was issued for the November 1964 agreement between South Africa and Southern Rhodesia (although it was notified), because of Rhodesia's UDI. The last waiver lapsed in June 1965, and no amendment to the original agreement has been notified to the GATT since 1964 (Kabemba, 1996: 43-44; Blumberg, 1994: 11).

The SACU Agreement has never been formally notified, nor has it undergone review under Article XXIV, evidently because the original agreement pre-dated the GATT's formation in 1947. Blumberg (1994: 7) reports, however, that there has recently been some pressure for such a review, particularly from the US, on the grounds that the agreement has substantially altered since then.[35] South Africa's Uruguay Round offer to the WTO may have addressed these concerns, in which case the Agreement could

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[33] This has evidently been a controversial issue in WTO discussions on the Lomé Convention.

[34] Kumar (1995: 17) considers the possibility of South Africa applying for a change in its status, specifically with respect to its regional arrangements in southern Africa. In this event, Article XXIV approval for a SADC FTA would not be required. Such an option may not be unrealistic, since South Africa has been granted GSP benefits by a number of developed countries.

[35] Davies (1994: 12) suggests that the US considers the SACU CET to have become more restrictive to third countries, particularly since the 1969 Agreement.

continue to be regarded as falling under the grandfather clause.

SACU countries remain WTO members in their own right.[36] However, South Africa's developed country status has important implications for its less developed SACU partners. Developing and "least-developed" countries are often afforded longer phasing-in periods to comply with WTO obligations. There are many such examples in the provisions of the Final Act of the Uruguay Round. For example, the average tariff on agricultural products must be reduced by 36 per cent over a period of six years in the case of developed countries, 24 per cent over ten years in developing countries, while least-developed countries do not have to reduce their tariffs at all (Kumar, 1994: 53). BLNS membership of SACU therefore means that these countries are bound to the more stringent obligations required of developed countries with respect to tariff reductions, and, more specifically, to whatever "binding commitments" South Africa has negotiated. They consequently forgo some of their rights to more lenient treatment as developing or least developed countries (Blumberg, 1994: 7).

Such a problem would not arise in the case of a SADC FTA, since there would be no common external tariff.[37] This perhaps provides another reason, in addition to the problem of revenue-sharing considered in Section 1.2.1, for SADC to avoid a deeper level of integration.

Further grounds for caution relate to the relative tariff levels of SADC member countries. According to the figures reported in IDC (1995b), for example, the SACU CET is well below the SADC average in most sectors. This implies that if SACU were to join a SADC customs union with a CET set at the SADC average, it may have to *raise* its tariffs to meet the SADC CET, as would other countries in particular sectors. In such cases, as noted earlier, compensatory adjustments in favour of other WTO members could be required if any GATT bindings are violated.

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[36] Under Article XXIV, a customs union notified to the WTO can itself be recognised as a WTO member. The European Union is, so far, the only arrangement which has followed this route, but also maintains individual membership. SACU could do the same, after proper notification (Kumar, 1995: 3).

[37] It has not been necessary to date to notify SADC to the WTO, since no tariff reductions have yet been implemented under the SADC Trade Protocol. However, once this process begins, notification will become necessary, given South Africa's developed country status.

COMESA seems to meet the requirements of an interim agreement leading to the formation of a customs union or FTA, under Article XXIV of the GATT. Further, all present members are developing countries, so that the organisation falls within the ambit of the 1979 enabling clause, under which the WTO need simply be notified of the arrangement, without any need for review (Blumberg, 1994: 25). If South Africa joined COMESA, however, the organisation would require Article XXIV approval.

1.6 South Africa's trade negotiations with the European Union

As shown by Mayer and Thomas (1997: 334-335), the European Union (EU) is a major trading partner for each SADC member country. Trade relations between the EU and all SADC countries except South Africa (SA) are governed by the Lomé Convention, a trade and aid agreement between the EU and the African, Caribbean and Pacific (ACP) states. Although South Africa's formal request for admission to the Lomé Convention in November 1994 was turned down, its partial accession was ratified in April 1997, allowing the country to participate in the Lomé re-negotiations, but excluding it from the trade provisions of the Convention (Graumans, 1997: 31). Instead, the EU proposed a bilateral free trade agreement with South Africa, involving reciprocal tariff concessions and covering, in accordance with WTO requirements, "substantially all trade" between the two.[38]

The proposed SA-EU FTA will impact most directly on South Africa's smaller SACU partners, but will also have important implications for a SADC FTA. While the BLNS countries currently enjoy preferential non-reciprocal access to EU markets under the Lomé Convention, their participation in a customs union with South Africa behind a common external tariff wall means that any concessions which South Africa gives the EU will effectively be granted by SACU as a whole. As Mayer and Thomas (1997: 337) note, this will transform BLNS preferential non-reciprocal access to EU markets into reciprocal access. Further, the reduction or elimination of duties on EU imports is likely

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[38] The European Commission's specific proposal was that the FTA should cover at least 90 per cent of all trade, and that full reciprocity should be in place within ten years. It has been estimated that a 90 per cent FTA would require the EU to eliminate duties on only three to seven per cent of imports from South Africa, beyond existing Uruguay Round commitments. By contrast, South Africa would have to eliminate duties on approximately 46 per cent of its imports from the EU (ERO, 1996; Kalenga, 1997: 2).

to have a notable impact on the common revenue pool, with adverse implications for government revenue in these countries.[39]

In the case of a SADC FTA, although effective rules of origin should prevent the re-export of duty-free imports from the EU into South Africa to the rest of the region, competition from such imports (some of which are highly subsidised by the EU) in the South African market will constrain the rest of SADC's ability to exploit its own preferential access to this market (Keet, 1996: 560).

While negotiations are still in progress on the SA-EU FTA, it was recently agreed that the arrangement will be asymmetrical, in the sense that the EU will lower tariffs more rapidly than South Africa; there will be special treatment for sensitive products and sectors; SADC countries will have equal or better access to the South African market than the EU; and provision will be made to support the costs of adjustment in the transitional period (Mayer and Thomas, 1997: 337).

1.7 Conclusion

This chapter has outlined the essential features of existing southern African regional organisations and bilateral agreements, as well as their relation to the WTO provisions on regional arrangements, and the implications of South Africa's trade negotiations with the EU for both SACU and the proposed SADC FTA.

It is apparent that, in existing regional arrangements involving South Africa, there is explicit recognition of the unequal size and levels of development of South Africa and its partners. In SACU, this is reflected in the revenue-sharing provisions of the Agreement and the provisions for infant industry protection by the smaller countries, despite their shortcomings. Similarly, a general feature of bilateral agreements involving South Africa is their asymmetry in favour of South Africa's regional trading partners in terms of tariff concessions granted.

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[39] For a more detailed discussion of the implications of the SA-EU FTA for BLNS, see Kalenga (1997).

In Chapter 2, the focus of the discussion turns to outline the nature of these differences between the SADC economies more explicitly. Their implications for the formation of a SADC FTA will be considered in subsequent chapters.

CHAPTER 2

AN OVERVIEW OF THE SADC ECONOMIES AND THEIR TRADE RELATIONS, WITH INTERNATIONAL COMPARISONS

2.1 Introduction

This chapter describes some of the main features of the economies of the SADC region and their trade relations, with some international comparisons, as background to the analysis which is to follow.

The case of SADC provides an extreme example of an attempt at regional trade integration among prospective partners differing greatly in *per capita* income, economic size and stage of development, and which together comprise a relatively small trading bloc. To illustrate this, the following three sections of this chapter describe the differences in *per capita* income, size, growth performance and sectoral structure between the SADC economies.

Income *per capita*, reflecting diversity in the pattern of demand, is one indication of a country's stage of development. However, neither the stage of development as measured by *per capita* income (considered in Section 2.2) nor the overall contribution of manufacturing to GDP (outlined in Section 2.4) reflect the level of "advancement" or "sophistication" of a country's industrial sector, in the sense of its ability to produce a range of diverse products (Havrylyshyn and Civan, 1983: 119-120). Accordingly, Section 2.5 considers the comparative structure of manufacturing activity in the SADC countries in an attempt to assess differences in the level of *industrial* development in the region.

The question which emerges from this discussion, to be considered in subsequent chapters, is whether, despite the inequalities described, it is possible that a FTA among SADC members would be mutually beneficial to South Africa and its partners, and that the benefits would be non-negligible. One reason this may be possible is that the importance of South Africa's SADC partners for South Africa's foreign trade, particularly

for its non-gold exports, is much greater than the size of their GDPs suggests. Section 2.6 therefore examines the volume, direction and structure of southern African trade flows, with a particular focus on the two economies which dominate regional trading relations, South Africa and Zimbabwe. The discussion in this chapter is purposefully descriptive rather than analytical.

2.2 Differences in *per capita* income

Table 2.1 shows the *per capita* income levels of the members of SADC, as well as those of a number of other developing countries, derived from the World Bank (1995b, 1997a).

As the table shows, *per capita* incomes in the SADC region differ widely, with the group including two of the poorest countries in the world, Mozambique and Tanzania. In 1995, Mozambique had the lowest recorded GNP *per capita* (US$80), while Tanzania was the third poorest after Mozambique and Ethiopia. Four other SADC countries (Malawi, Zambia, Angola and Zimbabwe) also fall into the World Bank's category of low-income economies. Lesotho, Swaziland, Namibia and Botswana are classified as lower-middle-income economies, with Namibia and Botswana tending towards the upper end of the category. South Africa and Mauritius are the only upper-middle-income SADC countries.[1] South Africa's GNP *per capita* of US$3160 was exceeded in SADC only by that of Mauritius (US$3380), the richest country in the region.

The relative poverty of SADC is underlined further by comparison with members of MERCOSUR[2] and other developing countries listed in Table 2.1. The two richest members of SADC, South Africa and Mauritius, both had lower *per capita* incomes than Brazil, the second poorest member of MERCOSUR. Paraguay, the poorest member of MERCOSUR, had a GNP *per capita* of US$1690 in 1995, more than double that of Lesotho, also a lower-middle-income economy, and greater than the *per capita* incomes

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1 In terms of the World Bank classification, South Africa, as a middle-income economy, is regarded as a developing country. As noted in Chapter 1, however, it is considered to be a developed country in the WTO context.

2 MERCOSUR comprises Argentina, Brazil, Paraguay and Uruguay. Chile and Bolivia are associate members.

Table 2.1: Summary characteristics of the SADC countries, with international comparisons

	Area (thousands of square km)	Population (millions) mid-1995	GNP *per capita* (US$) 1995	PPP estimates of GNP *per capita*		Life expect. at birth (years) 1995	Adult illit-eracy (%) 1995	GDP (US$mn) 1995[a]
				US = 100 1995	Int $ 1995			
Angola	1 247	10.8	410	4.9	1 310	47	-	3 722
Botswana	582	1.5	3 020	20.7	5 580	68	30	4 318
Lesotho	30	2.0	770	6.6	1 780	61	29	1 029
Malawi	118	9.8	170	2.8	750	43	44	1 465
Mauritius	2	1.1	3 380	49.0	13 210	70	17	3 919
Mozambique	802	16.2	80	3.0	810	47	60	1 469
Namibia	824	1.5	2 000	15.4	4 150	59	-	3 033
South Africa	1 221	41.5	3 160	18.6	5 030	64	18	136 035
Swaziland	17	0.9	1 170	10.7	2 880	58	23	1 038
Tanzania	945	29.6	120	2.4	640	51	32	3 602
Zambia	753	9.0	400	3.5	930	46	22	4 073
Zimbabwe	391	11.0	540	7.5	2 030	57	15	6 522
International comparisons								
SSA incl. SA	24 271	583.3	490	-	-	52	43	296 748
Brazil	8 512	159.2	3 640	20.0	5 400	67	17	688 085
Argentina	2 767	34.7	8 030	30.8	8 310	73	4	281 060
Paraguay	407	4.8	1 690	13.5	3 650	68	8	7 743
Uruguay	177	3.2	5 170	24.6	6 630	73	3	17 847
Mexico	1 958	91.8	3 320	23.7	6 400	72	10	250 038
South Korea	99	44.9	9 700	42.4	11 450	72	<5	455 476
Thailand	513	58.2	2 740	28.0	7 540	69	6	167 056
Malaysia	330	20.1	3 890	33.4	9 020	71	17	85 311
Indonesia	1 905	193.3	980	14.1	3 800	64	16	198 079
Turkey	779	61.1	2 780	20.7	5 580	67	18	164 789
Portugal	92	9.9	9 740	47.0	12 670	75	-	102 337

Source: World Bank (1995b: 637-639; 1997a: 214-215, 236-237, 248).

Note: [a] 1993 for Swaziland.

of all but four of the twelve members of SADC.

Furthermore, in SADC, the ratio of *per capita* income from richest to poorest nation was 42:1, compared to 8:1 for the US and Mexico in NAFTA, and 5:1 for Argentina and Paraguay in MERCOSUR (Table A-1 in Appendix 2).[3] The divergence of *per capita* income levels in SADC is smaller in terms of the purchasing power parity (PPP) estimates of GNP *per capita*,[4] which range from 13210 international dollars (Mauritius) to 640 international dollars (Tanzania), a ratio of 21:1 (Table 2.1).[5] However, measured in international dollars, the ratio of highest to lowest *per capita* income within MERCOSUR is also reduced considerably, to 2.3:1, and within NAFTA to 4.2:1. Even in international dollars, thus, the spread between richest and poorest in SADC remains very high compared to these western hemisphere economic unions.

The essential point of this sub-section, therefore, is that SADC is on the whole an association of poor countries which, as indicated by the wide range of *per capita* income levels, are at greatly varying stages of development. These factors could have significant implications for the feasibility of a mutually beneficial free trade arrangement amongst members of SADC.

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[3] Table A-1 also contrasts the disparities in GNP *per capita* within SADC to those within SACU and COMESA. The economies which make up COMESA are an even more strikingly heterogeneous group, with *per capita* incomes ranging from US$6620 for Seychelles to US$80 for Mozambique, a ratio of 83:1. On the other hand, the corresponding range for the SACU countries is 4:1, a lower disparity than within either NAFTA or MERCOSUR.

[4] An important shortcoming of using GNP *per capita* to make international comparisons is the use of exchange rates as conversion factors from national currencies to the US dollar. The World Bank (1997a: 214-215) accordingly gives PPP estimates of GNP *per capita*, which have been included in Table 2.1. While GNP *per capita* estimates in "international dollars" differ significantly from those in US dollars, the ranking remains substantially intact, although there are some differences at the lower end of the scale. First to third poorest, ranked in terms of GNP *per capita* in US dollars, are Mozambique, Tanzania and Malawi, while in terms of international dollars the order is Tanzania, Malawi, then Mozambique. Note, too, that Botswana's PPP estimate of GNP *per capita* exceeds that of South Africa by more than 500 international dollars. Since GNP *per capita* on its own is an inadequate indicator of a country's level of development (Ingham, 1995: 13; World Bank, 1996: 224), Table 2.1 also contains data on life expectancy at birth and adult illiteracy rates in the region in an attempt to provide a more general picture of differences in levels of development within SADC.

[5] Note, however, the much greater difference between South Africa and Mauritius, the two richest southern African countries in US dollar terms. The corresponding PPP estimates are 5030 and 13210 international dollars. The relative richness of Mauritius *vis-à-vis* South Africa is therefore significantly more pronounced under this measure.

2.3 Differences in economic size

As Table 2.1 also shows, in terms of economic size (measured by GDP), SADC is dominated absolutely by South Africa. Although Mauritius is the richest SADC country in terms of *per capita* income, its population in 1995 was only 1.1 million compared to South Africa's 41.5 million, and its GDP only 2.9 per cent of South Africa's. After South Africa, the most populous countries in mid-1995 were Tanzania and Mozambique with 29.6 million and 16.2 million people respectively, but their *per capita* outputs were so small that together their GDPs were only 3.7 per cent of South Africa's. The two countries with the second and third largest economies in 1995, Zimbabwe and Botswana, had GDPs equal to only 4.8 per cent and 3.2 per cent respectively of South Africa's GDP. The combined GDPs of the other eleven members of SADC was less than 26 per cent of South Africa's GDP.

South Africa, thus, is the economic giant of the southern African region. Its GDP, however, is relatively small by international standards. While South Africa's GDP in 1995 was 46 per cent of the GDP of the whole of sub-Saharan Africa (including South Africa) it was only 48 per cent the size of Argentina's and less than one-fifth of Brazil's. In terms of the GDPs of member countries collectively, compared to other economic unions, SADC is a very small economic bloc.

What is being considered, therefore, is a proposal for regional trade integration involving a relatively large number of (mainly poor) countries, varying greatly in *per capita* income and economic size, and dominated by a country, South Africa, whose GDP in 1995 was about 19 per cent smaller than Thailand's, and, hence, not especially large. It therefore represents the case of a country which is large relative to its prospective partners in an economic union which is very small by world standards.

2.4 Differences in growth performance and economic structure

The economies of the southern African region also form an unusually diverse group in terms of growth performance and economic structure.

As Table 2.2 (page 39) shows, the growth performance of SADC countries in the last two-and-a-half decades has been mixed compared to the averages for low-income and middle-income developing countries as a whole. None of the low-income members of SADC has recorded GDP growth rates approaching the average for low-income developing countries as a whole. Mozambique and Zambia have performed particularly poorly, although the trend appears to have reversed in Mozambique since 1990. Tanzania has experienced fairly steady growth of around 3 per cent per annum for the three periods shown which, although below the average for low-income developing countries as a whole, compares favourably with the averages for the low-income countries excluding China and India since 1980.

Amongst the lower-middle- and upper-middle-income SADC countries, the growth performances of Botswana and Mauritius stand out, although growth has slowed in both countries since 1990. Real GDP growth in Botswana exceeded 10 per cent per annum and in Mauritius 6 per cent per annum between 1970 and 1990, and was over 4 per cent per annum in both countries in the period 1990-95. However, for both economies (as well as for Tanzania and Lesotho), this growth takes place off a very low base.

South Africa's growth performance has been poor in both the SADC and sub-Saharan African contexts. GDP growth rates fell and, in the period 1990-95, exceeded only those of Angola and Zambia, the two countries in which growth became negative.

There is also great diversity in the production structures of SADC countries. The contribution of agriculture to GDP in 1995 ranged from 5 per cent, for South Africa and Botswana, to 58 per cent for Tanzania. Manufacturing value-added (MVA) to GDP ratios varied from 3 per cent for Angola to 34 per cent for Swaziland (Table A-1).[6]

Sector-specific growth performance in the SADC region has been mixed (Table A-2a). In international terms, the agricultural sector in the region has performed comparatively poorly, with a few exceptions (the main ones being Tanzania after 1980 and Namibia in 1990-95), although agricultural growth rates have generally also been low elsewhere (Table A-2b). Growth rates of industry in the SADC region in the 1980s, and

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[6] There is considerably less divergence in these ratios within NAFTA (4:1 for agriculture and 1.2:1 for manufacturing) and MERCOSUR (4:1 for agriculture and 1.5:1 for manufacturing) (Table A-1).

particularly of the manufacturing component of industry, tended to exceed those of the South American countries shown in the table, with the obvious exception of Mozambique and South Africa (as well as Namibia's non-manufacturing and Angola's manufacturing components of industry). In 1990-95, however, average annual growth rates in industry as a whole and manufacturing in particular became negative in Zambia and Zimbabwe, and remained so in Mozambique and South Africa. The manufacturing sector also contracted in Malawi, whereas Uruguay was the only comparator country to experience negative growth.[7] Nevertheless, in Lesotho, Mauritius and Botswana (the latter at least until 1990), the growth of industry, and especially of manufacturing, has approached or matched the performance of the rapidly-growing economies of Thailand, Malaysia and Indonesia.[8]

It is, however, noteworthy that the rapid growth in industry or manufacturing experienced by SADC countries like Botswana, Lesotho and Mauritius in the last two-and-a-half decades has occurred off a very low base. While South Africa's sectoral growth performance has been poor in comparison, it dominates the regional economy entirely in all sectors in absolute terms. For example, the combined value-added in agriculture of the whole SADC region in 1995 was only US$11.5 billion, of which US$5.5 billion, or 48 per cent, was accounted for by South Africa (World Bank, 1997b: 138-140).[9]

Notwithstanding the growth performance of some of South Africa's SADC partners, then, the point made at the end of Section 2.3 remains: a formal trade integration arrangement is being contemplated in southern Africa by a group of small countries dominated completely in all sectors by a comparatively large prospective partner country which, however, is itself small by international standards.

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[7] None of the comparator countries portrayed negative growth in the industrial sector as a whole in 1990-95.

[8] The same can be said of the services sector in Botswana and, to a lesser extent, those of Lesotho and Mauritius.

[9] For an indication of South Africa's dominance in the southern African minerals sector, see ADB (1993c: 23-24). The comparative sizes of the SADC countries' manufacturing sectors will be considered in the next section.

Table 2.2: Average annual percentage growth rates of real GDP in SADC, with international comparisons

	1970-80	1980-90	1990-95
Angola	-9.2	3.7	-4.1
Botswana[1]	14.5	10.3	4.2
Lesotho	8.6	4.3	7.5
Malawi	5.8	2.3	0.7
Mauritius	6.8	6.2	4.9
Mozambique	-2.9	-0.2	7.1
Namibia	-	1.1	3.8
South Africa	3.2	1.3	0.6
Swaziland[2]	2.8	4.7	1.1
Tanzania	3.0	3.8	3.2
Zambia[1]	1.4	0.8	-0.2
Zimbabwe	1.6	3.5	1.0
International comparisons			
Sub-Saharan Africa	3.8	1.7	1.4
Brazil	8.1	2.7	2.7
Argentina	2.5	-0.3	5.7
Paraguay[1]	8.5	2.5	3.1
Uruguay[1]	3.1	0.4	4.0
Mexico[1]	6.3	1.0	1.1
Thailand[1]	7.1	7.6	8.4
Malaysia[1]	7.9	5.2	8.7
Indonesia[1]	7.2	6.1	7.6
Turkey	5.7	5.3	3.2
Portugal[1]	4.3	2.9	0.8
Low-income	4.3	6.0	6.8
..excl China and India	4.4	2.7	1.8
Lower-middle-income	5.1	2.3	-1.5
Upper-middle-income	5.9	1.3	2.6

Source: World Bank (1995a: 164-165, 1995b: 636-639, 1997: 130-132); Jenkins *et al.* (1996: 42).

Notes: [1] GDP at purchaser values.
[2] Own computations from World Bank (1995b: 636-639) and Jenkins *et al.* (1996: 42) for the periods 1973-80, 1980-90 and 1990-94.

2.5 The size and structure of manufacturing activity in SADC

The impact of the formation of a southern African FTA is likely to depend largely on its effects on manufacturing production and manufacturing trade within the region. The size and structure of manufacturing activity in the various SADC member countries, to be considered in this section, is thus of considerable importance for the outlook for trade integration in the region.

The manufacturing value-added (MVA) of SADC as a whole was only US$30 billion in 1994 (Table A-3). Although this accounted for over 70 per cent of the MVA of sub-Saharan Africa including South Africa, it was small in comparison to most of the other developing countries included in the table.

South Africa dominated manufacturing activity within SADC. The MVA of the other SADC countries combined was only 19 per cent of South Africa's MVA in 1994. The MVA of Zimbabwe, with the second largest manufacturing sector in the region, was only 5.8 per cent of South Africa's.

The percentage shares of manufacturing in GDP in SADC and other developing countries, also shown in Table A-3, tell us little about the stages of industrialisation of the various member countries. Despite the relatively large proportional contributions of manufacturing to GDP in some of these countries, the manufacturing value-added of most of them is very small, as the table shows.

As would be expected, given the small sizes of the MVA of the other members of SADC compared to South Africa, their manufacturing sectors are in general considerably less diversified.

For all SADC countries, with the exception of Angola, Mauritius and South Africa, ISIC categories 311-314 (food, beverages and tobacco) accounted for more than 30 per cent of MVA in the period 1990-92 (Table 2.3). The Angolan case is explained by the overwhelming dominance of industrial chemicals, in particular of the petro-chemicals industry, which contributed 62.8 per cent of MVA in this period.

Table 2.3: Structure of manufacturing in the SADC countries (percentage distribution of MVA), average 1990-92

	Food, beverages and tobacco	Textiles and clothing	Leather and footwear	Wood and furniture	Paper, printing and publishing	Industrial chemicals	Other chemicals	Rubber and plastics	Non-metallic minerals	Iron and steel	Non-ferrous metals	Metal products	Machinery and transport equipment	Other manufacturing
Angola	18.0	1.6	0.1	0.1	0.0	62.8	0.0	3.0	8.2	0.2	0.0	2.0	4.0	0.2
Malawi	44.6	14.4	1.6	3.5	6.4	4.7	10.2	2.9	3.4	0.0	0.0	5.0	3.4	0.0
Mauritius[1]	27.0	51.0	8.0	1.0	1.0	b	5.0	b	1.0	c	c	3.0	2.0	1.0
Mozambique	50.1	20.3	1.9	5.7	3.8	2.7	1.0	1.3	5.6	0.1	1.8	1.6	3.7	0.2
Tanzania	30.2	16.4	1.8	3.2	5.7	17.3	2.3	2.4	9.2	0.0	4.7	0.8	6.0	0.0
Zambia	42.9	9.8	2.7	4.8	3.4	4.5	7.2	3.5	5.5	0.6	0.1	8.0	6.9	0.1
Zimbabwe	30.5	13.1	2.5	2.8	4.8	3.2	4.4	4.8	3.3	17.4	0.5	5.1	7.3	0.3
SACU	15.2	6.6	1.7	3.0	8.9	11.0	5.3	4.0	4.7	10.1	3.3	6.8	16.5	2.6
Botswana[1]	54.0	9.0	-	-	2.0	b	6.0	b	-	c	c	4.0	2.0	23.0
Lesotho[1]	71.0	12.0	1.0	2.0	1.0	b	6.0	b	2.0	c	c	3.0	-	2.0
Namibia[1]	65.0	6.0	3.0	4.0	4.0	b	7.0	b	6.0	c	c	2.0	1.0	2.0
Swaziland[1]	51.4	7.1	a	4.0	30.8	b	0.6	b	2.7	-	-	-	3.3	-
South Africa[2]	15.3	5.8	1.4	2.8	11.0	11.3	6.6	4.0	5.0	7.2	3.3	6.4	17.8	1.9
Zimbabwe[2]	40.2	11.0	2.6[d]	3.4	6.1	0.6	6.4	3.2	2.4	10.1[e]	-	6.2[f]	6.9[g]	1.0

Source: IDC (1995a, 1995b); ADB (1993b: 251); CSO (1993/4: 4-10).

Notes:
[1] 1987 figures, from ADB (1993b: 251) for Botswana, Lesotho and Namibia, and from UNIDO (1992: 27) for Swaziland.
[2] 1993 figures, from IDC (1995a) for South Africa and CSO (1993/94: 4-10) for Zimbabwe.
[a] Included in textiles and clothing.
[b] Included in other chemicals.
[c] Included in metal products.
[d] Footwear only (leather included in other manufacturing).
[e] Basic metal industries (iron and steel *and* non-ferrous metals).
[f] Metal products and non-electrical machinery.
[g] Electrical machinery and transport equipment.

ISIC categories 311-332, predominantly consumer goods industries,[10] comprised between 48.9 per cent and 87.0 per cent of the MVA of all SADC countries, excepting Angola (19.8 per cent, for the reason stated above), and South Africa (25.3 per cent).[11] The ratio is highest for Mauritius (87 per cent in 1987) due to the predominance of textiles and clothing in its manufacturing structure. There are considerable variations in the relative importance of the textiles and clothing sectors in SADC countries: Mauritius is the extreme case, with textiles and clothing accounting for 51.0 per cent of MVA, followed by Mozambique (20.3 per cent), Tanzania (16.4 per cent), Malawi (14.4 per cent), and Zimbabwe (13.1 per cent), compared to only 5.8 per cent in South Africa (and 6.6 per cent in SACU as a whole).

In the case of South Africa, ISIC sectors 351-356 (chemicals, rubber and plastics), 371-381 (basic metals and metal products) and 382-385 (machinery and transport equipment) together accounted for 56.6 per cent of total MVA. Apart from the special case of Angola, the next highest ratio for these sectors was 42.7 per cent for Zimbabwe, due mainly to the importance of its iron and steel industry; followed by Tanzania, at 33.5 per cent, which had a relatively high ratio (17.3 per cent) for its industrial chemicals sector, and Zambia at 30.8 per cent due largely to metal products related to its copper industry, and to a lesser extent "other chemicals". The ratio for these sectors combined for Mauritius was only 10.0 per cent, the lowest of all the SADC countries.[12]

Thus, not only does South Africa have the highest proportion of its MVA contributed by sectors 351-356 and 371-385 combined, but its output is more diversified among these sectors. Other countries, like Zimbabwe, Tanzania and Zambia, which have relatively high ratios for these sectors combined, generally have one important sector which stands out, usually related to a natural resource endowment. Only South Africa

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[10] These include food, beverages and tobacco; textiles and clothing; leather and footwear; and wood and furniture.

[11] The South African figure is for 1993. The corresponding share for SACU in the period 1990-92 was 26.5 per cent.

[12] Industrial chemicals and/or other chemical products stand out in importance for a number of SADC countries. The extreme, special case already noted is that of Angola, where industrial chemicals account for over 60 per cent of MVA, followed by Tanzania (19.6 per cent for industrial chemicals and other chemicals together), South Africa (17.9 per cent), and Malawi (14.9 per cent).

has a significant proportion of MVA (17.8 per cent) in the machinery and transport equipment sectors.

As the above suggests, the industrial structures of the other SADC countries and South Africa are by and large complementary. Zimbabwe's industrial structure, despite the dominance of iron and steel, is the second most diverse in the region, but still differs significantly from South Africa's.

The question of whether the respective production structures of prospective members of a free trade area should be similar or dissimilar to one another, and hence competitive or complementary, looms large in the trade integration literature. Although, as will be seen in Chapter 4, the subject is controversial, competitiveness or complementarity of industrial structure is an important criterion by which the potential costs and benefits of regional trade integration are judged in the theoretical literature. It would perhaps be useful, thus, if it were possible to measure and express in a single number the similarity or dissimilarity of the industrial structures of prospective partners in a regional trade arrangement.

One device for measuring differences in industrial structure is the index of regional divergence, which Krugman (1991: 75-77) has constructed for the major US regions and European Community countries, using industry shares in total manufacturing employment. His method was adopted by Holden (1996: 58-60), who constructed indices of national divergence for 1987 between South Africa and the other SADC countries, as well as Kenya, using sectoral shares of MVA from ADB (1993b: 251).

Holden (1996: 58) defines the index of divergence D_j between South Africa and country j as:

$$D_j = \Sigma |S_i - S_i^*|$$

where S_i is the share of sector i in country j's MVA

and S_i^* is the share of sector i in South Africa's MVA.

The value of the index ranges from zero to two. If two countries had identical industrial structures, then sectoral shares of MVA would be equal for all i, and the index would

be zero. However, if two countries had entirely disparate industrial structures, then the index would be two (or 200 per cent), since each share in both countries would be counted in full (Krugman, 1991: 76).

Holden's indices for the manufacturing sector were constructed using the ten ISIC groupings for which data were available from ADB (1993b: 251).[13] However, a more precise picture of structural differences could be obtained using a lower level of aggregation (Krugman, 1991: 76). Table 2.4 shows indices of national divergence between SACU and other SADC countries for which data are available, based on the average MVA shares for the period 1990-92 for twenty-five ISIC categories from IDC (1995b).[14] Holden's indices for 1987 are included for comparative purposes.[15]

For all countries for which data are available for 1987 and 1990-92, the index is higher in the second period. However, this will partly (and may substantially) be due to the greater level of disaggregation of the 1990-92 data, notwithstanding any changes in the sectoral composition of MVA within countries as a result of differential sub-sectoral growth rates between the two periods. The two sets of indices cannot therefore be used to give any indication of trend.

It must also be emphasised that the above indices of national divergence do not permit one to state categorically that the manufacturing sector of one or other SADC country is complementary to or competitive with South Africa's. There is no specific value of the index which provides a dividing line between complementarity and competitiveness. In the absence of similar measures for other regional groupings, it is not possible to say whether the indices shown in Table 2.4 are high or low by international standards.

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[13] The indices were first calculated by Holden (1996: 58-60) between South Africa and all the COMESA countries for the main economic categories agriculture, mining, manufacturing and services. The data necessary to calculate the indices for the manufacturing sector alone were only available for the SADC countries and Kenya.

[14] While the average MVA shares in IDC (1995b) for the period 1990-92 are for SACU as a whole rather than South Africa, it is apparent from Table 2.3 that they correspond fairly closely to those for South Africa alone for 1993.

[15] Holden's (1996: 59) did not calculate an index of divergence between South Africa and Angola, possibly because the data in ADB (1993b: 251) excluded Angola's petro-chemicals sector.

Table 2.4: Indices of national divergence between South Africa/SACU and other SADC countries

	1987	1990-92
Angola	(0.64)[a]	1.18
Botswana	1.28	na
Lesotho	1.26	na
Malawi	0.68	0.92
Mauritius	1.26	na
Mozambique	0.98	1.12
Namibia	1.10	na
Swaziland	0.95	na
Tanzania	0.75	0.82
Zambia	0.54	0.79
Zimbabwe	0.51	0.62

Source: Holden (1996: 59) for 1987, except Angola. Own computations from IDC (1995b) for 1990-92.

Note: [a] Own computation from ADB (1993b: 251). Data exclude petro-chemicals.

Table 2.4 thus only provides a ranking of the other SADC countries in terms of their similarity or dissimilarity relative to South Africa. It is noteworthy that for countries for which two indices (for 1987 and 1990-92 respectively) are available (not counting Angola), the ranking from most similar to South Africa/SACU to most dissimilar is much the same for both. The figures for 1990-92 thus confirm Holden's (1996: 58) conclusion that, of the SADC countries, Zimbabwe and Zambia's industrial structures most closely resemble South Africa's, though not as closely as the 1987 indices derived by Holden from more aggregated data suggest. Based on yet more disaggregated data, the indices of national divergence between Zimbabwe and South Africa (0.73 in 1985 and 0.67 in 1990-92, not shown in Table 2.4) suggest a still greater degree of dissimilarity between the industrial structures of these two countries.[16]

The finding that the index of divergence is lowest for Zimbabwe and Zambia seems to accord with the discussion earlier in this section of the proportion of total MVA in the various ISIC sectoral categories. In the final analysis, however, the earlier discussion

[16] The latter calculations were based on MVA data from IDC (1995a) for South Africa and CSO (1993/94: 4-10) for Zimbabwe.

probably provides as good an indication as any of the degree of complementarity between South Africa and the other SADC countries. As shown, there are significant differences between the respective sectoral structures of South Africa and other SADC countries, including even Zimbabwe, suggesting, in the main, complementary rather than competitive structures.

As noted above, similarity or dissimilarity of the respective industrial structures of prospective partners is one of the criteria by which the potential costs and benefits of regional trade integration are commonly judged. Its relevance, both in theory, and in particular to trade integration in southern Africa, is considered in later chapters. Another factor commonly said to have a significant bearing on the outlook for successful trade integration is the pattern of international trade of the prospective partner countries before the formation of the regional economic union.

2.6 Southern African trading relations

As noted in Section 2.3, the GDPs of the other members of SADC are small relative to South Africa's, and the economic size of the region as a whole is small by international standards. Most of the economies of the region, including South Africa's, are relatively open, as measured by trade/GDP ratios, particularly compared to the Latin American countries (Table A-4).

For instance, to illustrate this, although South Africa's GDP in 1995 was less than half Argentina's and less than one-fifth of Brazil's, its merchandise imports (US$30.6 billion) exceeded Argentina's merchandise imports (US$20.1 billion) and were almost three-fifths of Brazil's (US$53.8 billion). South Africa's total exports (merchandise exports plus net gold exports) in 1995 were US$27.9 billion (with non-gold exports alone of US$22.3 billion), compared to the total exports of Argentina and Brazil of US$21.0 billion and US$46.5 billion respectively.[17] The rest of SADC (that is, SADC less South Africa), with average export/GDP and import/GDP ratios of 40.5 per cent and 45.9 per

[17] The figure for South Africa's non-gold exports comes from SARB (1996: S-80), converted to US dollars using the period average exchange rate from IMF (1996: 701).

cent respectively, had exports of US$13.1 billion and imports of US$14.9 billion.[18]

The total value of SADC's international trade in 1995 was therefore large relative to the size of the economies of the region. Of particular relevance to the problem of trade integration is the question of the size and structure of intra-SADC trade.

2.6.1 Intra-SADC trade

A complete set of data permitting calculation of the significance of intra-regional trade for all members of SADC is hard to come by. Table 2.5, showing the SADC countries' intra-regional trade as a proportion of total trade in 1993, has been constructed primarily from two sources which provide estimates of intra-SADC exports and imports (IDC, 1995b; USAID, 1996: 65-66).[19] Since the most significant bilateral intra-SADC trade flows involve SACU or Zimbabwe, use has also been made of comprehensive data sets for SACU and Zimbabwe's direction of trade from the Industrial Development Corporation of South Africa, Johannesburg, and from Zimtrade, Harare, respectively, converted from local currencies to US dollars using average exchange rates for 1993 from IMF (1996).

USAID (1996: 65-66) provides matrices of bilateral trade flows between SADC countries for 1993 based on direction of trade data from IMF (1995). While the USAID data are fairly comprehensive, there are some important omissions, such as South Africa's trade with Zambia, and no data for Mauritius. In IDC (1995b), the gaps are more serious, since practically all bilateral trade flows which do not involve SACU or Zimbabwe (such as those between Malawi and Zambia, or Malawi and Mozambique) are reported to be zero. Further, there are no data for Mauritius, which was not a SADC

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[18] In 1995, the non-gold exports of South Africa alone (US$22.3 billion) (SARB, 1996: S-80) were greater than those of SACU as a whole (US$20.6 billion) to the rest of the world (ROW) (see Table 2.8 below). The figure for SACU of US$20.6 billion does not include South Africa's exports to the rest of SACU, but includes BLNS exports to the ROW. Since South Africa's exports exceeded SACU's exports in 1995, South Africa's exports to the rest of SACU in 1995 exceeded BLNS exports to the ROW. This was also the case in 1994, the most recent year for which these data are available, when South Africa's exports to the rest of SACU were US$4.7 billion (Obeng and McGowan, 1998) and BLNS exports to the ROW were US$3.9 billion (World Bank, 1996: 217; Table A-4).

[19] In Table 2.5, ES and MS are exports to and imports from SADC respectively; ER and MR are exports to and imports from the ROW respectively; while E and M are total exports and imports.

Table 2.5: SADC countries' intra-regional and extra-regional trade, 1993

	Exports (US$mn)		Imports (US$mn)		Total trade (US$mn)	
Angola	ES	3.24	MS	84.29	(ES+MS)	87.53
	ER	3968.33	MR	1581.21	(ER+MR)	5549.54
	E	3971.57	M	1665.50	(E+M)	5637.07
	(ES/E) (%)	0.08	MS/M (%)	5.06	(ES+MS)/(E+M) (%)	1.55
Malawi	ES	79.75	MS	260.53	(ES+MS)	340.28
	ER	273.78	MR	192.59	(ER+MR)	466.37
	E	353.53	M	453.12	(E+M)	806.65
	(ES/E) (%)	22.56	MS/M (%)	57.50	(ES+MS)/(E+M) (%)	42.18
Mauritius	ES	16.10	MS	231.90	(ES+MS)	248.00
	ER	1370.80	MR	1484.30	(ER+MR)	2855.10
	E	1386.90	M	1716.20	(E+M)	3103.10
	(ES/E) (%)	1.16	MS/M (%)	13.51	(ES+MS)/(E+M) (%)	7.99
Mozambique	ES	23.35	MS	498.76	(ES+MS)	522.11
	ER	175.95	MR	553.94	(ER+MR)	729.89
	E	199.30	M	1052.70	(E+M)	1252.00
	(ES/E) (%)	11.72	MS/M (%)	47.38	(ES+MS)/(E+M) (%)	41.70
SACU	ES	1885.59	MS	310.58	(ES+MS)	2196.17
	ER	21289.31	MR	17858.42	(ER+MR)	39147.73
	E	23174.91	M	18169.00	(E+M)	41343.91
	(ES/E) (%)	8.14	MS/M (%)	1.71	(ES+MS)/(E+M) (%)	5.31
Tanzania	ES	9.64	MS	51.15	(ES+MS)	60.79
	ER	449.44	MR	1253.41	(ER+MR)	1702.85
	E	459.08	M	1304.56	(E+M)	1763.64
	(ES/E) (%)	2.10	MS/M (%)	3.92	(ES+MS)/(E+M) (%)	3.45
Zambia	ES	44.58	MS	485.84	(ES+MS)	530.41
	ER	1123.42	MR	384.16	(ER+MR)	1507.59
	E	1168.00	M	870.00	(E+M)	2038.00
	(ES/E) (%)	3.82	MS/M (%)	55.84	(ES+MS)/(E+M) (%)	26.03
Zimbabwe	ES	446.27	MS	576.73	(ES+MS)	1023.00
	ER	865.79	MR	1231.77	(ER+MR)	2097.55
	E	1312.05	M	1808.49	(E+M)	3120.55
	(ES/E) (%)	34.01	MS/M (%)	31.89	(ES+MS)/(E+M) (%)	32.78
Total SADC	ES	2508.51	MS	2499.78	(ES+MS)	5008.29
	ER	29516.83	MR	24539.79	(ER+MR)	54056.63
	E	32025.34	M	27039.57	(E+M)	59064.91
	(ES/E) (%)	7.83	MS/M (%)	9.24	(ES+MS)/(E+M) (%)	8.48

Sources: USAID (1996: 65-66); IDC (1995b, 1996); Zimtrade (1996). For table notes, see Footnote 19.

member at the time. Evans (1996) is the source of the Mauritius-SADC data used to construct Table 2.5.[20]

Table 2.5 therefore represents an attempt to construct as complete and accurate a picture as possible of intra-SADC trade using these various sources. The absolute values of total intra-regional exports and imports should, of course, be exactly equal. The discrepancy between total intra-SADC exports (US$2508.5 million) and intra-SADC imports (US$2499.8 million) is due to such discrepancies in the two main sources providing estimates of intra-SADC exports and imports (IDC, 1995b; USAID, 1996). Partly the discrepancies in these sources may be due to differences in exports and imports arising from differences in border valuation and taxes (USAID, 1996: 65). However, the difference between total intra-regional exports and imports shown in Table 2.5 is very small, indeed negligible, and considerably smaller than in the case of the two studies referred to above. Despite the difficulties of using data from various sources, this fact seems to validate, and to warrant confidence in, the methods used in constructing Table 2.5 from the four sources described above.

As Table 2.5 shows, in 1993, intra-SADC exports (the sum of exports by each member of SADC to other members of SADC) were 7.8 per cent of the total exports of members of SADC; intra-SADC imports (the sum of imports by each member of SADC from other members of SADC) were 9.2 per cent of the total imports of members of SADC; and intra-SADC exports plus imports were 8.5 per cent of total SADC trade.

The intra-regional trade ratios shown in Table 2.5 exclude intra-SACU trade. A large proportion of trade amongst members of SADC takes place between South Africa and the other members of SACU. As Table 2.6 shows, intra-SACU exports and imports in 1993 were both about 24 per cent of total SACU exports and imports respectively.[21] This raises intra-SADC trade as a proportion of total SADC trade dramatically. Intra-

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[20] It should be noted that in Evans (1996: 9), the figures denoted as Mauritius' total exports and imports to and from SADC appear in fact to be imports and exports respectively. Further, Evans (1996) apparently does not attempt to reconcile differences between a country's exports to the rest of SADC with partner imports from that country.

[21] This is made up of South Africa's exports to BLNS (US$4234.56 million) and BLNS exports to South Africa (US$938.81 million). Intra-BLNS trade is evidently assumed to be negligible. Intra-SACU exports and imports are therefore both US$5173.37 million. The exchange rate used for conversion to US dollars is the period average for 1993, from IMF (1996).

SADC exports on this basis are 20.7 per cent of total SADC exports; intra-SADC imports are 23.8 per cent of total SADC imports; and intra-SADC trade is 22.1 per cent of total SADC trade.

Table 2.6: SADC countries' intra-regional and extra-regional trade, including intra-SACU trade, 1993

	Exports (US$mn)		Imports (US$mn)		Total trade (US$mn)	
SACU	ES	7058.96	MS	5483.96	(ES+MS)	12542.92
	ER	21289.31	MR	17858.42	(ER+MR)	39147.73
	E	28348.28	M	23342.37	(E+M)	51690.65
	(ES/E) (%)	24.90	MS/M (%)	23.49	(ES+MS)/(E+M) (%)	24.27
Total SADC	ES	7681.88	MS	7673.15	(ES+MS)	15355.03
	ER	29516.83	MR	24539.79	(ER+MR)	54056.63
	E	37198.72	M	32212.94	(E+M)	69411.66
	(ES/E) (%)	20.65	MS/M (%)	23.82	(ES+MS)/(E+M) (%)	22.12

Source: DTI (1996) for intra-SACU trade data, otherwise as for Table 2.5.

The differences between the shares of intra-SADC trade in total SADC trade, excluding and including intra-SACU trade, indicate that intra-SACU trade is more important than intra-SADC trade involving the seven non-SACU members and SACU as a whole. From the point of view of the analysis of the effects of forming a SADC free trade area, however, it seems that it is intra-SADC trade *excluding* intra-SACU trade which may be more relevant, since the BLNS countries are already in a customs union with South Africa. So far as trade integration in SADC is concerned, the removal or reduction of trade barriers this will involve will apparently have no *direct* bearing on the access of the SACU countries to each other's markets. The formation of a SADC free trade area thus requires treating SACU as a single entity, entering into a regional arrangement with the seven non-SACU members of SADC.

On this basis, as Table 2.7 shows, the degree of trade integration in SADC, as measured by these intra-regional trade ratios (8.0 per cent for exports and 8.3 per cent for imports in 1994), is of the same general order of magnitude as in the Australia-New Zealand free trade area (ANZCERTA), the Andean Pact and COMESA, but is low

compared to all the other regional groupings shown in the table.[22]

Table 2.7: Intra-regional trade ratios for selected regional groupings, 1994 (percentages)

	Intra-regional trade/total trade	
	Exports	Imports
EU	56.5	54.5
NAFTA	48.4	37.4
APEC	74.4	71.1
ASEAN[1]	22.3 (5.0)	19.3 (7.0)
ANZCERTA	8.8	7.9
MERCOSUR	18.3	16.8
Andean Pact	8.5	9.3
CACM	20.2	12.6
SADC[2]	8.0	8.3
COMESA	6.8	5.5
SACU[3]	18.25 (25.43)[4]	23.86

Source: Page (1997: no page number); own computations for SACU.

Notes: EU: European Union; APEC: Asia Pacific Economic Cooperation; ASEAN: Association of South East Asian Nations; ANZCERTA: Australia-New Zealand Closer Economic Relations Agreement; CACM: Central American Common Market.

[1] Figures in brackets exclude Singapore.
[2] Excludes intra-SACU trade.
[3] 1993 figure. Comprises trade between South Africa and BLNS, but excludes intra-BLNS trade.
[4] Excluding gold.

Why is the existing degree of intra-regional trade in SADC (excluding intra-SACU trade) so low? Most SADC countries are mainly exporters of primary commodities sold on world markets and mainly importers of manufactured goods. Given the nature of their exports, as Table 2.5 shows, only small fractions of their exports go to other SADC

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22 The intra-regional trade ratios for SADC for 1994 from Page (1997) which presumably exclude intra-SACU trade, shown in Table 2.7, are similar to those for 1993 in Table 2.5. Page (1997), following Anderson and Nordheim (1993), also relates a regional grouping's intra-area trade as a proportion of total trade to the group's share in total world trade to derive trade intensity indices. However, it seems that the absolute value of the index in any given year is not, on its own, particularly meaningful, since the maximum value an index can take differs between regions, depending on the group's share in world trade. It appears to be *changes* in these indices over time that would be more interesting. (I am indebted to Sheila Page of the Overseas Development Institute for these comments).

countries in the cases of Angola (0.1 per cent), Mozambique (11.7 per cent), Tanzania (2.1 per cent) and Zambia (3.8 per cent). Exports to other SADC countries were relatively more important for Malawi (22.6 per cent), and especially in the case of Zimbabwe (34.0 per cent), whose manufacturing production and exports are relatively larger than in most other non-SACU SADC countries (Table A-4). After SACU, Zimbabwe had by far the largest exports to other members of SADC, and contributed 17.8 per cent of total intra-SADC exports. SACU (mainly South Africa) provided the great bulk (75.0 per cent) of intra-SADC exports, but given the size of SACU's total exports, this represented a relatively small proportion (8.1 per cent) of its exports in 1993.[23] The exports of Mauritius consist largely of manufactured goods (Table A-4), but perhaps due to its relative geographical remoteness, and the fact that it is highly specialised in traditional, low-wage industries, in which the other smaller members of SADC also seem to have a comparative advantage, exports to other SADC countries were also a relatively small proportion of the total exports of Mauritius.

Imports from other SADC countries were relatively large proportions of total imports in Malawi (57.5 per cent), Mozambique (47.4 per cent), Zambia (55.8 per cent) and Zimbabwe (31.9 per cent), but very small proportions of total imports in the cases of most other SADC countries (Table 2.5). Of the total intra-SADC imports of non-SACU SADC countries, a large proportion (86.0 per cent) was supplied by South Africa. Since SACU's merchandise imports consist mainly of manufactured goods, given the relatively small level of manufacturing activity in the rest of the region, intra-SADC imports comprised a minute proportion (1.7 per cent) of SACU's total imports. As this discussion implies, SACU had a large balance of trade surplus with the rest of SADC.

2.6.2 Direction and structure of SACU's trade, with particular reference to SACU's trade with the rest of SADC

Since trade amongst SADC countries is dominated by South Africa and Zimbabwe, and since they are industrially the two most advanced economies in the region, it is instructive to consider the composition and direction of their trade in some detail.

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[23] There is also reportedly a considerable volume of unrecorded trade in the region, particularly along the South African border. For more discussion, see Maasdorp and Whiteside (1993: 16-17).

SACU's trade relations, with particular reference to SADC, are considered in the present sub-section, while SACU's trade relations with Zimbabwe are considered in Section 2.6.3.

The discussion in these sub-sections is based on a detailed database of SACU's exports and imports at a four-digit ISIC level with each and every individual country with which it trades, provided by the IDC. The data in the tables referred to in the remainder of this chapter have been derived by the author from this detailed database for the purposes of the present study. Unless otherwise indicated, all other statistical information in these sub-sections is also derived from this source.

Table 2.8 shows the percentage shares of SACU's non-gold exports going to various regions and, in certain instances, countries, in 1988-95. The bulk of SACU's non-gold exports goes to Western Europe, although this region's share of such exports declined significantly from 50.0 per cent in 1988 to 42.8 per cent in 1995.

The second most important destination for SACU's non-gold exports in 1995 was East Asia, broadly defined to include Japan (but not China), which took almost one-fifth of SACU's non-gold exports in 1995. However, mainly because of a decline in the share going to Japan, the proportion of SACU's non-gold exports going to East Asia declined from 24.3 per cent in 1988 to 19.5 per cent in 1995.

Of the regions listed in the table, the next largest market for SACU's non-gold exports in 1995, perhaps surprisingly, was provided by the non-SACU members of SADC. Furthermore, it is striking that the proportion of SACU's non-gold exports going to non-SACU members of SADC has increased remarkably from 6.7 per cent in 1988 to 12.8 per cent in 1995. Relative to the size of the economies of these non-SACU members of SADC, SACU's non-gold exports to them are clearly disproportionately large.

Table 2.8: Percentage shares of SACU's non-gold exports to each region/country

Region/Country	1988	1989	1990	1991	1992	1993	1994	1995
Australia and New Zealand	0.71	0.75	0.76	0.69	0.81	1.10	1.25	2.00
Caribbean	0.12	0.10	0.14	0.09	0.24	0.24	0.56	0.22
Central America	0.04	0.09	0.13	0.12	0.11	0.08	0.10	0.08
China	0.24	0.48	0.42	0.41	1.22	1.21	0.96	1.20
East Asia excl. Japan	13.47	14.76	15.23	15.22	12.97	12.59	13.01	12.28
Eastern Europe	0.17	0.16	0.55	0.79	1.01	0.77	0.88	1.06
Japan	10.81	12.22	11.48	9.78	7.46	6.32	7.34	7.24
MERCOSUR	0.96	0.86	0.72	1.13	1.14	1.45	1.73	1.89
Middle East	5.05	5.83	5.78	5.04	4.99	5.98	3.89	3.47
North Africa	0.29	0.30	0.32	0.37	0.19	0.16	0.22	0.21
NAFTA	7.93	7.64	6.39	5.81	7.39	7.99	8.44	8.77
Oceania excl. ANZ	0.03	0.29	0.19	0.12	0.02	0.04	0.03	0.02
SADC	6.69	7.71	8.60	10.49	11.35	10.90	10.68	12.84
S.America excl. MERCOSUR	1.01	0.98	1.09	0.92	0.80	0.63	0.80	0.53
South Asia	0.60	0.64	0.63	0.58	0.56	0.55	1.38	1.50
Sub-Sah. Africa excl. SADC	1.92	2.26	2.76	2.23	2.44	2.67	4.09	3.88
Western Europe	49.96	44.94	44.83	46.23	47.29	47.32	44.62	42.83
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total non-gold exports (US$mn)	10996	11527	12194	13059	14880	15174	15170	20559

Source: Own computations from IDC (1996).

Note: ANZ: Australia and New Zealand.

The share of the non-SACU members of SADC in SACU's manufactured exports was higher in all years than their share of SACU's total non-gold exports, and has also shown a significant rising trend, from 8.9 per cent in 1988 to 15.4 per cent in 1995 (Table A-5). This indicates that intra-SADC trade is mainly in manufactured goods.[24]

Table 2.9 shows that the composition of SACU's manufactured exports to the ROW (excluding SADC) and to SADC alone differ significantly. Iron and steel contributed the largest proportion (22.1 per cent) of SACU's manufactured exports to the ROW in 1995, followed by chemicals (17.9 per cent), non-ferrous metals (14.1 per cent), paper and paper products (9.9 per cent), machinery (6.3 per cent), metal products (5.6 per cent), food products (5.3 per cent), and transport equipment (4.9 per cent). In the case of SACU's manufactured exports to SADC in 1995, however, the largest single sector was chemicals (26.3 per cent), followed by machinery (13.6 per cent). Iron and steel and non-ferrous metals, which feature so prominently in SACU's exports to the ROW, comprised much smaller percentages of SACU's manufactured exports to SADC (12.2 and 1.8 per cent respectively), probably due to the significance of these sectors in Zimbabwe's industrial structure. The share of paper and paper products in SACU's manufactured exports to the rest of SADC (3.0 per cent) was also much lower than the share of this sector in SACU's exports to the ROW.

Table 2.10 shows the proportions of SACU's manufactured exports *in each sector* which went to SADC in 1995. It is striking that in most sectors, excepting iron and steel, non-ferrous metals, paper and paper products, textiles, clothing, leather products and other manufacturing, SADC represents a relatively large market for SACU. SADC accounted for more than a quarter of SACU's chemicals and food products exports and almost a third of its total machinery and transport equipment exports.

As noted earlier, SADC plays a much less important part in SACU's import trade than in SACU's exports. As Table 2.11 shows, in 1995, only 1.5 per cent of SACU's total imports were derived from the rest of SADC. The predominant sources of SACU's imports in 1995 were Western Europe (47.6 per cent), NAFTA (Canada, Mexico and the US) (13.5 per cent), Japan (10.1 per cent), and East Asia (excluding Japan and China) (9.9 per cent).

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[24] Some 95 per cent of SACU's non-gold exports to SADC, worth about US$2.51 billion, were manufactured goods, and about 71.8 per cent of SACU's imports from SADC, worth about US$292.0 million, were manufactured goods. SACU's imports of manufactures from SADC, thus, were small in absolute terms and relative to SACU's manufactured exports to SADC.

Table 2.9: Composition of SACU's total manufactured exports (excluding SADC) and SACU's exports to SADC alone (%)

	Total excluding SADC					SADC				
Sector	**1988**	**1990**	**1992**	**1994**	**1995**	**1988**	**1990**	**1992**	**1994**	**1995**
Food	7.29	8.01	7.15	7.00	5.33	5.76	8.20	10.35	9.19	8.53
Beverages	0.42	0.62	0.92	1.98	1.53	1.66	3.45	4.36	4.23	2.60
Tobacco	0.04	0.04	0.16	0.11	0.10	0.02	0.04	0.44	0.51	0.62
Textiles	5.23	4.24	4.10	3.20	2.83	4.96	6.28	3.91	3.56	2.33
Clothing	0.51	0.67	1.45	1.03	0.82	0.64	0.73	1.01	0.33	0.55
Leather	0.63	0.91	0.94	1.72	1.35	0.08	0.09	0.09	0.05	0.07
Footwear	0.08	0.07	0.15	0.22	0.15	0.17	0.19	0.20	0.23	0.21
Wood	1.00	1.22	0.90	1.15	0.62	0.38	0.36	0.47	1.04	0.93
Furniture	0.61	0.59	0.77	0.72	0.78	0.38	0.72	1.05	1.18	0.86
Paper	9.30	8.42	7.42	7.16	9.87	5.07	4.31	3.29	7.04	3.03
Printing/publishing	0.15	0.17	0.11	0.24	0.22	0.51	0.53	0.50	1.73	0.95
Chemicals	12.40	9.84	14.20	16.66	17.87	22.29	21.51	19.29	18.88	26.32
Rubber	0.28	0.19	0.29	0.42	0.53	1.82	1.59	1.73	2.01	1.74
Plastics	0.23	0.28	0.39	0.51	0.56	1.66	1.44	1.44	2.16	1.51
Pottery etc	0.02	0.02	0.04	0.03	0.04	0.20	0.27	0.26	0.25	0.16
Glass	0.58	0.61	0.53	0.39	0.23	1.29	0.91	0.72	0.76	0.52
Other non-metallic	0.26	0.57	0.79	0.96	0.94	1.37	1.68	1.62	1.68	1.08
Iron and steel	30.90	32.22	27.39	27.29	22.07	10.30	9.25	6.91	7.44	12.18
Non-ferrous	18.23	15.37	15.66	8.32	14.06	13.33	6.58	4.24	2.35	1.82
Metal products	3.74	5.20	3.21	4.90	5.63	6.02	7.06	6.36	5.61	4.99
Machinery	4.04	3.92	4.05	5.17	6.34	9.82	10.95	15.20	12.86	13.64
Electrical machinery	1.15	1.67	1.59	2.31	2.49	2.99	3.81	3.99	4.04	4.72
Transport equipment	2.17	4.23	7.18	7.73	4.86	8.35	8.89	11.40	11.49	9.47
Scientific equipment etc	0.72	0.93	0.61	0.78	0.77	0.93	1.15	1.14	1.39	1.17
Manufactured Exports	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Own computations from IDC (1996).

Table 2.10: Percentage share of SACU's manufactured exports to various regions/countries in 1995 (per ISIC sector)

Sector	ANZ	EAS	JAP	ME	NAFTA	SADC	SAM	SAS	SSA	WE	Other	Total	
												%	US$m
Food	0.97	7.01	5.26	4.67	3.64	26.37	1.48	0.09	11.16	31.38	7.98	100.00	805
Beverages	0.54	1.97	0.83	1.12	3.46	27.91	21.65	2.03	6.32	32.07	2.11	100.00	232
Tobacco	0.12	2.82	0.00	0.00	0.01	64.29	0.00	0.00	26.90	5.19	0.67	100.00	24
Textiles	4.62	16.92	4.87	2.89	9.72	15.47	3.48	1.83	2.86	35.23	2.11	100.00	374
Clothing	0.45	0.77	0.01	2.06	30.91	12.97	0.14	0.00	4.28	47.64	0.77	100.00	105
Leather	1.03	11.94	21.00	0.39	16.56	1.06	0.06	0.05	0.25	47.43	0.22	100.00	153
Footwear	0.98	3.38	0.76	2.13	3.16	24.15	0.07	0.07	6.65	55.44	3.22	100.00	22
Wood	0.48	16.18	3.19	1.56	7.94	24.84	0.71	1.47	10.01	33.29	0.32	100.00	93
Furniture	1.64	1.94	0.22	2.27	5.83	19.72	0.15	0.09	9.66	57.40	1.10	100.00	109
Paper	4.44	23.50	4.94	2.03	5.66	6.41	4.53	3.63	3.40	39.80	1.66	100.00	1178
Printing/publishing	3.11	0.59	0.03	1.16	2.53	48.49	0.15	0.10	8.82	34.70	0.32	100.00	49
Chemical	3.09	10.00	3.63	1.36	13.10	25.29	4.29	3.58	8.61	25.02	2.02	100.00	2588
Rubber	1.60	4.93	0.10	0.81	13.20	42.31	1.53	0.27	9.75	24.82	0.68	100.00	102
Plastic	2.19	3.50	0.24	2.89	2.54	37.49	3.09	0.42	10.29	35.84	1.49	100.00	100
Pottery etc	1.19	0.61	0.76	8.65	5.17	50.14	0.68	0.00	7.51	25.06	0.21	100.00	8
Glass	0.90	1.64	0.63	2.15	19.27	33.36	0.23	0.03	13.87	27.78	0.14	100.00	39
Other non-metallic	2.10	11.48	16.42	7.08	3.54	20.22	2.26	0.25	6.99	28.86	0.80	100.00	132
Iron and steel	0.89	23.87	11.58	5.51	13.29	10.96	2.52	3.28	3.57	23.22	1.33	100.00	2764
Non-ferrous	0.82	17.64	15.01	2.55	23.72	2.80	0.39	0.94	0.62	33.33	2.19	100.00	1617
Metal products	2.12	7.70	2.40	2.34	5.66	16.52	2.69	0.67	5.05	52.17	2.70	100.00	752
Machinery	11.02	8.61	0.27	1.59	7.71	32.40	5.68	0.49	6.10	25.01	1.13	100.00	1047
Electrical machinery	1.70	4.69	0.24	2.80	3.12	29.73	1.46	0.55	8.89	44.74	2.08	100.00	395
Transport equipment	4.05	2.09	1.09	1.00	9.45	30.26	0.43	0.75	7.27	35.52	8.08	100.00	778
Scientific equipment etc	2.63	9.16	0.94	2.13	12.96	25.36	1.16	1.58	6.00	35.43	2.66	100.00	115
Other manufactures	0.24	4.86	0.32	3.54	3.56	0.83	0.10	0.04	0.11	86.27	0.14	100.00	2727
Manufactured exports	2.38	12.22	5.37	2.93	10.14	15.39	2.56	1.70	4.68	40.56	2.07	100.00	16307

Source: Own computations from IDC (1996).

Notes: ANZ: Australia and New Zealand; EAS: East Asia excluding Japan and China; JAP: Japan; ME: Middle East; NAFTA: North American Free Trade Area; SAM: South America including MERCOSUR; SAS: South Asia; SSA: Sub-Saharan Africa excluding SADC; WE: Western Europe.

Table 2.11: Percentage shares of SACU'S total imports from each region/country

Region/Country	1988	1989	1990	1991	1992	1993	1994	1995
Australia and New Zealand	1.03	1.30	1.13	1.33	1.45	1.42	1.61	1.82
Caribbean	0.21	0.23	0.24	0.26	0.16	0.17	0.15	0.08
Central America	0.03	0.05	0.03	0.03	0.02	0.04	0.02	0.03
China	0.69	0.69	0.90	1.14	1.42	1.89	1.73	1.89
East Asia excl. Japan	9.52	9.50	9.81	11.46	10.80	11.37	10.54	9.85
Eastern Europe	0.38	0.31	0.36	0.44	0.84	1.05	1.44	1.13
Japan	15.10	13.50	11.36	12.10	12.14	13.83	10.33	10.10
MERCOSUR	1.60	1.85	1.67	1.60	2.18	1.51	1.78	1.88
Middle East	1.30	1.44	1.06	1.03	1.02	1.39	4.67	8.22
North Africa	0.02	0.02	0.03	0.01	0.03	0.02	0.14	0.39
NAFTA	13.86	14.35	14.38	16.52	16.52	15.41	13.62	13.24
Oceania excl. ANZ	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.01
SADC	1.49	1.48	1.54	1.51	2.29	1.88	1.96	1.50
S.America excl. MERCOSUR	0.16	0.62	0.49	0.53	0.39	0.19	0.44	0.47
South Asia	0.32	0.33	0.38	0.39	0.43	0.52	0.78	0.91
Sub-Sah. Africa excl. SADC	0.34	0.38	0.33	0.38	0.36	1.06	0.91	0.85
Western Europe	53.96	53.95	56.29	51.25	49.93	48.22	49.88	47.64
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total imports (US$mn)	15259	14856	14779	15362	16291	16505	20677	27076

Source: Own computations from IDC (1996).

Note: ANZ: Australia and New Zealand.

SADC's share of SACU's manufactured imports in 1995 (1.2 per cent) was even lower than its share of SACU's total imports (Table A-6).[25] It is nevertheless interesting to compare the structure of SACU's manufactured imports from SADC with both the structure of SACU's manufactured imports from the ROW, and with the structure of SACU's manufactured exports to SADC.

Table 2.12 shows the sectoral composition of SACU's manufactured imports from the ROW and from SADC respectively. As would be expected, in 1995, basic consumer goods imports (from food down to furniture in the table) are a much larger proportion (59.8 per cent) of SACU's imports from SADC than of SACU's imports from the ROW (11.3 per cent). Of the other individual manufacturing sectors, only in the case of rubber products, iron and steel, non-ferrous metals and metal products was the share in SACU's imports from SADC greater than the share in SACU's imports from the ROW (probably due to imports in these sectors from Zimbabwe).

As the discussion above suggests, there is also a substantial difference between SACU's manufactured exports to and imports from SADC, as Tables 2.9 and 2.12 show. Some 16.7 per cent of SACU's exports to SADC consists of basic consumer goods (sectors 311-332), compared to the 59.8 per cent of SACU's imports from SADC. Of the other sectors, only in the case of printing and publishing, other non-metallic mineral products, non-ferrous metals and metal products, are the shares in SACU's manufactured imports from SADC greater than the shares of SACU's exports to SADC. There thus appears to be a high degree of complementarity between SACU and the rest of SADC as a whole in so far as the composition of their trade with one another is concerned. This is what would be expected given the apparent complementarity of the production structures of South Africa and other SADC countries noted in Section 2.5 above.

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[25] SADC's share of SACU's manufactured imports in 1995 in each ISIC sector is shown in Table A-7. Since SADC is a significant export market, but an insignificant source of imports for SACU, SACU's exports to SADC (US$2.64 billion) greatly exceeded SACU's imports from SADC (US$406.9 million) in 1995. SACU thus had a huge trade surplus of US$2.23 billion with the rest of SADC in 1995.

Table 2.12: Composition of SACU's total manufactured imports (excluding SADC) and SACU's imports from SADC alone (%)

	Total excluding SADC					SADC				
Sector	**1988**	**1990**	**1992**	**1994**	**1995**	**1988**	**1990**	**1992**	**1994**	**1995**
Food	3.84	3.69	4.57	5.06	5.04	26.80	16.87	14.97	17.50	20.22
Beverages	0.80	0.96	0.82	0.67	0.62	2.03	0.92	0.64	0.92	1.27
Tobacco	0.12	0.10	0.10	0.07	0.05	0.05	0.05	0.09	0.08	0.06
Textiles	3.70	4.28	4.15	3.56	3.27	10.37	16.05	16.21	15.72	15.22
Clothing	0.45	0.42	0.54	0.46	0.34	3.75	3.93	3.37	4.94	3.00
Leather	0.54	0.66	0.54	0.64	0.56	4.05	4.29	2.19	3.52	3.05
Footwear	0.44	0.45	0.59	0.64	0.72	2.18	3.39	3.62	3.63	4.15
Wood	0.74	0.82	0.79	0.80	0.73	4.07	7.25	7.51	7.61	9.30
Furniture	0.06	0.07	0.08	0.07	0.08	1.13	1.16	1.56	3.31	3.57
Paper	1.93	2.35	2.23	2.18	2.34	1.27	1.22	0.89	1.18	1.71
Printing/publishing	0.96	0.94	1.21	0.89	0.80	1.38	0.78	0.50	0.38	0.42
Chemicals	16.95	16.93	16.82	15.30	15.90	4.26	2.13	2.94	3.69	3.49
Rubber	1.00	1.18	1.23	1.11	1.16	0.87	2.34	7.53	1.93	1.64
Plastics	1.32	1.35	1.32	1.31	1.33	0.67	0.63	0.82	0.49	0.38
Pottery etc	0.16	0.18	0.22	0.18	0.17	0.17	0.30	0.37	0.12	0.04
Glass	0.44	0.52	0.55	0.46	0.46	0.05	0.29	0.08	0.30	0.36
Other non-metallic	0.74	1.10	1.01	0.82	0.93	3.42	3.34	4.26	3.49	2.77
Iron and steel	1.21	1.39	1.47	1.38	1.38	5.43	5.78	3.43	4.06	5.45
Non-ferrous	0.79	0.95	0.88	0.80	1.51	2.72	5.31	5.87	6.91	6.00
Metal products	4.38	4.30	3.96	3.04	3.11	10.10	10.50	12.44	6.72	6.49
Machinery	26.05	25.91	24.48	24.56	23.12	1.80	2.03	2.35	4.06	3.51
Electrical machinery	11.05	9.91	10.59	13.29	13.00	4.48	5.51	4.31	4.13	3.74
Transport equipment	17.81	16.75	16.77	17.84	19.09	8.34	5.18	3.68	4.83	3.44
Scientific equipment etc	4.53	4.77	5.10	4.87	4.28	0.60	0.75	0.39	0.47	0.70
Manufactured Imports	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Own computations from IDC (1996).

2.6.3 SACU's trade with Zimbabwe

As noted earlier, after SACU, Zimbabwe has the largest value of intra-regional exports and the highest intra-regional exports ratio; and its intra-regional imports are larger than those of any other member of SADC. After South Africa, too, it has by far the largest manufacturing sector in the region. The case of Zimbabwe, including its trade relations with SACU, thus, seems to warrant more detailed consideration.

Some 96.7 per cent of SACU's exports to Zimbabwe consist of manufactured goods. Though somewhat less predominant, manufactures also comprise a substantial and increasing proportion (from 64.9 per cent in 1988 to 73.4 per cent in 1995) of Zimbabwe's exports to SACU.

In 1995, the bulk of SACU's manufactured exports to Zimbabwe consisted of chemical products (22.7 per cent) and iron and steel (20.6 per cent), although as Table 2.13 shows, the percentage contribution of iron and steel was unusually high in 1995. Other sectors contributing significant shares of SACU's exports to Zimbabwe in 1995 were machinery (16.4 per cent), transport equipment (11.6 per cent), electrical machinery (4.8 per cent), metal products (4.5 per cent) and non-ferrous metals (3.5 per cent), giving a combined share for these sectors (ISIC 372-384) of 40.8 per cent. The share of basic consumer goods sectors (ISIC 311-332) was 6.3 per cent.

The largest contributions to Zimbabwe's manufactured exports to SACU, by contrast, were those of food products (22.1 per cent) and wood and wood products (11.2 per cent), with textiles (8.2 per cent), footwear (5.9 per cent), furniture (5.0 per cent) and leather products (4.3 per cent) also having significant shares (Table 2.13). These basic consumer goods sectors together comprised 59.5 per cent of Zimbabwe's manufactured exports to SACU. Chemical products (4.6 per cent) and iron and steel (5.5 per cent) comprised much smaller proportions of Zimbabwe's manufactured exports to SACU than of SACU's exports to Zimbabwe, and the combined share of ISIC sectors 372-384 in Zimbabwe's manufactured exports to SACU was 21.3 per cent.

Table 2.13: Composition of SACU's manufactured exports to and imports from Zimbabwe (percentage)

	Exports					Imports				
Sector	**1988**	**1990**	**1992**	**1994**	**1995**	**1988**	**1990**	**1992**	**1994**	**1995**
Food	3.90	2.92	2.73	2.75	2.58	22.84	9.95	11.61	17.47	22.07
Beverages	0.06	0.09	0.34	0.68	0.40	2.34	1.12	0.73	1.24	1.78
Tobacco	0.00	0.00	0.02	0.00	0.02	0.06	0.04	0.04	0.10	0.08
Textiles	5.54	10.12	5.12	3.95	2.31	11.87	18.43	16.37	14.35	8.17
Clothing	1.00	0.70	0.21	0.12	0.19	4.32	4.66	3.48	1.66	1.02
Leather	0.11	0.10	0.07	0.04	0.08	4.48	4.66	2.37	4.48	4.27
Footwear	0.01	0.01	0.04	0.22	0.17	2.61	4.20	4.29	5.01	5.91
Wood	0.15	0.20	0.37	0.48	0.29	4.33	5.12	7.54	8.15	11.16
Furniture	0.10	0.03	0.11	0.23	0.24	1.33	1.43	1.83	4.57	5.03
Paper	4.15	3.82	3.38	4.42	2.94	1.51	1.34	0.99	1.39	2.38
Printing/publishing	0.25	0.34	0.32	0.84	0.67	0.36	0.69	0.57	0.46	0.54
Chemicals	24.93	24.18	22.33	23.74	22.69	2.03	1.83	2.95	4.19	4.56
Rubber	0.75	0.84	1.37	1.68	1.62	0.98	1.47	7.89	0.92	0.66
Plastics	1.19	0.98	1.19	2.96	1.34	0.79	0.68	0.80	0.65	0.52
Pottery etc	0.07	0.12	0.20	0.20	0.12	0.20	0.37	0.42	0.16	0.05
Glass	1.15	1.07	0.58	0.54	0.56	0.06	0.34	0.09	0.41	0.51
Other non-metallic	1.58	2.04	1.77	1.25	0.87	4.04	4.09	4.71	4.54	3.67
Iron and steel	10.38	10.01	9.31	8.46	20.59	6.40	6.73	4.00	4.89	5.49
Non-ferrous	18.10	15.57	11.95	5.26	3.52	1.66	6.29	6.04	4.36	2.13
Metal products	4.18	5.48	5.67	4.69	4.48	11.93	12.61	14.50	8.98	9.11
Machinery	9.59	10.50	16.71	15.81	16.40	1.36	2.11	2.31	4.12	4.02
Electrical machinery	2.79	3.96	3.93	5.30	4.76	5.22	6.67	4.00	2.63	2.50
Transport equipment	8.86	5.94	10.92	14.77	11.56	8.90	4.47	2.21	4.85	3.57
Scientific equipment etc	1.15	0.99	1.38	1.60	1.59	0.39	0.70	0.25	0.43	0.80
Manufactured exports	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Own computations from IDC (1996).

Note: Excludes "other manufacturing".

According to Zimtrade (1996), in 1993, 34.0 per cent of Zimbabwe's total exports went to other SADC countries. South Africa, with 14.4 per cent of Zimbabwe's total exports, was Zimbabwe's largest customer within SADC, and SACU as a whole took 20.5 per cent of Zimbabwe's total exports. Other significant destinations for Zimbabwe's exports were her immediate neighbours, Zambia, Mozambique and Malawi.

Imports from SADC comprised 31.9 per cent and from South Africa alone 27.2 per cent of Zimbabwe's total imports in 1993, with a further 3.4 per cent coming from other members of SACU (mainly Botswana), so that SACU as a whole supplied 30.6 per cent of Zimbabwe's imports (Zimtrade, 1996).

2.7 Conclusion

The main findings of this chapter are the following. First, SADC is on the whole an association of poor, economically small countries, which, as indicated by the very wide range of *per capita* income, are at greatly varying stages of development. Second, the respective industrial structures of South Africa and the other SADC countries are very different and hence apparently complementary to one another, but the differences compared to South Africa are least pronounced in the case of Zimbabwe. Third, as measured by trade/GDP ratios, the SADC economies are relatively open, so that despite the small size of their combined GDPs, compared for instance to MERCOSUR, the region's exports and imports are quite significant. Fourth, the degree of trade integration within SADC, measured by the ratio of intra-SADC to total trade (excluding intra-SACU trade), is low compared to most other regional unions considered above, though some individual countries (Malawi, Mozambique, Zambia and Zimbabwe) have relatively high intra-SADC trade ratios. Fifth, after Western Europe and East Asia, SADC was the largest market for SACU's non-gold exports, and SADC's share of SACU's exports of manufactures increased significantly in 1988-95, from 8.9 per cent to 15.4 per cent. However, SADC countries supplied only 1.5 per cent of SACU's merchandise imports in 1995. Sixth, there is apparently a high degree of complementarity between SACU and the rest of SADC as a whole in their trade relations, basic consumer goods, for instance, contributing 59.8 per cent of SACU's imports from SADC but only 16.7 per cent of its exports to SADC, with an essentially

similar trade complementarity between SACU and Zimbabwe, the country with the second largest economy and manufacturing sector in the SADC region.

The question to be addressed in the remainder of this study is whether, given the features described above, a mutually beneficial free trade arrangement amongst the members of SADC, which will contribute to faster economic growth in the region, is attainable.

CHAPTER 3

SOME RECENT VIEWS ON ECONOMIC INTEGRATION IN SOUTHERN AFRICA

3.1 Introduction

There is a vast literature on the subject of trade integration in southern Africa, dating back several decades. Much of this literature has been concerned specifically with the Southern African Customs Union (SACU), or in more recent times with COMESA (formerly the PTA) and SADCC. However, most recently, since the beginning of the process of political transition in South Africa in the early 1990s, research on this subject has become more directly concerned with the implications of a broader southern African economic grouping *incorporating* South Africa, the economically dominant country in the region. In particular, the implications of regional trade integration have increasingly become the focus of attention. The signing of the SADC Trade Protocol in August 1996, referred to above, has given additional point to this question, which is also the particular focus of the present study.

Despite the commitment of SADC members to a free trade area (FTA) in August 1996, the question of the likely effects and hence feasibility of a FTA among SADC countries is evidently at this stage in a controversial and unsettled state. Indeed, there is now apparently considerable disagreement on the desirability of such a FTA, although it appears that this has not always been the case.

This chapter therefore examines the current state of the debate on economic integration in southern Africa. In Section 3.2, an attempt is made to synthesise the main features of the views taken in a number of recent studies on the viability of trade integration in the region. The aim of this chapter is to define as clearly as possible the strengths and weaknesses of the work on southern Africa published to date, with a view to a more in-depth analysis in subsequent chapters of the arguments, implicit or explicit, in these various studies, as well as in the general theoretical literature on regional trade integration, and empirical case studies of experience elsewhere in the world.

3.2 A survey of recent views on the desirability of a broader trade integration arrangement in southern Africa

As Davies *et al.* (1993: 33) note, at the turn of the decade there appeared to be widespread support across the political spectrum for a regional integration programme leading to the formation of a southern African common market or economic community. Members of the South African government and business sector seemed to be in agreement with organisations such as SADC, PTA, the OAU, the United Nations ECA, the World Bank and others on the desirability of such a programme, although many different approaches lay behind the apparent consensus.[1] There was a tendency at the beginning of the 1990s to think that the economic case for a southern African economic union which included South Africa, and which involved, *inter alia*, free trade in the region, was almost self-evident, and that the formation of such a union had hitherto been prevented mainly by political factors. Gradually, however, more divergent views began to emerge: on the one hand, the position of South African officials and business became more tempered, while, on the other, regional organisations deepened their commitment to an integration programme which they hoped South Africa would join.[2]

Amongst the various attempts during the 1990s to deal systematically with the problem of regional trade integration, several of the more prominent, dealing specifically with the question of South Africa's incorporation into a SADC FTA or a yet wider regional union such as COMESA, are considered in this chapter. These are African Development Bank, ADB (1993), Davies *et al.* (1993), World Bank (1991), Cassim and Zarenda (1995),

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1 The business view was exemplified by comments made by Henri de Villiers, chairman of the Standard Bank, in Joffe (1990: 14), calling for a Southern African Economic Community and downplaying concerns about polarisation. In his view, natural polarisation was desirable for the sake of efficiency, and it would be quite possible to create structures within an economic community to distribute the costs and benefits more evenly.

2 In an interview in 1992, for example, Chris Stals, Governor of the Reserve Bank, cautioned against the idea of "vast new common markets in Africa" on the grounds that "there's too great a divergence between the stages of development of the various countries, making it impossible to integrate the economies and placing a huge burden on the more advanced nations" (*Financial Times*, London, 17 November 1992, cited in Davies *et al.*, 1993: 33). A discussion document commissioned by the South African Chamber of Business in the same year was premised on the assumption that economic policy would "be pursued in the knowledge that the country's economic welfare depends far more on its ability to compete on overseas markets than on penetration of African markets", and that South Africa would not "readily cede sovereignty or resources to any supranational body" (Leistner, 1992: 1).

Holden (1996), and Mukherjee and Robinson (1996). Of these, only Holden (1996) appears to conclude unequivocally that a FTA in the region is undesirable, and that it would have negative welfare effects on the smaller member countries. However, while the other five studies all appear to favour trade integration, underlying them are diverse views on the likely effects of a full-blown, market-driven FTA. Mukherjee and Robinson (1996) see all the partner countries and the region as a whole benefitting. ADB (1993), Davies *et al.* (1993) and Cassim and Zarenda (1995) all appear to take the view that the smaller, non-SACU members of SADC would be adversely affected by a FTA, but that South Africa would benefit substantially. Even between the ADB (1993) study and Davies *et al.* (1993) on the one hand, and Cassim and Zarenda (1995) on the other, however, there seems to be a significant difference, as we shall see below.[3] The World Bank (1991) supports a FTA in the region, but mainly, it seems, because it believes that this would facilitate multilateral trade liberalisation by southern African countries, which it envisages would be beneficial to them, rather than because of the likely benefits of regional trade integration as such.[4]

Of the studies mentioned above, ADB (1993) is the most voluminous and detailed. Covering seventeen sectors from trade and manufacturing through to tourism, education and health, the three volume study considers the prospects and opportunities for economic integration in the subcontinent. The study envisages a regional programme

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[3] Whereas the first two of these studies apparently envisage that the gains to South Africa would be so large relative to the losses of the smaller countries that South Africa could compensate these smaller countries and yet remain better off, and that it should compensate them, Cassim and Zarenda (1995) are apparently sceptical about South Africa's ability to make good such losses if it is to benefit economically from the FTA.

[4] The survey in this chapter does not, in any sense, claim to be exhaustive. The aim is rather to provide an indication of the *range* of contrasting views in recent studies on the desirability and feasibility of a SADC FTA. A useful overview of recent research is given in Maasdorp (1995: 3-9), including the work of the Southern Africa Foundation for Economic Research (SAFER) and the Africa Institute for Policy Analysis (AIPA). The report on trade and investment for the 1992 SAFER project on southern African economic co-operation (Maasdorp and Whiteside, 1993), which includes the results of a survey of business views in the region on the usefulness of existing regional institutions, has been used elsewhere in this study. Two recent papers which focus on the provisions of the SADC Trade Protocol itself (Page, 1997; Mayer and Thomas, 1997) are drawn on in subsequent chapters. Other recent work has a particular SACU focus (Lundahl and Petersson, 1991; Mayer and Zarenda, 1994; Sisulu *et al.*, 1994). Lundahl and Petersson's (1991) substantial study on Lesotho in the Southern African Customs Union devotes two chapters to the theoretical analysis of trade integration, providing a thorough and systematic coverage of orthodox customs union theory and its extensions, as well as the non-traditional literature. Since its focus is specifically on SACU, it is not considered separately in this chapter, although it is used in the theoretical analysis in Chapters 4 and 5. Major forthcoming studies include the results of an African Economic Research Consortium (AERC) project on regional integration and trade liberalisation in sub-Saharan Africa.

incorporating elements of both trade integration and sectoral co-ordination. It concludes that integration and co-operation should proceed on "two parallel but connected tracks", the first being "sector coordination and cooperation" in power, transport and communications, environmental management and tourism, for example, which could proceed almost immediately, and the second being "market integration" which, "[g]iven the severe macro-imbalances which characterise SAR [the Southern African Region] economies at present...will necessarily need to be more deliberate and cautious... [W]hile an agenda for regional integration needs to be formulated urgently...the pace at which regional agreement on major integration issues can be reached will be slower than the pace at which coordination can be achieved..." (ADB, 1993a: 320-321).

Although there is no quantification of the potential welfare effects of such a programme, "[t]he Study as a whole...determines that there is likely to be a significant welfare gain emanating from regionalisation" (ADB, 1993a: 319). However, it envisages that the benefits of a full-blown FTA would be unequally distributed, and would accrue mainly to the more industrialised countries, in particular to South Africa, so that some forms of intervention at a supra-national or regional level would be necessary to prevent adverse effects on the other countries, or to compensate them for these effects. On this issue they state:

> "...without in-built design of compensatory mechanisms to distribute these regional gains (i.e. a regional investment and development policy) the pattern of their accrual, left to market forces alone, would mainly benefit South Africa and, to a lesser extent, Zimbabwe in the short and medium term. This pattern would be reinforced, at least until such time as major project investments in power, water and agricultural development in the region's northerly parts began to bear fruit, and other countries began to benefit from sales of their resources to the southerly parts" (ADB, 1993a: 319).

The approach taken should therefore be "allowed to incorporate some elements of a 'regional policy' which would be designed to influence, through incentives, the allocation and location of investment even at the cost of some loss from the full benefits of integration" (ADB, 1993a: 362).[5] Such intervention should not, however, be pervasive:

> "Irrespective of the way in which the issue of equity is handled in the process of future integration in SAR, a strong interventionist thrust towards planning resource allocation and investment on a regional basis, as occasionally suggested by SADC, would seem to

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[5] It notes that "[t]o the extent that this induces production in higher cost areas, such a policy would involve efficiency costs and would thus reduce the net benefits from integration" (ADB, 1993a: 303).

> be impracticable, inconsistent with SAPs, and untimely... Of course, significant public intervention will be necessary in southern Africa if [regional integration] is to be achieved. But outside a strictly limited public sector, its role must be to create the regional policy environment that will enable market-based integration to work" (ADB, 1993a: 303-304).

Thus, while essentially premised on a market-driven approach to integration, the study acknowledges a role for intervention in the operation of market forces (Keet, 1994: 2). But, for the reasons which they give, this role is seen as limited, and presumably insufficient to compensate the smaller members of SADC fully for the adverse impact on them of market-based trade integration. The study therefore does not propose a full-blown FTA, but a highly asymmetrical arrangement in terms of which the onus for tariff cuts would fall more heavily on South Africa, at least initially. The study states:

> "Accelerated progress needs to be made on the PTA timetable for tariff cuts with tariffs on intra-SAR trade being reduced to zero as quickly as possible. The exceptions would be for manufactured goods from RSA and Zimbabwe (and possibly Kenya), which may require the application of a special regime of low tariffs for an interim period to allow time for other SAR countries to adjust and compete" (ADB, 1993a: 310).

Although South Africa is not the only country singled out in this passage (the list is in fact extended elsewhere by the ADB (1993a: 269) to include Mauritius), the particular emphasis in the study is on asymmetry *vis-à-vis* South Africa.[6]

More careful consideration is therefore given to the impact of South Africa's participation in a regional union: "RSA's entry into PTA or even a more confined SADC market on the same terms as other members could have negative effects in achieving efficiency gains and retard the emergence of a more reasonable distribution of regional industrial capacity if its market share was increased at the expense of other regional exporters" (ADB, 1993a: 322). The study's specific proposal to minimise the impact on other emerging regional producers is "for a regional tariff regime *vis-à-vis* RSA which restricted cuts to 50 per cent of those applied within the PTA for a transitional period

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[6] The study notes that such asymmetry is a feature of South Africa's bilateral agreements with other SADC states. However, it questions the contribution these bilaterals could make to a market integration programme in their present form, since they do not specifically address non-tariff barriers (NTBs), which it views as the main constraint on expanding intra-regional trade (ADB, 1993a: 291). While the ADB (1993a: 290) notes that the effect of tariffs will become more prominent as NTBs such as import quotas and licensing are removed in the process of structural adjustment, NTBs have been more broadly defined to include, *inter alia*, foreign exchange shortages, the lack of convertible currencies, overvalued exchange rates, and transport problems and costs (Maasdorp, 1995: 10-11). Inability to pay, as a consequence of foreign exchange shortages and non-convertible currencies, is a more significant constraint on expanding trade between South Africa and the rest of the region, since quantitative restrictions have been substantially relaxed in South Africa (Bell, 1993). For more discussion on NTBs in the region, see Maasdorp and Whiteside (1993: 18-23).

of ten years. Such a measure would still give RSA preferential access to the regional market relative to ROW. But it would restrict the potential negative effects of increased RSA exports to the region on the industries of other SAR countries" (ADB, 1993a: 322).

Thus, while South African products sold in the rest of the region would face a preferential tariff which is gradually reduced over time, "products from the rest of the region should enter South Africa free of tariffs. This asymmetry would be part of the compensatory mechanism for achieving equity and inter-dependence. It would reduce pressure to achieve equity via cash transfers" (ADB, 1993a: 266-267). Fiscal compensation (as employed in SACU) is, on its own, "unlikely to be attractive to the less advanced countries, unless it is so generous that it is also unattractive to the more advanced countries who will constitute the net contributors" (ADB, 1993a: 303). The preferred alternative compensatory mechanism appears to be the proposed regional policy, designed to influence the allocation of investment by incentives. But, as noted above, the ADB apparently sees the scope for this as too limited to provide sufficient compensation on its own.

Factor mobility is also regarded as important in this respect. The study argues that "[t]he trade deficits that other SAR countries are likely to incur *vis-à-vis* RSA and Zimbabwe will need to be offset by capital inflows and remittance[s]...in the medium term" (ADB, 1993a: 319).[7]

The question of the appropriate tariff regime *vis-à-vis* South Africa aside, the study recommends what it calls "multi-speed market integration" in accordance with what has become known as the "variable geometry" of the region. Any attempt at market integration on a uniform basis would hold back a group of countries which may be able to integrate more quickly. As a more flexible approach, "it would be possible to envisage a core group prepared to implement or maintain a customs union with a common external tariff". At the same time, "[a] wider group at the periphery might constitute itself as a free trade area, and be linked with the former in a free trade agreement along the lines of the EC-EFTA arrangement" (ADB, 1993a: 295). A revised SACU within a broader, less integrated arrangement such as a SADC PTA or FTA would

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[7] This point is also raised by Cassim and Zarenda (1995: 22-23).

be an example.[8]

The ADB study considers the evolution of an appropriate institutional framework for the implementation of its integration strategy (Keet, 1994: 3-4; Maasdorp, 1995: 3-4). Two elements are important here. The first is the role of existing regional organisations, specifically SACU-CMA, SADC and COMESA, and how to resolve the existing conflict between them (ADB, 1993a: 358-362).[9] The second is whether a southern African bloc should seek special relations with countries and other regional blocs beyond the subcontinent. The ADB suggests that "[n]ew kinds of external links...may be needed if intra-regional trade and investment...and ultimately outward-oriented policies are to be promoted. A revised form of SAR association with the EC involving some reciprocal arrangements could have several beneficial effects in making commitments to trade liberalisation virtually irreversible and encouraging intra-SAR trade and cross-border investment" (ADB, 1993a: 363).[10]

The ADB study evidently considers that the incorporation of South Africa into a regional union would contribute significantly to its prospects for success: "The entry of a democratic RSA into the regional community...multiplies, by several times, the potential for economic gains to be accrued both from expanding the regional market, and from cooperating on infrastructural investment and sectoral developments, in a SAR that includes RSA..." (ADB, 1993: 286).

In essence, thus, the view of the ADB (1993) is that a market-based, full-blown FTA among SADC countries would not be beneficial to all the partner countries. The benefits would accrue mainly to South Africa, while most of the other countries would incur significant losses. However, implicit in the ADB study is that the potential gains to South Africa from such a market-based FTA would be such that it could afford to more than compensate the losers (through regional policies, by enhancing factor

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[8] The implementation of a PTA or FTA (although not easy in itself, as the experience of COMESA shows) would reduce the need for compensation either for revenue losses or loss of fiscal discretion (ADB, 1993a: 294-295).

[9] One other institutional proposal is a possible wider regional role for the South Africa-based Development Bank of Southern Africa (DBSA).

[10] Some of the implications of such an association for SACU and SADC were considered in Section 1.6 above.

mobility, and by agreeing to a highly asymmetrical programme of tariff cuts); and that it should in fact provide such compensation.

A study undertaken by the Macroeconomic Research Group (MERG), like the ADB study, also has a strong focus on the role South Africa could (and in their view ought to) play in a regional arrangement. However, the MERG report (Davies *et al.*, 1993) provides a more forceful argument for the benefits which South Africa itself could obtain from such participation.

Davies *et al.* (1993: 3) reject the common perception that, given the small size of the SADC economies, the benefits for South Africa would be of only marginal significance in its efforts to promote growth and development. Like the ADB, they stress the region's importance as a destination for South Africa's manufactured exports. However, they consider in more detail the potential benefits for South Africa from closer co-operation in regional natural resource and infrastructural projects (particularly regional water projects); construction and engineering contracting; minerals and mining (with a focus on the potential for resource-based industrialisation with a regional dimension, which could yield significant economies of scale); agriculture and food security; and technical, scientific and managerial areas (Davies *et al.*, 1993: 3-12).

Davies *et al.* (1993: 22) also envisage increased exports to South Africa as "potentially making a significant contribution to efforts by neighbouring states to restructure their economies on a more productive and competitive basis". However, in reaching this conclusion, they (like the ADB) clearly have in mind something very different from a FTA, or indeed even from a PTA. They rather envisage an asymmetrical arrangement providing for "greater access to the South African market for a range of their [neighbouring countries'] products" which would "also contribute towards creating a more balanced trade relationship",[11] together with "an agreed regional development programme which would...very likely involve some special provisions, incentives and allocation of regional funds to encourage the channelling of investment to the most impoverished areas" (Davies *et al.*, 1993: 22-25). This would include "programmes to promote a more balanced location of industries and a more equitable distribution of

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[11] This would involve "not only a lowering of tariff barriers, but also much more real and effective access to the South African market for a range of manufactured goods as well as agricultural products and raw materials" which have been subject to NTBs (Davies *et al.*, 1993: 23).

investment; some financial, technical and other contribution by South Africa to regional programmes; [and] more equitable arrangements in a range of existing relations and institutions..." (Davies *et al.*, 1993: 22).

The MERG report appears to favour what it calls a "modified development integration approach" to regional relations (Davies *et al.*, 1993: 43). Under development integration, trade integration is complemented by "efforts to promote coordinated regional industrial development; the establishment of regional funds or banks giving special priority to the least developed members; measures to give less developed members greater preference in access to regional markets and facilities and a longer period to reduce tariffs" (Davies *et al.*, 1993: 37). In explaining its proposal for a modified approach, the report argues that pressures for market integration, together with the failure or lack of progress of schemes based on the project co-operation and development integration models, indicate the need for their modification or extension. Project co-operation, while important, is not regarded as sufficient basis, on its own, for the promotion of regional integration, as it addresses neither trade issues nor questions such as currency convertibility.[12] The development integration approach should be modified to "promote greater political commitment", by involving constituencies other than the business sector, such as organised labour (Davies *et al.*, 1993: 40-41).

Other elements of the report's proposed regional programme include "[t]he establishment of funds to stimulate retraining and investment in depressed regions and provide assistance to disadvantaged regions and groups...; [a] reform of immigration laws to protect those forced by political or economic necessity to live outside their own countries...; [and t]he creation of space within integration agreements to allow for some management of trade and a level of protection, at least on an interim basis..." (Davies *et al.*, 1993: 42).

Davies *et al.* (1993: 46) argue that "[t]he real issue is...to identify that combination of cooperation, coordination and integration, realistic and feasible under prevailing conditions, which can best advance the goals of contributing to growth and development". In their view, disparities in the size and levels of development of the

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[12] The project approach to economic integration is outlined in Balassa and Stoutjesdijk (1975), and is broadly agreed to have informed the former SADCC's approach to economic co-operation.

economies of the region imply that "a laissez faire approach towards promoting integration could well reproduce or even exacerbate tendencies towards polarisation..." (Davies *et al.*, 1993: 47). To promote a more balanced pattern of regional development, South Africa's partners might be expected to push for "measures to empower the least developed countries to participate more effectively in regional trade; special incentives to encourage investment in the least developed areas and various other devices to tilt the balance of advantage in favour of the least developed partners in key areas" (Davies *et al.*, 1993: 47).

Davies *et al.* (1993) do show an awareness that South Africa's capacity, on its own, to support such an ambitious programme of economic development in the region as a whole is not unlimited. They note that a regional integration programme could "flounder if it becomes merely a mechanism for weaker partners to place ever increasing demands on the stronger", and that "...a democratic South Africa will not have the resources to sustain on its own an ambitious regional programme" (Davies *et al.*, 1993: 47). They argue, therefore, that it must be "supported by external resources, particularly to finance programmes aimed at the most impoverished countries" (Davies *et al.*, 1993: 48). Nevertheless, as several of the remarks of Davies *et al.* (1993), quoted above, make clear, they envisage substantial unreciprocated concessions by, and resource transfers from, South Africa to other members of SADC. Despite this, it appears that they believe that such arrangements would still leave South Africa as a net beneficiary, for they state that "the principle of mutual benefit...must underpin a regional programme" (Davies *et al.*, 1993: 48).

Like the ADB study, thus, Davies *et al.* (1993) are of the view that the formation of a market-based free trade arrangement amongst southern Africa countries would result in substantial benefits for South Africa, but would be detrimental to its smaller and poorer partners. A highly asymmetrical arrangement involving significant trade and other concessions (including reform of immigration laws), as well as unrequited resource transfers, will need to be provided by South Africa to prevent its partners losing from regional integration. As their stipulation of the "principle of mutual benefit" suggests, Davies *et al.* (1993) apparently believe that, despite these concessions and transfers,

South Africa would on balance emerge as a net beneficiary of such an arrangement.[13]

Cassim and Zarenda's (1995) conclusion about the likely effects of a FTA is essentially the same as that of the ADB (1993) and Davies *et al.* (1993), in that it also envisages that South Africa would gain and its smaller, and poorer, partners would lose. They state:

> "Although regional integration agreements...could bring potentially large benefits to the Southern African economy, the asymmetry between South Africa and the rest of the region, the diverse macro-economic behaviour of SADC countries, limited and uneven industrial capabilities and highly dispersed tariff could readily abort a fully-fledged market driven regional programme" (Cassim and Zarenda, 1995: 30).

Cassim and Zarenda (1995) thus apparently regard the large size and relatively advanced stage of development of South Africa compared to its prospective partners as an obstacle to trade integration in southern Africa. Like the ADB (1993) and Davies *et al.* (1993), they envisage that measures would be needed "to ensure that the differential impact on the gross domestic product does not aggravate disparities in productivity per capita and real incomes among the populations of different countries" (Cassim and Zarenda, 1995: 22). However, there is an important difference between the position taken by Cassim and Zarenda (1995), on the one hand, and ADB (1993) and Davies *et al.* (1993) on the other. Cassim and Zarenda (1995: 23) are apparently doubtful whether South Africa could bear the burden of the highly asymmetrical arrangement which they see as necessary if the smaller and poorer countries are not to lose as a result of regional integration. They argue that "...South Africa's dilemma stems from the difficulty it faces addressing gross inequalities within the country... While South Africa, as the giant of the region, has to shoulder the responsibility of ensuring regional economic development, the high level of unemployment in the country constrains South Africa's ability to transfer wealth to the region" (Cassim and Zarenda, 1995: 23). Further, "...this asymmetry between South Africa and the rest of the region puts undue burden on an economy that itself is fragile by international standards" (Cassim and Zarenda, 1995: 30).

By contrast with all three studies considered so far, Holden (1996) comes out strongly against southern African trade integration. She focuses on the likely effects of South

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[13] Like the ADB (1993), Davies *et al.* (1993: 49-59) give detailed consideration to the appropriate institutional framework for such a regional programme.

Africa joining COMESA, but her conclusions are apparently also intended to apply to any customs union or free trade area in the region. She concludes that, given the composition of trade in the region, the main likely effect of South Africa joining COMESA, with the adoption of a common external tariff, would be trade diversion, with large, adverse redistributive effects from other members to South Africa. These redistributive benefits to South Africa notwithstanding, Holden (1996) takes the view that since South Africa's main trading partners are the high income, developed countries of the world, South Africa has little incentive to seek preferential treatment in the region, and that, whereas the costs to the smaller members of a southern African regional trading bloc are likely to be large, the benefits for South Africa would be minimal. Holden (1996: 64) concludes that "preferential trading arrangements are no substitute for multilateral trade liberalization particularly when the preferences are given to a more dominant economy".

In that it states a preference for multilateral trade liberalisation, Holden's (1996) view is similar to that of the World Bank (1991). By contrast with Holden, the World Bank (1991) gives some support for a FTA in the region, but mainly, it seems, because it is believed that this would facilitate multilateral trade liberalisation by sub-Saharan Africa, rather than because of the likely benefits of regional trade integration as such. The study states that while "temporary increases in regional preferences are acceptable", this should occur within the context of a "general and significant lowering of external protection", which would ensure that "regional preference would indeed be temporary" (World Bank, 1991: paragraph 15, cited in Davies *et al.*, 1993: 38). The report's basic premise thus appears to be that "regional trade liberalisation should be an intermediary stage towards general liberalisation", with the central aim being the "greater integration of Africa into the world trading system" (World Bank, 1991: paragraphs 14 and 76.6.18, cited in Keet, 1994: 8). The World Bank study thus promotes regional integration in Africa "only [as] a useful means" towards the promotion of generalised liberalisation (World Bank, 1991: paragraph 2.12, cited in Keet, 1994: 8).

Contrasting sharply with the studies discussed above is that of Mukherjee and Robinson (1996). They recognise that "South Africa's smaller neighbors in the region fear that an expansion in manufactured goods trade with South Africa could lead to significant de-industrialization or that it could even halt efforts of individual countries to rehabilitate

their industrial sectors" (Mukherjee and Robinson, 1996: 18). These smaller countries "fear that this could accelerate a process of unbalanced industrial growth, with most of the gains accruing disproportionately to South Africa" (Mukherjee and Robinson, 1996: 18). However, such fears are apparently regarded as groundless. Having argued that "[d]eveloping countries considering forming a trade pact should include at least one large and preferably rich trading partner in the agreement, if it is to lead to an economically significant increase in trade", Mukherjee and Robinson (1996: 17-18) state: "Studies of other regional trading arrangements which include at least one large, preferably rich, economy indicate that they tend to be trade creating, with significant benefits for all partners". In the context of their discussion, it seems that they believe that the presence of South Africa in a SADC FTA would satisfy the condition for success of a "large, preferably rich" partner, and that for this and other reasons "[c]urrent trends in Southern Africa favor increased integration". Their position is weakened somewhat by the qualifier that successful trade integration "is by no means assured", but, of all the studies considered, only Mukherjee and Robinson (1996) seem to be of the view that a market-based FTA could be beneficial to all the member countries, large and small alike.

On the basis of a very different analytical approach involving the use of a static partial equilibrium simulation model, Evans (1996: 45), in contrast to Holden (1996), concludes that the adverse effects of a FTA in the region "are likely to be limited whilst the gains widespread". Therefore, "the case for a rapid transition to the FTA is...strong, provided special provision is made for the few countries with particular difficulties" (Evans, 1996: 45). He finds that the impact of the formation of a SADC FTA on total demand, import-competing production and employment would be minimal. There would be a small decrease in imports from the rest of the world, but a marked increase in intra-regional exports and imports of over 11 per cent. On the basis of these results, and in stark contrast to Holden's findings, Evans (1996: 2) concludes that "strong intra SADC trade creation effects" will occur on the formation of a FTA.

Evans (1996: 10) finds that the balance of payments of SADC as a whole improves, and that Mauritius and South Africa in particular experience large balance of payments gains, but that there is some worsening of the balance of payments positions of Mozambique and Zimbabwe, in the "worst-case" scenario. Furthermore, Malawi and Mozambique

lose the bulk of their customs revenue, while Zambia and Zimbabwe also experience significant revenue losses. Thirdly, while the incidence of adverse sectoral effects is found to be small, Malawi and Zimbabwe each have five sectors which are adversely affected, and Mozambique three (Evans, 1996: 12). Finally, Mozambique is the only country which suffers an overall employment loss in the "worst-case" scenario. These are thus presumably the "few countries with particular difficulties".

Like Davies *et al.* (1993), but unlike Cassim and Zarenda (1995), Evans (1996) apparently considers that it will be possible for the gainers from the FTA (mainly South Africa) to make the "special provision" to which he refers, either to prevent the particular difficulties of the few losers, or somehow to compensate them for their losses, and yet still on balance gain.

Another simulation of the potential effects of the formation of a SADC FTA is that of the IDC (1995b). Acknowledged by the IDC to be a rough simulation (and described by Cassim and Zarenda (1995: 22) as "a rather quick and dirty analysis"), the simulation, unlike that of Evans (1996), is based on a static *general* equilibrium model. The IDC concludes that a FTA in the region would lead, on average, to an overall increase in GDP, although some countries would be made worse off. As in the Evans model, the results show that South Africa (SACU) has the most to gain from a FTA. Malawi, Mozambique, Zambia and Zimbabwe lose in terms of GDP and employment, with Zimbabwe most adversely affected, followed by Zambia.[14] All countries except Zimbabwe are able to expand their manufacturing exports. The IDC suggests measures to soften the impact of adjustment, stressing policies to facilitate the role of the private sector, stating that the "whole region will gain if all governments [are] equally dedicated to competitive enhancing policies".

Taken together, the simulation models of Evans (1996) and the IDC (1995b) seem to suggest that the formation of a SADC FTA will impact most adversely on Zimbabwe, Malawi, and Mozambique.[15]

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[14] Mauritius was not included in the simulation, as it only became a SADC member in August 1995.

[15] A subsequent simulation of the effects of the formation of a SADC FTA was undertaken by Evans (1997a), using essentially the same partial equilibrium model as his earlier study, but with a considerably improved database. The results and implications of these studies are analysed in more detail in Chapters 6 and 7.

There do not appear to have been any other significant attempts to date to quantify the possible effects of a SADC FTA, although gravity models have commonly been used to consider whether the extent of trade has been influenced by membership of existing regional organisations, or how it could be affected by new ones (Cassim and Zarenda, 1995: 18; Holden, 1996: 26-40; USAID, 1996: 27-30; Mukherjee and Robinson, 1996).[16] The results of these exercises may be used to predict changes in trade and GDP at the aggregate level when new arrangements are formed, but do not facilitate the estimation of the sectoral and distributional impact of a FTA.

3.3 Conclusion

So far only the views and conclusions of recent studies on the economic desirability and feasibility of a southern African FTA have been considered. The discussion suggests that there are wide differences of opinion on this question. The arguments, implicit or explicit, in these various studies, as well as in the general theoretical literature on regional trade integration, and empirical case studies of experience elsewhere in the world, are considered in the next and subsequent chapters.

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[16] In these models, trade is usually a function of the GDPs of the countries in question, population and distance, with a dummy variable for the existence of trade agreements. The most detailed study is that of Holden (1996: 26-40), who finds no evidence that regional groupings have had any significant bearing on South Africa's direction of trade. However, as she notes, the use of more reliable intra-SACU trade data could produce a different result.

CHAPTER 4

KEY THEORETICAL ISSUES RELEVANT TO THE ANALYSIS OF TRADE INTEGRATION AMONG UNEQUAL PARTNERS IN A PERFECTLY COMPETITIVE FRAMEWORK

4.1 Introduction

As shown in Chapter 2, SADC is on the whole an association of poor, economically small countries, differing greatly in *per capita* income levels and hence in stage of development, dominated by a richer, larger and economically more advanced country, South Africa. Given this, the case of trade integration in southern Africa raises in stark form the "controversial question", considered by Behar (1995: 18) in his analysis of MERCOSUR, "of the advantages and disadvantages of integrating countries which differ widely in size and levels of industrialization".

Other features of SADC noted in Chapter 2 are that, as indicated by their industrial structures and patterns of trade specialisation, the economies of the members of SADC are largely complementary to one another, and the existing degree of trade integration, as measured by the intra-regional trade ratio, is comparatively low. These factors also raise crucial questions about the feasibility of successful trade integration in southern Africa.

As the discussion in Chapter 3 above indicates, these questions are raised implicitly in the existing literature on southern African trade integration. The views and conclusions reached in these studies, and hence apparently their answers to these questions, however, vary considerably. Furthermore, there is very little effort in most of these existing studies to address the key questions formally and systematically.[1] It is not clear therefore how these diverse views and conclusions were derived, whether they are consistent with the theory and, therefore, whether they have been properly established.

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[1] The major exception, noted in Chapter 3, is Lundahl and Petersson's (1991) study on Lesotho in the Southern African Customs Union.

The key questions referred to above, however, are clearly fundamental ones, which must be carefully considered in any analysis of regional integration in southern Africa. The discussion which follows in this and subsequent chapters thus represents an attempt to address these questions, and hence in effect to assess some of the conclusions reached in existing studies.

4.2 The conventional trade creation-trade diversion framework

The welfare effects of trade integration are conventionally assessed with reference to Viner's (1950) concepts of trade creation and trade diversion. Trade creation refers to the replacement of relatively high-cost domestic production with lower-cost imports from a partner, while trade diversion refers to the replacement of cheaper imports from the rest of the world (ROW) with relatively more expensive imports from a partner. In terms of this framework, a customs union or free trade area (FTA) will be welfare-improving provided trade creation outweighs trade diversion when the arrangement is formed.[2]

Viner's (1950) analysis was extended by Meade (1955), Lipsey (1957, 1960) and Gehrels (1956-57) to include the so-called "consumption effects" of the formation of a customs union or FTA. Implicit in Viner's (1950) analysis was the assumption that goods are consumed in fixed proportions independent of the structure of relative prices (Lipsey, 1960: 499). This suggested that the formation of a customs union would only have "production effects", via its influence on the location of world production.

Lipsey (1957, 1960) and others argued, however, that the formation of a customs union would necessarily lead to a change in relative prices, and hence substitution between commodities (Lipsey, 1960: 501). There may, therefore, be favourable consumption effects as a result of customs union formation, if consumers benefit from a price reduction on partner imports through the elimination of intra-union tariffs. The price reduction would raise the consumption of imports, causing a gain in consumer surplus, termed the "consumption effect". This led to a rather futile debate in the literature

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[2] Second-best theory dispelled the pre-Vinerian view that customs unions were necessarily welfare-improving since they represented a partial move towards free trade (Lipsey and Lancaster, 1956/57).

about whether a trade-diverting customs union (in the Vinerian sense) could be welfare-improving, settled by Johnson (1974), who re-defined trade creation to include both Viner's original "production effect" (the cost saving on goods previously produced domestically) as well as this positive consumption effect (Corden, 1984: 113; Pomfret, 1988: 109).[3]

The Viner-Meade-Lipsey analysis has given rise to a set of "orthodox conditions" for a customs union or FTA to be welfare-improving, some of which have been touched on in the existing literature on southern African trade integration. However, they have generally not been systematically examined in the studies discussed in the previous chapter. Using the analysis of Holden (1996) as a point of departure, these conditions will therefore be considered at various stages in the discussion below.

4.2.1 The Holden (1996) case: no initial domestic production and incomplete displacement of ROW imports by the partner country

Of the various studies surveyed in Chapter 3, Holden (1996) is analytically the most formal, making use as it does of the traditional Vinerian approach to the analysis of regional trade integration, and is therefore the most explicit about how its conclusions were derived. Holden (1996) thus provides a useful framework and starting point for further consideration of a range of factors relevant to the analysis of the likely effects of trade integration in the SADC region. The argument of Holden (1996: 51-54) and the assumptions on which it is based are thus set out in the present section. The apparently necessary qualifications and extensions of this argument in the light of these underlying assumptions are considered under various headings in subsequent sections.

Figure 4.1 is a reproduction of the diagram on which Holden (1996: 51-54) bases her analysis, with the partner country as South Africa, but the home country as SADC (excluding South Africa), rather than the PTA/COMESA. D_{SADC} is the rest of SADC's

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[3] The conditions under which a positive consumption effect may occur in the case of a FTA will be considered in Section 4.2.2. Note, however, that in the case of a customs union, the consumption effect need not be positive. If a country has to *raise* its tariff levels to meet the common external tariff, its consumers will face a higher price for the good, resulting in a loss of consumer surplus as consumption falls (Lundahl and Petersson, 1991: 162).

import demand for the product, while S_{SA} is South Africa's supply of the imported good facing the home country, drawn to reflect rising costs of production. S_W is the supply curve of the ROW, reflecting production under constant costs. The usual assumption is therefore made that the ROW is the more efficient supplier of the product (Holden, 1996: 51).[4]

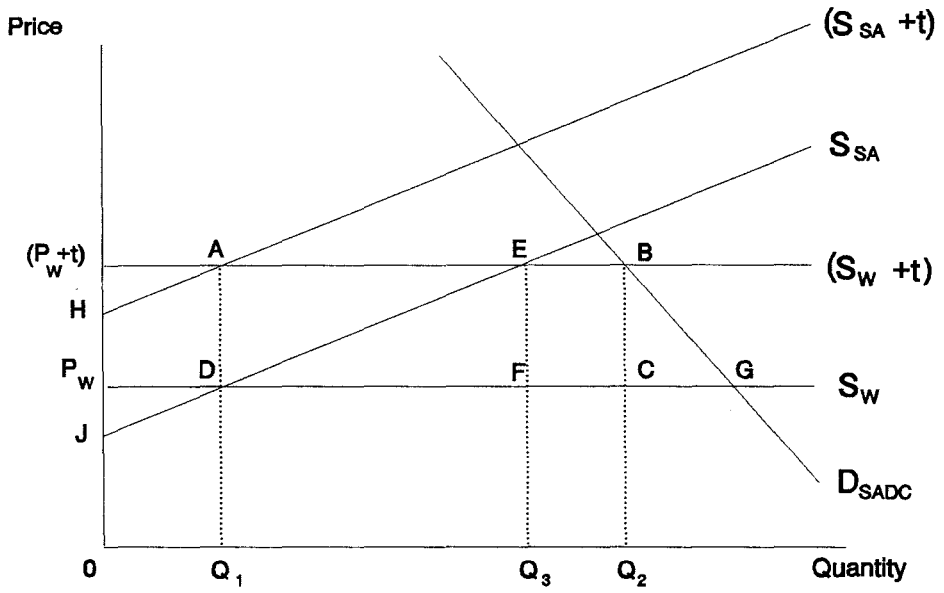

Figure 4.1: No initial domestic production and only partial displacement of ROW imports by the partner

Source: Holden (1996: 53).

Before the formation of the FTA, imports from both South Africa and the ROW are subject to tariffs, and the relevant supply curves are $(S_{SA}+t)$ and (S_W+t). With an effective supply curve of $HA(S_W+t)$, imports are OQ_2, of which OQ_1 are supplied by South Africa and Q_1Q_2 by the ROW. The rest of SADC earns tariff revenue of $(P_W+t)BCP_W$. If a FTA is formed between South Africa and the rest of SADC, the South African supply curve shifts to S_{SA}, while the ROW supply curve remains at (S_W+t). The new effective supply curve is $JE(S_W+t)$, and imports from South Africa increase to OQ_3 while imports from the ROW fall to Q_3Q_2.

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[4] Even if production in the ROW was subject to rising costs, S_W would appear horizontal in the home market under the small country assumption (Cooper and Massell, 1965a: 743).

Since South African imports do not entirely displace imports from the ROW, the price remains $(P_W + t)$. The rest of SADC loses tariff revenue on the initial imports from South Africa, as well as on the imports from the ROW which have been displaced. This amounts to $(P_W + t)EFP_W$, and is the deadweight loss resulting from the increased outlay on the initial imports from South Africa (OQ_1) and displaced imports (Q_1Q_3).[5] The deadweight loss to the rest of SADC will in this case be greater, the higher the initial tariff and the more elastic the partner supply curve (Schiff, 1996: 10-11).[6]

South African exporters gain the area $(P_W + t)EDP_W$ as increased producer rents. Thus, the home country's loss of customs revenue on initial imports from its partner is transferred to partner producers, together with some of the loss of customs revenue due to trade diversion. However, the deadweight loss to the home country (the rest of SADC) outweighs the gain to partner producers, so the deadweight loss to the FTA (and hence the world) is shown by the triangle EFD, and is due to the trade diversion of Q_1Q_3.

Holden (1996: 52) notes that if South Africa, rather than the ROW, is the most efficient producer, then the formation of the FTA will reduce price to P_W. In this case, the home country will gain area BGC (equal to the increase in consumer surplus $(P_W + t)BGP_W$ minus the loss of customs revenue which would be $(P_W + t)BCP_W$ since initial imports would have all come from South Africa). However, she argues that this is not a likely scenario, since it has been shown that industry and agriculture in South Africa exhibit rising costs of production (Fallon and de Silva, 1994).

It is apparently on the strength of this argument that Holden (1996: 61) arrives at the conclusion that the smaller members of a southern African free trade arrangement would lose and South Africa would gain at their expense. Given the assumptions underlying the argument, to be considered below, which result in there being only trade diversion, this conclusion follows simply from the fact that imports from within the

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[5] Holden (1996: 51-54), drawing on Schiff (1996: 8-11), therefore considers the case where the deadweight loss due to the increase in outlay on the amount OQ_3 of the home country's initial imports is equal to the loss of customs revenue. As will be shown below, however, this is not necessarily the case.

[6] The importance of the initial share of imports from the partner will be considered separately in Section 4.2.3 below.

SADC region are a larger proportion of the imports of the smaller members of the region than they are of South Africa's. Hence it is said that "if trade diversion predominates, then the formation of a free trade area would redistribute income from those economies that can least afford it to the wealthier South Africa" (Holden, 1996: 61).

Holden's (1996: 51-54) analysis, however, depends on the assumption that the home country's (that is, the rest of SADC's) supply of a single homogeneous good is initially entirely provided by imports and, furthermore, that upon formation of the FTA, the partner country displaces imports from the ROW partially, but not completely. Thus the domestic price remains unchanged at the tariff-inclusive world price level. The home country therefore loses tariff revenue on both initial imports from the partner country and on imports from the ROW which have been replaced by imports from the partner due to trade diversion, but gains nothing. As shown below, if either of these assumptions does not hold, then Holden's (1996) conclusions do not follow.

4.2.2 Incomplete versus complete displacement of ROW imports by the partner

The question of whether production in industry and agriculture in South Africa exhibit rising or falling costs does not, in fact, affect the issue. Even if the South African supply curve *is* upward sloping (that is, the ROW is still the most efficient supplier of the product), imports from South Africa could entirely displace imports from the ROW, resulting in a lower price after integration. This case, which is not considered by Holden (1996), is illustrated in Figure 4.2, where D_{SADC} and $(S_W + t)$ show the rest of SADC's import demand and the ROW's supply of the good as before. Now, however, the tariff-inclusive South African supply curve is given by $(S_{SA} + t)_2$. With an effective supply curve of $HA(S_W + t)$, initial imports are OQ_2, of which OQ_1 is supplied by South Africa, and only Q_1Q_2 by the ROW. The rest of SADC earns tariff revenue as before of $(P_W + t)BCP_W$. If a FTA is formed between South Africa and the rest of SADC, the South African supply curve shifts to S_{SA2}, while the ROW supply curve remains at $(S_W + t)$. In this case, imports from South Africa entirely displace imports from the ROW. Price falls to P_{FTA}, and demand increases to OQ_3, as do imports.

The loss of customs revenue $(P_W + t)BCP_W$ is now offset by a gain in consumer surplus

of $(P_W + t)BEP_{FTA}$ due to the fall in price. The portion of the initial customs revenue given by the area $(P_W + t)BFP_{FTA}$ is transferred from the government to consumers, and therefore does not represent a loss of real income. The net consumer surplus gain of BEF must be weighed against the increase in outlay on the initial level of imports, given by $P_{FTA}FCP_W$, in order to ascertain the net welfare effect of the FTA on the home country.[7] If BEF is larger than $P_{FTA}FCP_W$, the net impact will be beneficial. The more elastic D_{SADC} and S_{SA}, and the higher the initial tariff, the larger will BEF be relative to $P_{FTA}FCP_W$.

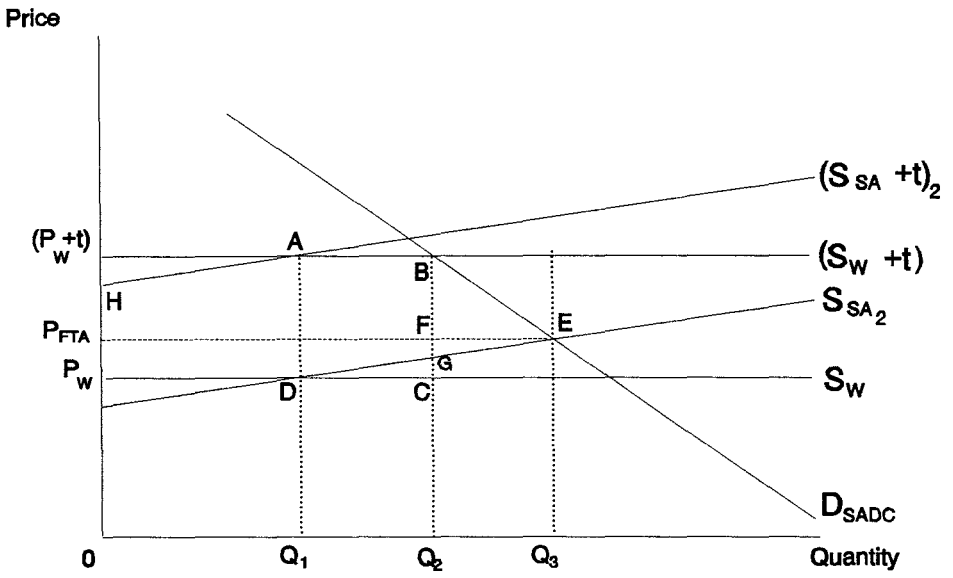

Figure 4.2: No initial domestic production and complete displacement of ROW imports by the partner

It must be stressed, then, that in the case where consumer gains are obtained due to a fall in price, the loss to the home country is *not* equivalent to the loss of customs revenue, as it was in the case considered by Holden (1996: 51-54) and Schiff (1996: 8-11). The loss to the home country is rather the increased outlay on initial imports of OQ_2 on which revenue was previously earned, which is less than the total customs revenue loss, since a portion of the revenue loss is transferred from government to

[7] Note that the area $P_{FTA}FCP_W$ is made up of the increased outlay on the initial level of imports from the partner OQ_1 and the increased outlay on imports displaced from the ROW due to trade diversion Q_1Q_2.

consumers as part of an increase in consumer surplus when the price in the home country falls. Further, the loss due to the increased outlay on initial imports is not all a *deadweight* loss, since it must be balanced against the net consumption gain (that is, the total increase in consumer surplus less the transfer) which obtains when the price falls.[8] Thus, whether there is a *net* gain or loss to the home country depends on the size of the loss due to the increased outlay on initial imports relative to the net gain in consumer surplus.

In Figure 4.2, the additional producer rent accruing to South Africa is shown by the area $P_{FTA}EDP_W$. Therefore, part of the home country's loss of $P_{FTA}FCP_W$ due to the increased outlay on initial imports is transferred to South African exporters. The loss for the FTA *as a whole* from trade diversion will thus only be GCD, as Figure 4.2 has been drawn. This is more than outweighed by the gain of BEF which goes to the home country's consumers. The net effect on the FTA as a whole will then, in this case, clearly be beneficial.[9]

The case considered by Holden (1996: 51-54), drawn from Schiff (1996: 8-11), is therefore quite specific. It was used by Schiff (1996) to illustrate his argument that some of the orthodox "conditions" for a beneficial FTA or customs union do not hold in general. In his (and Holden's) case, depicted in Figure 4.1, the deadweight loss to the home country and the FTA as a whole is larger the higher the initial tariff and the more elastic the partner supply curve. Schiff (1996: 11) thus argues that "[b]oth the higher initial MFN tariff and the more elastic supply of imports from the partner country generates [*sic*] welfare effects for the FTA members which are opposite to those mentioned in the studies cited... Thus, we have shown that the argument made in the literature does not hold in general". While this in indeed the case, neither Schiff (1996), at this stage, nor Holden (1996) specify that these results occur *because* their case does not allow for the partner to displace ROW imports entirely. As the analysis of

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[8] The latter is Lipsey's "consumption effect" which, following Johnson's (1974) definition, is considered to be part of trade creation.

[9] Casella (1995: 2) notes that, in this framework, a small country would generally experience a greater change in relative prices than a large country, and hence a larger welfare gain. It may be argued, thus, that since South Africa is more likely to displace a small SADC country's imports from the ROW completely than *vice versa*, a small partner could benefit from trade creation in importing sectors, and from the transfer of tariff revenue from South Africa in exporting sectors if, as seems likely, it were unable to displace South Africa's imports from the ROW completely, so that the South African domestic price remained unchanged.

Figure 4.2 shows, if the partner displaces ROW imports completely, then a higher initial tariff and more elastic supply of imports from the partner country do generate more favourable welfare effects for the home country and the FTA as a whole.

4.2.3 The "natural trading partner" argument

Schiff (1996: 5-11) also considers the traditional view that countries which are "natural" trading partners, in the sense that they already trade disproportionately amongst themselves, are more likely to gain from a FTA. More specifically, he argues that the opposite holds from the point of view of an *individual* member country on the import side; that is "...an individual country benefits more from a PTA if it imports *less* from its partner countries (with imports measured either in volume or as a share of total imports)" (Schiff, 1996: 6, emphasis added).

This can be illustrated with reference to Figure 4.1. If $(S_{SA}+t)$ cuts (S_W+t) to the right of point A (with the same slope), that is if initial imports from the partner OQ_1 are a larger proportion of total imports OQ_2 *ceteris paribus*, then S_{SA} would cut (S_W+t) to the right of point E. The deadweight loss to the home country, measured by the loss of customs revenue, would then be higher.[10] However, this would only be the case if the partner was unable to displace ROW imports completely; that is, provided S_{SA} cut (S_W+t) to the left of point B. If complete displacement occurred, then the home country would benefit *more*, the greater the initial share of imports from the partner, *ceteris paribus*. For example, if $(S_{SA}+t)_2$ in Figure 4.2 cut (S_W+t) to the right of point A (but to the left of point B), then price would fall to below P_{FTA} (but above P_W) when the FTA was formed, and the consumption gain of BEF would increase relative to the welfare loss to the home country of $P_{FTA}FCP_W$.[11]

Thus, a larger initial share of imports from the partner, like a more elastic supply curve

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[10] Note, however, that the size of the welfare loss to the FTA *as a whole* from trade diversion (triangle EFD in Figure 4.1) is not affected here by a higher initial share of imports from the partner, since price remains at (P_W+t) (Schiff, 1996: 10).

[11] The loss to the FTA as a whole from trade diversion (triangle GCD in Figure 4.2) would also be lower, the higher the initial share of imports from the partner, whereas in the case of incomplete displacement it was unaffected.

and a higher tariff, has an adverse effect on home country welfare when the partner is unable to displace ROW imports completely, but a beneficial effect on welfare when complete displacement occurs.[12] Therefore Schiff's (1996: 6) statement, cited earlier, that an individual country benefits more if it imports less from its partner, does not hold in general either, as he seems to imply, in the same way that a more elastic supply curve and a higher initial tariff do not necessarily generate welfare improvements for the home country.

In sum, it can therefore be seen that the outcome for the home country could be very different from the case considered in Holden (1996: 51-54) and Schiff (1996: 8-11) if the partner country is able to provide the entire demand of the home country at a duty-free price lower than the tariff-inclusive world price (but still higher than P_W). In this case, in terms of the conventional approach to the analysis of trade integration, there will be both costs of trade diversion and gains from trade creation (via the consumption effect) in the home country. It does not seem possible now to say, *a priori*, whether the home country gains or loses. It will depend, empirically, on the demand and supply elasticities, and the height of the tariff being removed, as well as the initial share of imports from the partner.[13] In the southern African context, it is conceivable that South Africa, for example, would be able to displace ROW imports into the rest of SADC completely in some product categories.

One may also consider a case where imports are initially entirely supplied by the ROW, but the partner still completely displaces ROW imports after the FTA is formed. This would occur, for example, if the tariff-exclusive partner supply curve is perfectly elastic above the world price but below the tariff-inclusive world price. In this case the domestic price will, of course, also fall when the FTA is formed. The consumption effect will be larger the closer the tariff-exclusive partner supply curve is to the world supply curve, the higher the initial tariff and the more elastic the import demand curve. The idea of a perfectly elastic supply curve for South African exports to the rest of SADC may be a plausible case to consider given their relative sizes.

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[12] It may indeed be argued that the larger the initial share of imports from the partner, the more likely it is that complete displacement of ROW imports will occur.

[13] In the case of products which are not perfectly homogeneous, one would also have to consider the degree of substitutability between partner and non-partner imports. This aspect is considered further in Chapters 6 and 7.

4.2.4 Trade deflection

Schiff (1996: 27-28) does raise the possibility of complete displacement of ROW imports by the partner in the context of his discussion of the additional welfare effects which may arise from the formation of a FTA as a result of "trade deflection".

If the tariff imposed by the partner country on *its* imports from the ROW (t_P) is lower than the tariff imposed by the home country on imports from the ROW (t) then, in the absence of rules of origin in the FTA agreement, the partner country would be able to sell imports from the ROW in the home country market. The home country would lose control over its trade policy with respect to the ROW, and its effective tariff on ROW imports would become t_P. FTA agreements therefore commonly include rules of origin limiting imports from the partner to goods actually produced in the partner country, to prevent such trade deflection (Schiff, 1996: 27).

However, even if such rules of origin are successfully implemented, "indirect" trade deflection may arise if the partner country does not just sell its excess supply (OQ_3 in Figure 4.1) to the home country, but also sells all or part of its output for its own domestic market to the home country, importing its domestic requirements or any shortfall from the ROW (Schiff, 1996: 27; Robson, 1987: 25). In such a case, the partner will sell more than OQ_3 to the home country, with implications for the welfare impact of the FTA.

The possible effects can be illustrated with reference to Figure 4.1. If the partner country's output, while exceeding OQ_3, was less than OQ_2 at price $(P_W + t)$, then the home country would still import from the ROW. The deadweight loss for the home country from the FTA would then be higher than $(P_W + t)EFP_W$ due to the additional displacement of imports on which no revenue is earned after the FTA is formed. Alternatively, if output from the partner exceeds OQ_2 at $(P_W + t)$, imports from the ROW will be completely displaced and the price will fall below $(P_W + t)$, though not below $(P_W + t_P)$, the replacement cost in the partner country (Schiff, 1996: 28).[14] Here, the

[14] If partner output exceeded home country demand at price $(P_W + t_P)$, then the price would be $(P_W + t_P)$, and the partner would only sell part of its output to the home country.

welfare loss to the home country may be higher or lower than $(P_W + t)EFP_W$ depending (as in Figure 4.2) on the relative size of the customs revenue loss and the efficiency gains from the lower price. The home country may indeed gain if t_P is sufficiently low. Further, the partner country will earn additional customs revenue on its imports from the ROW (Robson, 1987: 27).

4.2.5 Initial domestic production

It was shown in Section 4.2.2 above that, in the case where the home country's demand for a single homogeneous good is entirely provided by imports, Holden's (1996) analysis precludes a trade creation gain via the consumption effect, by not allowing for complete displacement of ROW imports by the partner. Furthermore, Holden (1996) and Schiff (1996) do not consider the situation where home country demand is initially supplied partly by domestic production and partly by imports. In this case, as the discussion below illustrates, additional gains from trade creation are possible via the "production effect" (Vinerian trade creation), if complete displacement of ROW imports occurs.

Two cases will be considered, the first where domestic demand is initially satisfied by domestic production and imports from the ROW only, and secondly, the case where there is domestic production and initial imports from both the partner and the ROW.[15]

In Figure 4.3, the home country's demand curve and the ROW supply curve (with and without the tariff) are depicted as before. Since there is initial domestic production, S_H is the home country's domestic supply curve, and $(S_H + M_P)$ is an aggregation of the home country's supply curve and the partner's (tariff-free) supply of the good to the home country. Before the FTA is formed, the effective supply curve is $JA(S_W + t)$, and domestic demand of OQ_2 is satisfied by domestic production OQ_1 and imports from the ROW Q_1Q_2 at the tariff-inclusive world price $(P_W + t)$. Tariff revenue of ABCD is earned on imports from the ROW.

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[15] Although the second case is less frequently illustrated in the theoretical literature, it is probably the most usual empirical scenario, and therefore merits consideration.

Figure 4.3 has been drawn in such a way that, when the FTA is formed, imports from the ROW are entirely displaced by the partner country. The effective supply curve becomes $JK(S_H + M_P)$. Price falls to P_{FTA} and demand increases to OQ_3. Domestic production falls to OQ_4, while imports increase to Q_4Q_3 and come from the partner. Thus, Q_4Q_1 domestic production has been replaced by imports from the partner, Q_1Q_2 imports from the ROW have been displaced, and Q_2Q_3 additional imports are obtained from the partner due to the fall in price.

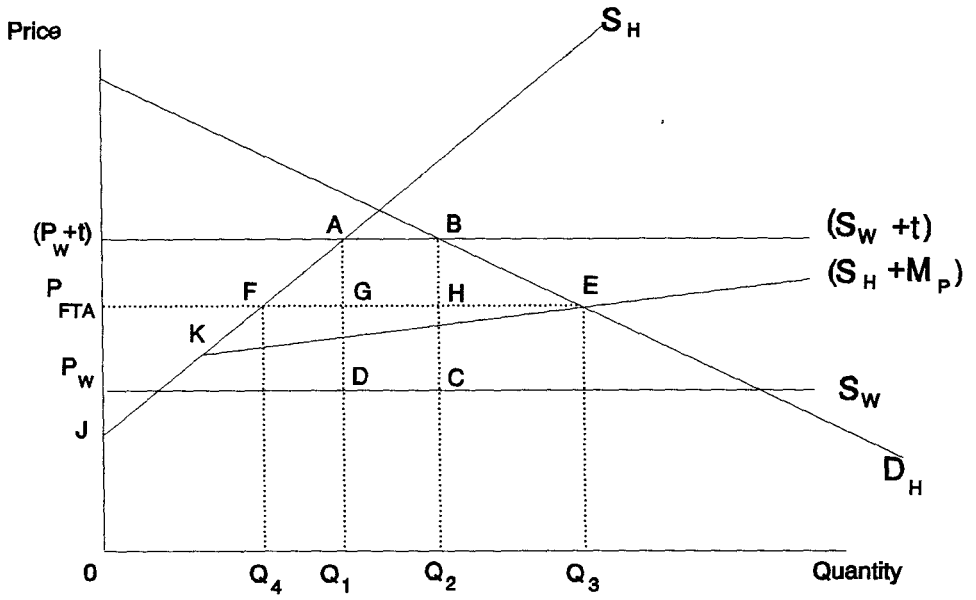

Figure 4.3: Initial domestic production and imports from the ROW

Consumer surplus increases by $(P_W + t)BEP_{FTA}$ of which area $(P_W + t)AFP_{FTA}$ is a transfer from home country producers to consumers. Triangles AGF and BEH represent net gains due to the release of resources from inefficient domestic production (Viner's production effect) and the consumption effect respectively, and thus make up the trade creation benefit to the home country. Of the tariff revenue loss ABCD, area ABHG is a transfer from the home country's government to consumers, while area GHCD is the increase in outlay on the initial imports from the ROW which have been displaced by the partner. Area GHCD therefore represents the loss to the home country due to trade diversion. The net welfare effect on the home country will depend on the size of

(AGF + BEH) versus GHCD, which in turn will depend on the elasticities of the demand and supply curves and the height of the initial tariff. The more elastic D_H, S_H and M_P, and the higher the initial tariff, the larger the gains from trade creation relative to the loss from trade diversion.

The partner country earns producer rent on replaced domestic production Q_4Q_1, displaced imports from the ROW Q_1Q_2 and additional imports Q_2Q_3. Therefore, part of the home country's loss of GHCD due to displaced ROW imports is transferred to the partner country as surplus, and the loss to the FTA as a whole from trade diversion will be smaller than GHCD. The net welfare effect on the FTA as a whole thus depends on the size of the trade creation gains to the home country and the gains to partner producers versus the loss to the FTA from trade diversion.

Note that if the partner country were unable to displace ROW imports completely (that is, if $(S_H + M_P)$ cut $(S_W + t)$ to the left of point B in Figure 4.3), then price would remain at $(P_W + t)$. Domestic production and consumption would be unaffected by the FTA, and there would be no gains from trade creation. There would, however, be a deadweight loss to the home country equal to the customs revenue previously earned on ROW imports which have been displaced due to trade diversion. The scenario is similar in this sense to the case of incomplete displacement considered by Holden (1996: 51-54) and Schiff (1996: 8-11), illustrated in Figure 4.1, which implies that the deadweight loss to the home country from trade diversion would be greater, the more elastic the partner supply curve and the higher the initial tariff. However, the presence of domestic production (and hence, by implication, greater competitiveness of structure between partners) suggests that, for a given domestic demand at a given tariff-inclusive world price, there will be fewer imports on which customs revenue could be lost.[16]

Nevertheless, as shown in Figure 4.3, if there is complete displacement of ROW imports by the partner country once domestic production is included, then there will be an additional source of gain for the home country in terms of the orthodox analysis of trade integration, not considered by Holden (1996) and Schiff (1996), namely the cost saving

[16] This leads to the orthodox conclusion that a customs union is more likely to raise welfare the lower the proportion of foreign trade relative to domestic purchases (Lipsey, 1960: 508).

on inefficient domestic production (Vinerian trade creation).[17]

As argued in Section 4.2.3, it is likely that, in the southern African context, South Africa, for example, would be able to displace ROW imports entirely in some product categories. It is also likely that this could occur in sectors where there is initial domestic production in the home country. Thus the scenario where trade creation gains are obtained as a result of both the production and consumption effects is clearly of relevance in the case of the formation of a FTA among southern African countries.

It can also be noted, with reference to Figure 4.3, that if the initial tariff in the home country is prohibitive (that is, initial domestic demand is satisfied only by domestic production with imports completely excluded), then there will necessarily be a fall in price when the FTA is formed.[18] In this case, with no imports which can be displaced, there will be no welfare loss to the home country, only trade creation gains from both the consumption and production effects (Robson, 1987: 24-25).

Finally, the case where the home country's domestic demand is initially provided by domestic production and imports from both the partner and non-partner countries may be considered. As before, the important issue is whether the partner is able to displace ROW imports completely or not.

In Figure 4.4, S_H and S_W are the home and world supply curves respectively, while $(S_W + t)$ is the tariff-inclusive world supply curve, as before. $S_H + (M_P + t)$ is the sum of the home country's supply curve and the partner's supply to the home country inclusive of the tariff. M_P is the partner's supply curve without the tariff, so that $(S_H + M_P)$ is, once again, the tariff-free FTA supply curve of the good to the home country. Before the FTA is formed, the effective supply curve is $KLM(S_W + t)$. Domestic demand of OQ_3 is satisfied by domestic production OQ_1, imports from the partner Q_1Q_2, and imports from the ROW Q_2Q_3. Tariff revenue of ABCD is initially earned on all imports.

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[17] This gain will be greater, the larger the proportion of domestic production relative to imports, *ceteris paribus* (see Footnote 16 above).

[18] This would occur if the tariff-inclusive world supply curve $(S_W + t)$ passed through, or lay above, the point of intersection of S_H and D_H in Figure 4.3, and provided, of course, that the tariff-free $(S_H + M_P)$ curve lay below this intersection.

When the FTA is formed, the supply curve becomes $NR(S_H + M_P)$. Imports from the ROW are completely displaced and price falls to P_{FTA}. Domestic demand increases to OQ_4, domestic production falls to OQ_5, imports rise to Q_5Q_4 and come entirely from the partner. Of the Q_5Q_4 imports, Q_5Q_1 are replaced domestic production, Q_1Q_2 are the initial imports from the partner, Q_2Q_3 are replaced imports from the ROW, and Q_3Q_4 are new imports from the partner as a result of the fall in price.

The welfare effects are as follows. The fall in price causes an increase in consumer surplus of $(P_W + t)BEP_{FTA}$, of which $(P_W + t)AFP_{FTA}$ is a transfer from domestic producers to consumers and ABHG (formerly part of tariff revenue) is a transfer from the government to consumers. Areas AGF and BEH are the net welfare gains from trade creation comprising, respectively, the cost saving on inefficient domestic production and the increase in consumer surplus from the additional consumption at P_{FTA}.

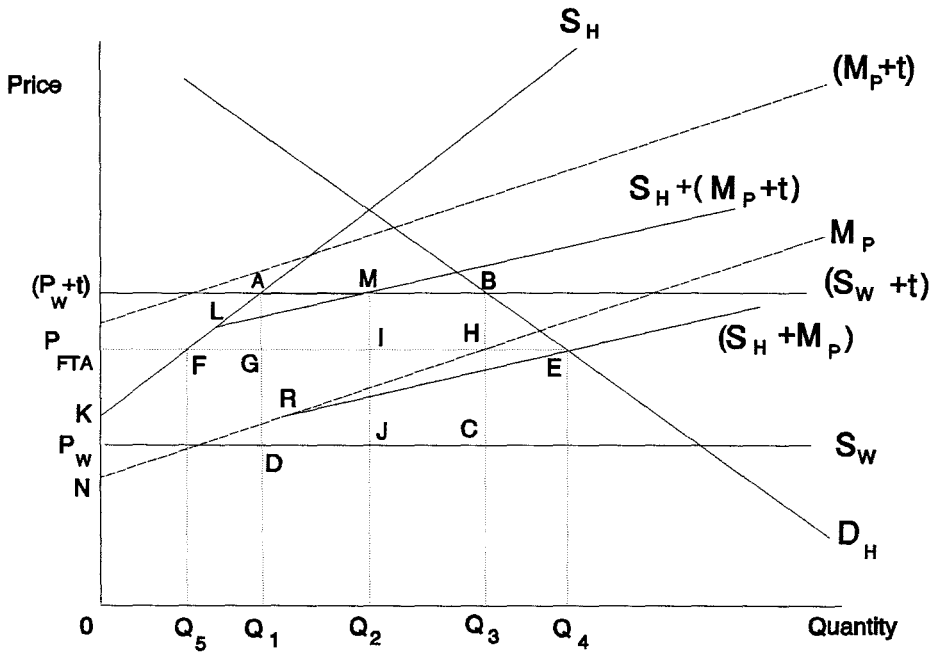

Figure 4.4: Initial domestic production and imports from both the partner and the ROW

The loss to the home country is depicted by area GHCD, of which GIJD is the increased outlay on existing imports from the partner country and IHCJ is the increased outlay on imports displaced from the ROW due to trade diversion. Both result from the fact that customs revenue is no longer earned on the initial level of imports Q_1Q_3. Thus, in the

case where initial imports are obtained both from the partner and the ROW (as opposed to the case illustrated in Figure 4.3, where initial imports came only from the ROW), the welfare loss to the home country is the sum of that due to trade diversion and that due to the loss of tariff revenue previously earned on initial imports from the partner.[19] Note once again, however, that not all of the initial customs revenue earned on imports is lost, but only that portion which is not transferred to consumers (in other words, the increased outlay on initial imports, whatever the source).

The net welfare effect on the home country will depend, as before, on the size of AGF plus BEH versus GHCD, which in turn will depend on the elasticities of the demand and supply curves and the height of the initial tariff.

The partner country gains additional producer surplus on replaced domestic production, displaced ROW imports and new imports, as well as on initial imports supplied to the home country which now earn P_{FTA} rather than P_W per unit. Of the loss to the home country (area GHCD), area GIJD (the increased outlay on existing imports from the partner country) and part of area IHCJ (the increased outlay on imports displaced from the ROW due to trade diversion) are transferred as rent to partner producers. The loss to the FTA as a whole will thus be less than IHCJ, and will be lower, the larger the initial share of imports from the partner and the greater the proportion of domestic production relative to imports.

The net welfare effect on the FTA as a whole will depend, as before, on the size of the trade creation gains to the home country and the gains to partner producers versus the loss to the FTA as a whole from trade diversion.

Note, once again, that in the case of incomplete displacement of ROW imports, price would remain at $(P_W + t)$. Domestic production and consumption would be unaffected by the FTA, and there would be no gains from trade creation. The deadweight loss to the home country would be made up of the loss of customs revenue on ROW imports displaced due to trade diversion and initial imports from the partner.

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[19] This should not be taken to imply that the loss is necessarily *larger* than in the previous case, since the combined volume of imports from the two sources may be the same as before.

In sum, the case considered by Holden (1996: 51-54) and Schiff (1996: 8-11), outlined in Section 4.2.1, assumes that the home country's supply of a single homogeneous good is entirely provided by imports. This implies perfect complementarity between the home country and its trading partners in a given sector. With reference to the Viner-Meade-Lipsey condition that "[t]he more competitive the partners are, in the sense of producing similar goods, the more likely it is that trade creation will occur", Holden (1996: 60-61) concludes that, in southern Africa, "complementarity implies that the possibilities for trade creation are low".[20]

While this may be so, the analysis of Section 4.2.2 shows that, even in the case of perfect complementarity, trade creation gains via the consumption effect are possible if the partner country is able to displace imports from the ROW completely.

Once domestic production is introduced into the analysis, implying the more realistic scenario of at least some degree of competitiveness in structure, the gains from trade creation will be even greater, if complete displacement of ROW imports occurs, as a result of Viner's production effect.

The analysis of Holden (1996: 51-54) therefore considers neither complete displacement of ROW imports in the absence of domestic production (thereby precluding a trade creation gain for the home country via the consumption effect) nor complete displacement of ROW imports in the presence of domestic production (precluding trade creation gains via both the production and consumption effects). It would appear, however, that both of these cases would be relevant in considering the potential impact of a FTA between a small SADC country and South Africa, since it seems possible that, at least in some sectors, South Africa would be able to displace ROW imports entirely.

4.2.6 Summary and conclusion

It has been argued above that the traditional trade creation-trade diversion analysis does not enable one to say *a priori* that a free trade arrangement amongst countries of very

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[20] Holden (1996: 61) refers to the "indices of national divergence" between South Africa and the other countries in the region, discussed in Chapter 2 above, as evidence of this complementarity.

unequal size and *per capita* income levels, whose trade with one another is initially a small proportion of their total trade, cannot be mutually beneficial to all the prospective partner countries. This applies even if, as in the southern African case, the production structures and comparative advantages of such partners are highly complementary rather than similar and hence competitive. The outcome depends importantly on whether the imports of the smaller countries from the ROW are displaced entirely or only partially by imports from prospective partners when a FTA is formed. If displaced entirely, the smaller countries, and not only the dominant partner, could well benefit from the formation of the FTA. While, as noted, this conclusion applies even to countries with complementary production structures and comparative advantages, the probability of a mutually beneficial free trade arrangement, in accordance with the Viner-Meade-Lipsey analysis, is enhanced by some degree of similarity and hence competitiveness amongst prospective members.

Whether imports from the ROW will be entirely displaced by imports from the partner country depends in turn on the magnitudes of the demand and supply elasticities, the height of the tariff and the initial share of imports from the partner. This is an empirical matter rather than a purely theoretical one, which is considered in these terms in Chapters 6 and 7 below. There are some reasons, however, to think that the conditions necessary for net welfare gains, as viewed in the traditional analysis considered above, could well apply in the case of the smaller SADC countries.

4.3 Non-traditional perspectives on competitiveness versus complementarity of structure

As noted above, the conventional Vinerian view is that successful trade integration requires that economies should be competitive initially with the potential to become complementary on the formation of a regional FTA. Viner's case for competitiveness is that, firstly, if countries have similar production structures they will initially be importing the same goods, in which *neither* country has a comparative advantage, and will continue to do so after integration, thus limiting trade diversion. Secondly, with a large degree of overlap in the classes of commodities produced under tariff protection in each country, the most efficient country will capture the union market, resulting in

a re-allocation of resources in a more efficient direction (Lipsey, 1960: 498-499). Thus, increased trade among partner countries post-integration will be more likely to involve beneficial trade creation. On the other hand, if their protected industries are complementary, a FTA will tend to result in replacement of imports from the ROW by imports from each other (trade diversion), and efficiency will suffer.[21]

Indeed, as noted earlier, one of the considerations leading to Holden's (1996) negative view of the outlook for mutually beneficial trade integration in southern Africa is that the production structures of the countries in the region are complementary rather than competitive. It has been seen that this is not an insuperable obstacle to successful integration, even in terms of the conventional trade creation-trade diversion framework, but that within the traditional framework competitive structures are more favourable than complementary ones.

There are, however, other non-traditional perspectives on this which suggest that complementarity, rather than being a disadvantage, may have positive implications for trade integration.

4.3.1 The effect of integration on the pattern of trade

Robson (1987: 194) notes that orthodox customs union theory is concerned with the gains that may be derived from changing the existing pattern of trade. Indeed, the orthodox view that economies should be competitive *with the potential to become* complementary implies that the formation of an integration arrangement will change the structure of production and trade in such a way that the economies become complementary on union.

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[21] Makower and Morton (1953), writing after Viner (1950), pointed out that the gains from trade creation would be larger the greater the difference in the cost at which a common commodity is produced in the two countries (Lipsey, 1960: 499). Although they defined competitive economies as those with similar costs and complementary economies as those with large cost differences, and were therefore able to conclude that the gains from a customs union, if they occurred at all, would be larger between complementary economies, Lipsey (1960: 499) notes that "the conclusions of Viner and Makower and Morton are in no sense contradictory". The gains will be greater with large cost differences *provided* a common commodity is produced (in other words, *given* that trade creation is going to occur).

Cassim and Zarenda (1995: 7), drawing on the analysis of Srinivasan *et al.* (1993), raise a line of argument against this notion. Srinivasan *et al.* (1993: 52) suggest that integration agreements themselves have had relatively little long-term effect on trade patterns from an *ex post* point of view, with the exception of the European Community between 1960 and 1970. Cassim and Zarenda (1995: 7) infer from this that "possibly successful agreements are more likely to occur between countries which *ex ante* exhibit high levels of trade complementarity". This seems to imply that if trade patterns are unlikely to change as a result of regional integration, then it would be preferable for the economies involved to be complementary before the arrangement is formed.

However, Srinivasan *et al.* (1993: 52) do not appear to be arguing, at this point, that integration arrangements have little impact on trade patterns or the structure of trade *between* the member countries of a particular regional group. Rather, their empirical analysis shows that the share of global trade taking place within regions (that is, the volume of intra-bloc trade relative to world trade) has not increased significantly in the post-war period, and hence that recent concerns over the impact of the "new regionalism" on the global economy have been overstated.

On the other hand, both Whalley (1993: 352) and Srinivasan *et al.* (1993: 53) argue that the formation of new regional arrangements in North America and elsewhere has, for the smaller countries involved, been driven primarily by a desire for "safe-haven" trade agreements to secure access (as opposed to necessarily *improving* access) to the markets of large neighbouring trading partners, due to fears of higher trade barriers in the future.[22] As such, these arrangements are more "defensive than integrationist in nature", and the extent to which they involve genuine new liberalisation is in doubt (Srinivasan *et al.*, 1993: 53). If this is the case, then Cassim and Zarenda's (1995: 7) suggestion that trade patterns *within* regions will change little on integration may follow, implying that initial complementarity may indeed be favourable. For these reasons, it is argued that the traditional trade creation-trade diversion framework is not well suited to the analysis of more recent regional integration arrangements (Srinivasan *et al.*, 1993: 53).

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[22] For the larger countries, Whalley (1993: 352) points to a frustration with lack of progress in multilateral negotiations as an important factor.

In the case of the North American Free Trade Agreement (NAFTA), Brown *et al.* (1992: 12-13) note that the initial complementarity between Mexico and the US implies that the FTA can be expected to stimulate production in labour-intensive sectors in Mexico, the relatively labour abundant country, and shift labour into capital-intensive sectors in the United States (US) and Canada. In such a case, a FTA will tend to *accentuate* existing complementarity, rather than transform competitiveness into complementarity. Brown *et al.* (1992: 13) argue that a FTA could be significantly more disruptive to the smaller partner, Mexico, as it will tend to specialise in a narrower *range* of labour-intensive goods, thereby incurring the costs of labour reallocation to the sectors in which it has a comparative advantage. On the other hand, the costs of any inter-sectoral reallocation of resources would arguably be far lower in the US, since it is unlikely, given the relative sizes of the two economies, that even a substantial increase in Mexican exports would significantly affect US production in most sectors (Brown *et al.*, 1992: 13). This suggests that integration between countries of *unequal size* which *ex ante* exhibit high levels of trade complementarity may be more costly for the smaller countries. Since the reallocation of resources is in line with comparative advantage, it would be considered "efficient" in terms of orthodox analysis. However, the adjustment costs of such a reallocation are not taken into account in the traditional framework.[23]

It is noteworthy however that, according to Brown *et al.* (1992: 13), it is nonetheless expected that *all* the members of NAFTA will gain from the formation of the FTA, despite the possible costs associated with the inter-sectoral reallocation of resources. This conclusion rests, firstly, on a strong presumption that an improved international allocation of production will follow, as members specialise in sectors in which they have a comparative advantage. Since much of the trade of Canada and Mexico already takes place within North America, the potential for trade diversion will be low, despite Mexico's initial complementarity. Further, the intended relaxation of Mexican controls on capital flows into the country will serve to offset factor endowment differences between Mexico and its trading partners, thereby reducing its degree of specialisation in labour-intensive goods.[24]

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[23] The question of adjustment costs will be considered further in Chapter 5 below.

[24] The implications of a concomitant liberalisation of capital flows on member countries' adjustment to a new integration scheme will also be considered further in Chapter 5 below.

Finally, a number of authors have questioned the relevance of the static orthodox trade creation-trade diversion framework to an analysis of the welfare effects of economic integration among developing countries (Mikesell, 1963: 211-213; Jaber, 1970-71; Robson, 1987: 194-197; Lundahl and Petersson, 1991: 187-219). For example, Robson (1987: 195) argues that, in terms of the orthodox criteria for a beneficial customs union, including the existence of competitive rather than complementary structures, integration among developing countries "may appear at best to be irrelevant and at worst to be positively harmful, except possibly for the more developed of such countries". However, this assumes that the rationale for trade integration among developing countries centres on the gains to be derived from changes in the *existing* pattern of trade, based on the existing pattern of production. Yet what is relevant, he argues, is not so much the impact of integration on the existing patterns of production and trade, but rather on those patterns which are likely to emerge, as industrialisation proceeds, in the absence of integration (Robson, 1987: 195).

In a similar vein, Jaber (1970-71: 261-262) argues that the criterion of competitiveness versus complementarity is not relevant at all in the developing country context, because "[i]t presumes a developed economic structure which, when integrated, would readjust through a 'creative destruction' process that ends up by the survival of the most efficient producer". However, such economic structures are not characteristic of developing countries. In the words of Mikesell (1963: 212):

> "...it would not be correct to say that the outlook for achieving economic welfare gains through a customs union of Central American states is poor because the members are at such a low stage of industrialization that they are actually not competitive at the present time; nor would it make much sense to argue that because they all produce coffee and bananas and hence are actually competitive, this augurs well for a net increase in welfare from the creation of a customs union... As industrialization proceeds, they are going to be more competitive; but what these countries should strive for is a pattern of investment which will introduce a substantial degree of complementarity for the future".

The implication of this is that what is relevant for developing countries, whose industrial structures are still evolving, is not the existing but rather the emerging degree of competitiveness and the potential complementarity for the future.

The arguments in this sub-section all suggest that, in the case of developing countries, initial complementarity need not be unfavourable to mutually beneficial trade integration.

4.3.2 Cost competitiveness

Wonnacott and Lutz (1989: 29) call the traditional competitiveness criterion "the most controversial of Viner's conclusions", and put the case for the opposite view; that is, for complementarity to be favourable for trade integration.

Wonnacott and Lutz (1989: 29) argue that at first glance, in terms of orthodox trade theory, it may seem that a FTA or customs union would be desirable if members' economies are complementary, since they would then seem to be "natural trading partners". They note that it is therefore surprising that one of the conclusions of the conventional analysis is that "the less the degree of complementarity - or the *greater* the degree of rivalry - of the member countries with respect to *protected* industries", the more desirable a FTA would be (Wonnacott and Lutz, 1989: 29).

In making the case for initial complementarity, Wonnacott and Lutz (1989: 30) argue that if economies are complementary, there will be major differences in comparative advantage between them. According to orthodox trade theory, this means that for every additional dollar's worth of trade created between partner countries as a result of reduced protection between them in a FTA, the gains will be large. The gains per dollar's worth of additional trade will be tend to be greater than where production structures and comparative advantages are similar.

The crucial point therefore is that it is important to look not only at the additional trade resulting from the formation of a FTA, but also at comparative cost differences, and hence at the gains for each dollar of new trade. These gains do not depend simply on whether the economies are complementary or competitive in structure. The central issue, according to Wonnacott and Lutz (1989: 30), is the cost competitiveness of the prospective partners relative to the ROW.[25] Complementarity is desirable provided the countries' industries are close to or below world cost levels, because "the gains per unit of trade creation will be large, and the costs per unit of trade diversion small"

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[25] This is slightly different to the issue raised by Makower and Morton (1953) of comparative cost levels *between* member countries (see Footnote 21 above).

(Wonnacott and Lutz, 1989: 30).[26]

4.3.3 Regional integration as an instrument of industrialisation

Some of the limitations of the traditional trade creation-trade diversion framework were raised in Sections 4.3.1 and 4.3.2 above. In particular, it was noted in Section 4.3.1 that the orthodox theory provides an inappropriate framework for considering the effects of trade integration among developing countries. This conclusion is linked to a more fundamental criticism, namely that the Viner-Meade-Lipsey analysis fails to provide an economic rationale for the formation of customs unions (Cooper and Massell, 1965a; Johnson, 1965; Krauss, 1972; Robson, 1987: 45-48).

The question of the motivation for customs unions was first examined by Cooper and Massell (1965a) in their analysis of the relative merits of discriminatory versus non-discriminatory tariff reduction. Cooper and Massell (1965a) demonstrate that the gains from trade creation in the orthodox model are simply due to the reduction in tariffs which takes place between partner countries. These gains, they argue, may be obtained through unilateral tariff reduction (UTR), without any accompanying loss due to trade diversion.[27] A welfare-improving customs union is thus only beneficial because net trade creation represents a move towards free trade. Free trade itself would be yet more beneficial.[28]

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[26] Note, however, that in practice the tariff-inclusive world price may not reflect the domestic price, due, for example, to competition between domestic producers. The South African motor vehicle industry may be a case in point.

[27] The argument can be illustrated with reference to Figure 4.3 above. If there is a unilateral tariff reduction by the home country such that the tariff-inclusive world price falls to P_{FTA}, then domestic consumption and production will adjust to the same levels as in the FTA case. The trade creation gains AGF and BEH will be the same, but the original level of imports Q_1Q_2 (as well as additional imports) will come from the ROW, and there will therefore be no trade diversion.

[28] Cooper and Massell (1965a: 742) purposefully rule out possible terms of trade effects, which Johnson (1965: 280) has called the only valid economic argument for customs unions in the classical framework. While this aspect is not considered here, on the grounds that terms of trade effects are unlikely to be an important source of gain from trade integration among a group of developing countries, it has been extensively analysed elsewhere in the literature (Mundell, 1964; Arndt, 1968, 1969; Krauss, 1972; Wonnacott and Wonnacott, 1981). It is more important to note that Wonnacott and Wonnacott (1981) provide a incisive criticism of the so-called "UTR proposition", in the *absence* of terms of trade effects. The proposition that UTR is superior to customs union formation, as articulated by Cooper and Massell (1965a), focuses on the effects of the removal of the home country's tariffs on imports, but ignores the advantages to the home country of improved access to

According to Cooper and Massell (1965a: 746-747), the traditional framework therefore "fails to show why a customs union may be acceptable when a tariff reduction is not, and it fails to analyse how a customs union may more efficiently serve the ends previously served by non-preferential protection". What is required, they argue, is an analysis of the relative efficiency of discriminatory and non-discriminatory tariff systems as *protective devices*. This necessitates the recognition of a prior rational argument for the existence of protection, which orthodox customs union theory fails to provide.

In this context, Cooper and Massell (1965b) consider how membership of a customs union, by allowing participants to draw on each other's markets, may enable developing countries to achieve the objective of a higher level of industrial production than would be viable in the absence of protection, at a lower cost than would be the case under non-preferential tariff policy.

The Cooper-Massell (1965b) approach thus allows for the existence of a preference for industrial development, which implies that economic planners may be willing to forego some national income in order to obtain an increase in industrial production. Consequently, in order to compare alternative production possibilities, the level of industrial production associated with each level of income needs to be taken into account (Cooper and Massell, 1965b: 463).

The analysis assumes that planners are indifferent between any two industries and that diversification of the industrial sector is not a policy objective. The demand for industrial production is therefore satisfied by choosing the lowest cost industries. Further assumptions include full employment, constant costs, competitive pricing and constant terms of trade (Cooper and Massell, 1965b: 463).

The analytical framework is illustrated in Figure 4.5, where D is the planners' demand curve depicting the "price" they are willing to pay for an increase in industrial production in terms of national income foregone. The stepped curve S is the marginal excess cost of producing locally for each industry, and is obtained by ranking industries by cost in

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the partner country's market which follow the *partner's* tariff reductions. It further assumes that the ROW has no tariffs, and that there are no transport costs in trade with the ROW. Once these assumptions are dropped, it can be shown that the home country can obtain gains from a customs union which are not possible with UTR (Wonnacott and Wonnacott, 1981: 705).

ascending order. Since all industry requires protection by assumption, industrial output cannot be exported, so the level of industrial production is constrained by domestic demand. An expansion of industrial production therefore involves a move up the steps in the curve, where each step corresponds to a successively higher-cost industry. The intersection of D and S at point P gives the optimum level of industrial production OV.

Associated with this level of industrial production is a set of tariffs which are sufficient to induce domestic production in each industry to the left of point V, but which provide no protection to industries on the right of point V.[29] The marginal cost of protection to the economy (or the cost of protecting the marginal industry) is shown by the distance VP in Figure 4.5, while the total cost of protection is the area OSPV (Cooper and Massell, 1965b: 463-464).

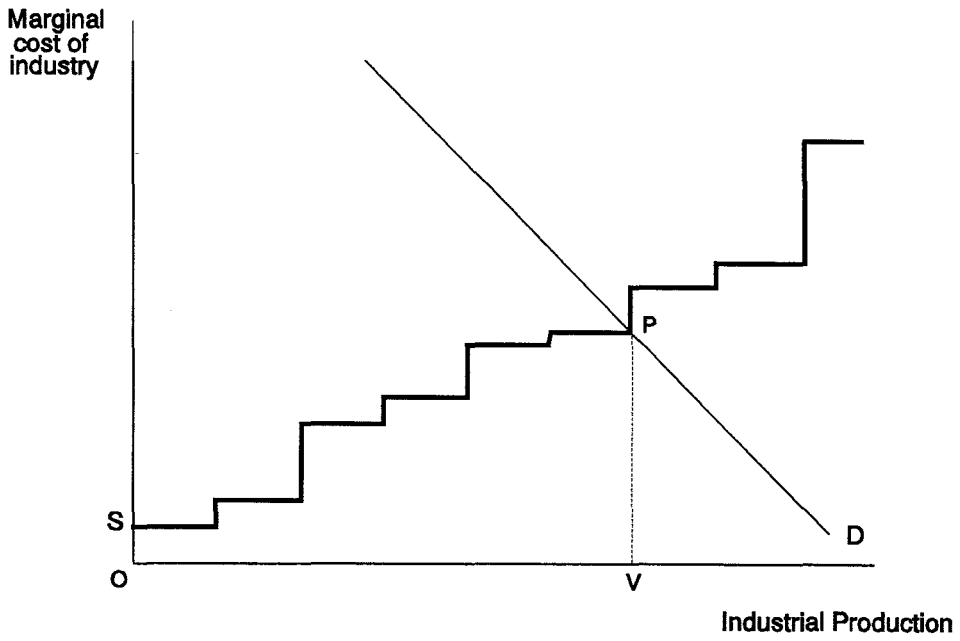

Figure 4.5: Demand for industry

Source: Cooper and Massell (1965b: 463).

Consider, now, the formation of a customs union between two countries, A and B. To simplify the analysis, it is assumed that domestic demand for each industrial product is

[29] Under constant costs, and given the assumption that all industries require protection, an industry will either supply the entire domestic market (if protected by a prohibitive tariff), or will not operate at all.

the same, and is equal in the two countries. The essential question is whether there is any set of common external tariffs "that will make *both* countries better off relative to individually optimal policies of non-preferential protection" (Cooper and Massell, 1965b: 466).

If planners in the two countries are indifferent not only to the composition of industrial production, but also to its distribution within the union, they will choose an "efficient" set of common external tariffs, defined as "one that provides any specified level of industrial production in the [customs union] - irrespective of the composition and distribution of this production - at the lowest cost in terms of combined national income foregone by the two countries" (Cooper and Massell, 1965b: 466).

The gains from specialisation in such a union are illustrated in Figure 4.6a (page 109). Before the formation of the customs union, the supply curves in each country are S_A and S_B.[30] Assuming that each country has planned industrial production equal to OM, without the union Country A would produce shoes and hats, its two lowest cost industries, with tariffs of OA_1 and OA_2 respectively, while Country B would produce coats and shirts, with tariffs of OB_1 and OB_2 respectively. Total industrial production in the two countries would be OP.

If a customs union is formed between A and B, the union supply curve would be S_U, depicting a new hierarchy of industries for the customs union as a whole. With the pooling of markets when a customs union is formed, each country's lowest cost industry can now produce twice the pre-union level of output, to supply both markets. Both countries are therefore able to specialise in the good in which they have an intra-union comparative advantage, so that OM shoes will be produced in Country A, while MP coats will be produced in Country B.

In this way, the initial combined level of industrial production OP can be obtained at a lower cost, by foregoing the production of higher-cost hats and shirts. The cost saved by Country A is given by the area CDEF in Figure 4.6a, while the cost saved by Country B is GHIJ. Further, given the industrial cost structures of the two countries, each

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[30] Since domestic demand is the same for each product, and equal in the two countries, the steps in the supply curves are all of equal length.

conveniently ends up with the original planned level of industrial production OM.

Suppose, however, that the competitive structures of the two countries were those depicted in Figure 4.6b. In this case, although the same ranking of industries applies in each country, the two least-cost industries are both located in Country A. Here, the implementation of an efficient tariff, which ignores the distribution of industry between the two countries, will result in the production of OM shoes and MP hats in Country A, while Country B will get no industry at all. If planners' preferences are such that each country wishes to obtain OM industrial production (that is, if the more realistic assumption is made that planners are no longer indifferent to the distribution of industry within the union), then Country A will be producing an excess of MP units over and above what it desires, thereby incurring further cost without additional benefit.[31] Country B will have no industry, and would pay almost anything to produce OM units of output. The outcome with an efficient tariff is therefore not Pareto-optimal, since the welfare of both countries could be raised by eliminating Country A's hat production (Cooper and Massell, 1965b: 468).

There is, however, still scope for a mutually beneficial customs union if a tariff is chosen which allows each country to produce the specified level of industrial production in the most economical way, by, for example, protecting a third industry in Country B which can be produced at a lower cost than the same industry in Country A, even though it may operate at a higher cost than the union's two least-cost industries (both located in A).

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[31] This can be illustrated by assuming that the (perfectly inelastic) planners' demand curve for industrial production in each country is a vertical line passing through point M in Figure 4.6b.

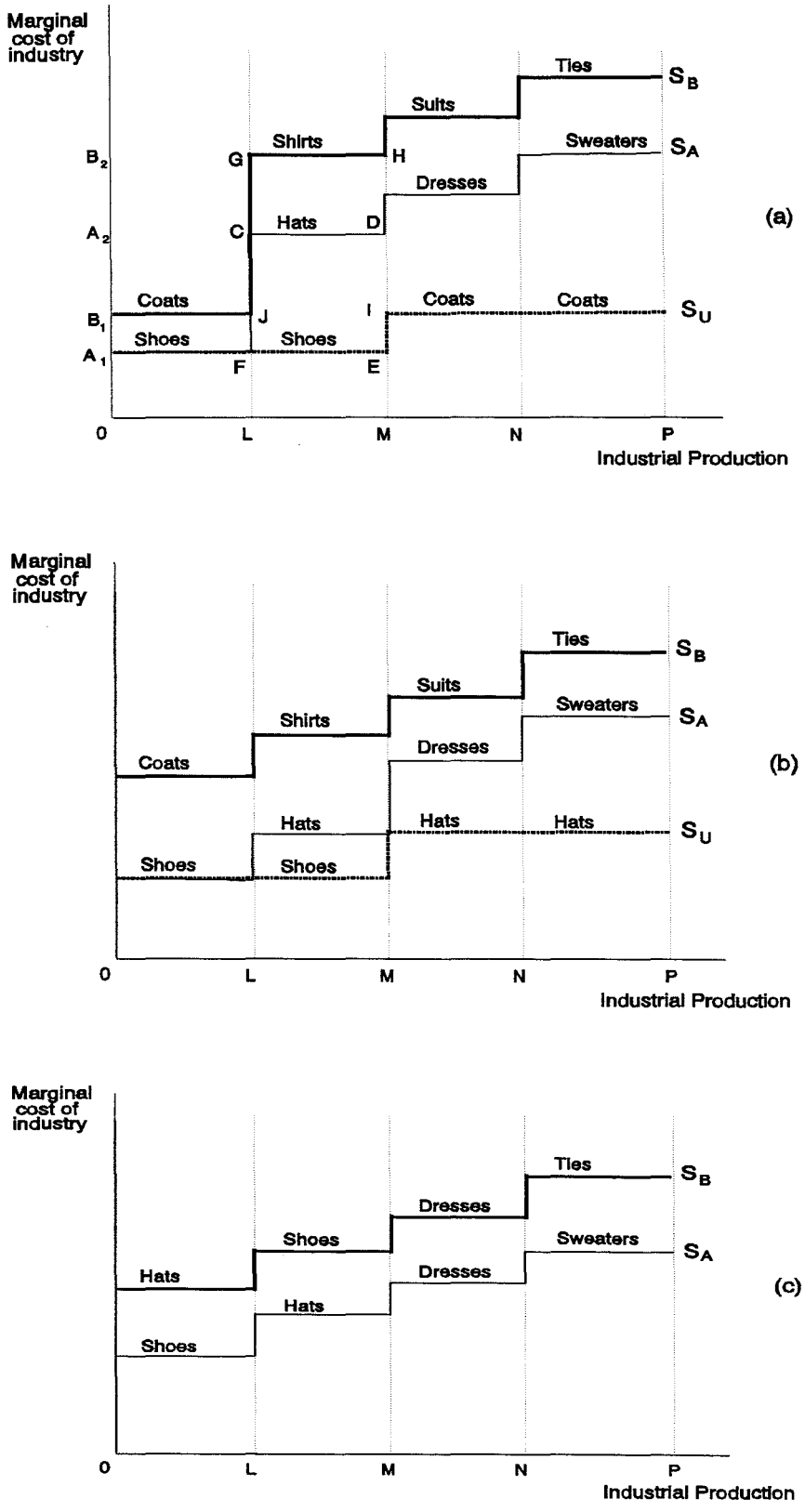

Figure 4.6: Effects of specialisation

Source: Cooper and Massell (1965b: 467).

Cooper and Massell (1965b: 469) thus define a "quasi-Pareto-optimal" common external tariff such that "[g]iven the level of industrial production *in each country*, joint national income is maximised". In Figure 4.6b, only a quasi-Pareto-optimal (but not efficient) tariff which protects shoes and coats will provide each country with the desired level of industrial production OM, while maximising joint national income. Country A will therefore produce OM shoes and Country B will produce MP coats, because although B's coat production is more expensive than A's hat production, coat production is Country B's least-cost industry. Each country is still able to produce the specified level of industrial production at a lower cost than before the formation of the customs union, as was the case in Figure 4.6a.

Finally, suppose that there is a greater degree of overlap in the classes of goods initially produced under protection in each country; that is, the industrial structures of the two countries are more similar. As Figure 4.6c illustrates, since neither country is permitted to produce a good which can be produced more cheaply in the partner country, a more "competitive" economic structure (in the orthodox sense) may be problematic. Country B now has an intra-union comparative *dis*advantage in its three lowest-cost industries (hats, shoes and dresses), and is therefore unable to produce them in a customs union with Country A. In order for Country B to obtain its desired level of industrial production it will have to produce ties, the lowest cost industry in which it has an intra-union comparative advantage, while Country A will produce shoes.

It can thus be seen that, under quasi-Pareto-optimality, the formation of a customs union results in a new hierarchy of industries for *each* country, and hence new country supply curves, containing only those industries in which it has an intra-union comparative advantage. While the ranking of these industries will remain the same, an industry which is established on union, even a relatively high-cost one such as ties in Figure 4.6c, must operate at twice the initial planned level of production in order to supply the entire union market.

Although a given common external tariff will determine the level of industrial production in each country, as well as *joint* national income, it will not specify the level of income in each country, since there is scope for redistributing income within the union without altering the tariff. However, if income distribution is left to market forces, the cost of

each protected industry will be shared equally by the member countries, so that the cost of establishing a given industry is reduced by half from each country's point of view, with the other half paid for by consumers in the partner country. This implies a divergence between private (in this case "national") and social ("customs union") costs of industrialisation. Thus, as Figure 4.6c illustrates, there are external diseconomies associated with industrialisation which, if ignored, will mean that a quasi-Pareto-optimal tariff will result in a non-Pareto-optimal outcome (Cooper and Massell, 1965b: 468-469).

In these circumstances, to achieve a Pareto-optimal solution, the two countries could negotiate a joint reduction in industrial production, or design a system of compensation whereby each country pays full income compensation to its partner for the relatively high-cost goods sold in the partner's market. This will entail the choice of a "Pareto-optimal" tariff, defined as a set of common external tariff rates such that "[g]iven some rule for redistributing income, the tariff results in levels of industrial production in each country such that neither country's welfare can be raised without a reduction in the other country's welfare" (Cooper and Massell, 1965b: 471).

In the Cooper-Massell (1965b) analysis, the gains to a member country from the formation of a customs union depend on what happens to both national income and industrial output, which in turn depends on the common external tariff that is chosen. Under a Pareto-optimal tariff, combined with a rule for distributing income, if each country has an intra-union comparative advantage in its lowest cost industries, allowing it to produce a given level of industrial production more cheaply, then both will necessarily gain from a customs union. On the other hand, if either country has an intra-union comparative disadvantage in its lowest cost industries, it will be made worse off. In the latter instance, however, it may still be possible for the country that gains to offer additional compensation to the loser which would leave both countries better off. Alternatively, some kind of protection within the union may be allowed, through the formation of a *partial* customs union.

Cooper and Massell (1965b: 475-476) conclude that the potential gains from a customs union will be larger if: "(1) [t]here is a steeply rising marginal cost of protection in the two countries, (2) the countries have a strong preference for industry, (3) the countries

are complementary, and (4) neither country dominates the other in industrial production generally". Even if the last condition does not hold, gains are still possible if compensation is made to the disadvantaged country, or if a partial customs union is formed.

The third condition, namely that the potential gains from a customs union will be larger if there is initial complementarity, is in direct contrast to the orthodox notion that competitiveness in the products initially produced under protection is more likely to result in the formation of a beneficial customs union. The conventional criterion, however, rests on the traditional view of trade creation as welfare-improving and trade diversion as welfare-reducing.

The Cooper-Massell (1965b) analysis departs from the orthodox framework by allowing for a possible preference for industry and by regarding tariffs as policy instruments rather than exogenous variables. This requires a somewhat modified interpretation of the welfare implications of trade creation and trade diversion. More specifically, trade diversion is not necessarily bad, since although it may reduce national income, industrial production is expanded to supply the partner's market. It cannot be said whether this will raise or lower welfare without reference to the country's indifference curves showing the trade-off between industrial production and national income. Further, to consider the case of trade creation, suppose that Country A is a lower cost producer than Country B in all industries, so that production shifts to A when a union is formed. While Country B obtains its industrial goods more cheaply than under non-preferential protection, its industrial sector has been lost. Country B is therefore not necessarily better off, although the actual position again requires some knowledge of its preferences.

El-Agraa (1989: 25) argues that while trade creation and trade diversion may both yield a gain in this framework, trade diversion will be preferable to trade creation for the preference-granting country, since it does not entail a sacrifice in domestic industrial production. This view emerges from Johnson's (1965) independent analysis of tariff policy in the presence of public goods, in which he argues that "discriminatory tariff reduction has the advantage over non-discriminatory tariff reduction [in] that it permits a country to offer its partner an increase in exports and industrial production without

suffering any loss of its own industrial production, through diverting imports from third countries to the partner" (Johnson, 1965: 274). This point is reiterated by Lundahl and Petersson (1991: 211) as follows:

> "...assuming that the partners of a customs union have differing comparative advantages in various products, a country with a small domestic market, a strong preference for industrial production but weak international competitiveness, may find that trade diversion may even be preferable to trade creation in the two countries, because it increases production within the union".

In conclusion, the analysis in the present section has illustrated how trade integration may enable two or more economies to protect a given amount of industry at a lower real cost. While the orthodox criterion that initial competitiveness of structure is more beneficial to customs union formation no longer applies, it is apparent from the cases illustrated in Figures 4.6a and 4.6b that the comparative cost structures of the partner countries are still important. Further, cost competitiveness *vis-à-vis* the ROW will be relevant in determining the compensation required for the excess cost of industrial goods sold in partner country markets.

Robson (1987: 53) notes that although the Cooper-Massell (1965b) and Johnson (1965) analyses demonstrate that customs union formation may be more efficient than non-discriminatory tariff policy when there is a rational motive for protection, they do not provide an economic rationale for integration, in the sense of a first-best case, unless the use of direct subsidies to industry has been ruled out. Johnson (1965: 259, 263), Cooper and Massell (1965b: 474) and Robson (1987: 53-54) all point to the variety of budgetary, institutional and political constraints which result in tariff policy generally being favoured. As Robson (1987: 53) notes, such constraints "may effectively mean that customs unions may represent the only practicable means of achieving the gains in question".

4.4 Conclusion

This chapter has shown that neither in terms of the traditional trade creation-trade diversion analysis, discussed in Section 4.2, nor in terms of the non-traditional perspectives considered in Section 4.3, can it be said *a priori* that a free trade arrangement amongst developing countries cannot be mutually beneficial to its

participants. This is so even amongst countries of very unequal size and *per capita* income levels, whose trade with one another is initially a small proportion of their total trade. In the traditional analysis, this applies even to countries with complementary comparative advantages, although, within this framework, the likelihood of mutually beneficial gain is enhanced by some degree of similarity in economic structure.

However, some of the arguments considered in Section 4.3 suggest that, from a non-traditional perspective, complementarity of structure may in fact be conducive to successful trade integration. In particular, Cooper and Massell (1965b) argue that regional integration may permit its members to achieve the objectives of protection at a lower cost than under non-preferential tariff policy, and that this may be more readily attained when the economic structures of prospective partner countries are complementary rather than competitive.

The conclusions in this chapter have all been derived from analysis based on the assumption of perfect competition. The discussion in the next chapter considers issues relevant to trade integration under imperfectly competitive conditions.

CHAPTER 5

FURTHER THEORETICAL AND EMPIRICAL ISSUES: IMPERFECT COMPETITION AND DYNAMIC EFFECTS

5.1 Introduction

Both the orthodox and non-traditional perspectives on the effects of regional trade integration considered in Chapter 4 are derived from analysis based on the assumption of perfect competition. However, there is a growing literature that addresses the question of the effects of trade in an imperfectly competitive setting, which suggests the possibility of benefits from trade significantly in excess of those associated with the "conventional" gains from trade, largely because of economies of scale (Greenaway, 1991: 168). This literature stresses the role of market imperfections such as oligopoly, non-constant production costs and product differentiation, all of which are clearly pervasive features of the real world. The effects of integration in the context of imperfect competition thus appear to be worthy of consideration.

Section 5.2 examines the implications of regional trade integration in the presence of internal economies of scale. The discussion in this section focuses on the *inter*-industry resource reallocation effects of integration under increasing returns to scale. A major feature of the growing literature on the effects of trade in the context of imperfect competition, however, is the recognition of product differentiation, which, together with economies of scale, allows for the prospect of intra-industry specialisation and trade in differentiated goods. Section 5.3 therefore relaxes the assumption of homogeneous products to consider the potential for, and implications of, *intra*-industry resource reallocation as a result of trade integration.[1]

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[1] Although intra-industry specialisation is predominant among industrial countries, Greenaway (1991: 166-167) argues that it features both in North-South and South-South trade, and is, in the latter instance, at least in part, fashioned by integration arrangements. Further, the evidence suggests that intra-industry trade becomes more prevalent as industrialisation proceeds, and will therefore increase in importance in the trade of developing countries. Therefore, while the current extent of intra-industry trade between a group of developing countries, such as those in SADC, may be very low, some consideration of this aspect nonetheless seems to be important.

The analysis in Chapter 4 and the first two sections of this chapter considers only the static welfare effects of economic integration. It has often been suggested that the dynamic effects of integration, namely, the possible ways in which integration may affect the rate of growth of GNP of the participating countries, are of considerable importance, particularly in the developing country context (Jaber, 1970-71: 256). This aspect is considered in Section 5.4, while Section 5.5 concludes.

5.2 Economies of scale

According to Cline (1982: 233), possible benefits from economies of scale constitute "one major economic motive for integration". This has particularly been emphasised in the context of trade integration among developing countries, due to the small size of national markets (Pearson and Ingram, 1980: 994; Corden, 1984: 123; Lundahl and Petersson, 1991: 173). Nevertheless, there appears to have been no serious attempt to incorporate the question of potential benefits from economies of scale systematically into the debate on trade integration in southern Africa.[2] For example, while Holden (1996: 55-56) makes reference to possible benefits from dynamic external economies on integration, her comparative static analysis, by focusing only on the case where imports from the prospective partner country are produced subject to rising costs, does not consider internal economies of scale as a potential source of benefit from southern African trade integration.[3]

As will be seen below, it is often argued that the enlarged market in a regional union between countries of unequal size or levels of development will, in sectors where scale economies are important, mainly benefit producers in the larger countries, who are likely to capture the entire union market (Lundahl and Petersson, 1991: 185). Thus, in the case of SADC, any gains from the exploitation of regional economies of scale would be likely to accrue to South Africa, to the detriment of its smaller partners. However, it appears that whether large or small countries will benefit (lose) most in terms of

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[2] Two main exceptions are worthy of note. The first is the study of Lundahl and Petersson (1991: 173-186; 193-202) on Lesotho in the SACU, drawn on in the discussion below, and the second is a recent paper by Holmes and Evans (1997: 54-64), which makes a preliminary investigation into the potential for scale economies in the SADC region.

[3] The question of dynamic external economies is considered in Section 5.4 below.

increased exports (imports) is controversial.

In his study of economies of scale and economic integration in Latin America, Cline (1982: 275) states that "it is the smaller countries that stand the most to gain from regional economies of scale". His empirical analysis shows that the Latin American market as a whole is large enough to achieve minimum efficient scale (MES) in most products. While the same applies to Brazil and Mexico with their relatively large national markets, medium-sized countries such as Chile and Peru have markets which are too small to achieve MES in most products, and the smaller countries have markets which are incapable of reaching MES in any products except the two with the lowest optimal scale, cotton fabrics and shoes (Cline, 1982: 252).

According to Cline (1982: 252), this suggests that most countries would benefit from economic integration as a way of achieving a market size sufficient to exploit economies of scale. However, the *magnitude* of these gains depends not only on the size of the domestic market relative to MES, but also on the degree of excess cost caused by producing at below optimal scale. Cline (1982: 253-262) calculates this excess cost by estimating the unit cost of producing for the domestic market relative to the unit cost of producing for the regional market. He finds that the highest excess costs occur in small countries, in products which require large market size and which have high excess cost at low scale. Small countries therefore stand to gain the most from production for the regional market, because they incur higher excess costs than large countries by producing for their domestic markets at below MES.

Cline (1982: 262) notes that even if MES can be achieved in the national market, if only one firm can operate efficiently monopoly behaviour will result in production at below optimal scale. The monopoly welfare costs of producing for the domestic market are therefore also important, and can be avoided by co-ordinating production regionally so that several firms compete at the regional level, or by refraining from domestic production and importing from the rest of the world (ROW).[4] After calculating the number of firms of MES which can be accommodated in domestic markets in each product, Cline (1982: 268) concludes that "monopoly is a serious potential problem if production is limited to national markets". The welfare costs of monopoly therefore

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[4] The question of the choice between integration or free trade with the ROW is considered below.

provide another reason, in addition to technical economies of scale, for Latin America to consider regional integration.

Cline (1982: 272) estimates that the combined costs of sub-optimal scale and monopoly resulting from production for the domestic market range from 1.3 per cent of GNP in Brazil to as much as 13.6 per cent of GNP in Uruguay, and 8.6 per cent on average for the eleven smallest countries in the region. Both the technical and monopoly costs of production could, by contrast, be minimal in a large regional market such as Latin America. Cline (1982: 272) therefore concludes that "[f]or Latin America,...economic integration could provide substantial benefits from increased economies of scale and elimination of monopoly costs, in comparison with purely domestic production in each country for the national market. These potential benefits are greatest for the small countries of the region, the countries least capable of achieving efficient scale on their own". The benefits of integration would average 8.6 per cent of GNP for the smaller countries, as cited above, 5.3 per cent of GNP for the few middle-sized countries, and even 3.4 per cent of GNP for the largest countries in the region, Argentina, Brazil and Mexico.

The question of whether producers in large or small countries are likely to benefit most from the exploitation of economies of scale in a regional market has also been considered by Casella (1995: 2), who notes the usual view that firms located in large countries are likely to be able to produce at lower costs than firms in smaller countries in sectors in which scale economies are significant, given their larger domestic markets. However, she then considers the impact on countries of different size which are already part of an existing arrangement of the *enlargement* of the trade bloc. In relation to the European Union, Casella (1995: 2-3) argues:

> "It may appear at first that firms in large countries would have a privileged position. Because they have lower costs, they should be able to gain disproportionately large shares of the new trade, and realize larger extra profits than firms in small countries... Yet, this view is mistaken because it neglects the original cause of the difference in economic performance between large and small countries. By increasing the size of the market to which all firms have relatively easy access, the enlargement of the trade bloc decreases the importance of the domestic market and plays in favor of the small countries".

Her analysis shows that the relative sales of firms in large countries fall as the trade bloc expands. On the other hand, firms in small countries experience a reduction in their

relative cost disadvantage and hence an improvement in their competitiveness *vis-à-vis* large countries. The source of the initial competitive advantage of the large countries (that is, their larger domestic markets) should therefore not be taken as given.

In contrast to the arguments of Cline (1982) and Casella (1995), however, others either explicitly or implicitly take the view that because of the larger size of its (protected) domestic market, a larger partner will have a cost advantage, and on formation of a regional union will be likely to capture the entire regional market in sectors in which scale economies are important (Lundahl and Petersson, 1991: 177; Corden, 1972). The question then is whether the smaller countries will benefit by giving up production of scale-intensive goods and importing them from larger partner countries which in the initial pre-union situation have lower unit costs.

This aspect is considered in Corden's (1972) pioneering theoretical analysis, which extends Viner's (1950) trade creation-trade diversion framework to incorporate economies of scale into customs union theory. The analysis assumes a single actual or potential producer in each country, a homogeneous product, and the presence of internal economies of scale, so that unit costs decrease as production expands and the firm's average cost curve is downward-sloping over the relevant output range.[5] As Figure 5.1 illustrates, each country's average cost curve is assumed to reach its minimum point above the ROW export price (P_E), so that neither country exports to the ROW. Further, neither country initially exports to the other because of their tariffs and relatively high costs (Corden, 1972: 466).

It is important to stress the implications, in this context, of the assumption that the domestic and imported good are perfect substitutes. In the presence of decreasing costs, the case of a single homogeneous good implies that the domestic market will either be supplied entirely by imports or entirely by domestic production (Vousden, 1990: 116; Lundahl and Petersson, 1991: 175).[6]

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[5] The countries forming the union are assumed to face given cost-insurance-freight (c.i.f) import and free-on-board (f.o.b.) export prices set by the ROW, with the export price below the import price because of transport costs and the ROW's tariff.

[6] As Vousden (1990: 116) notes, this "all-or-nothing" outcome appears to be at variance with the reality that many importables are sourced both from domestic production and imports, although it follows logically from the assumption of a single homogeneous good. The situation where domestic and foreign goods are imperfect substitutes for one another in the presence of decreasing costs,

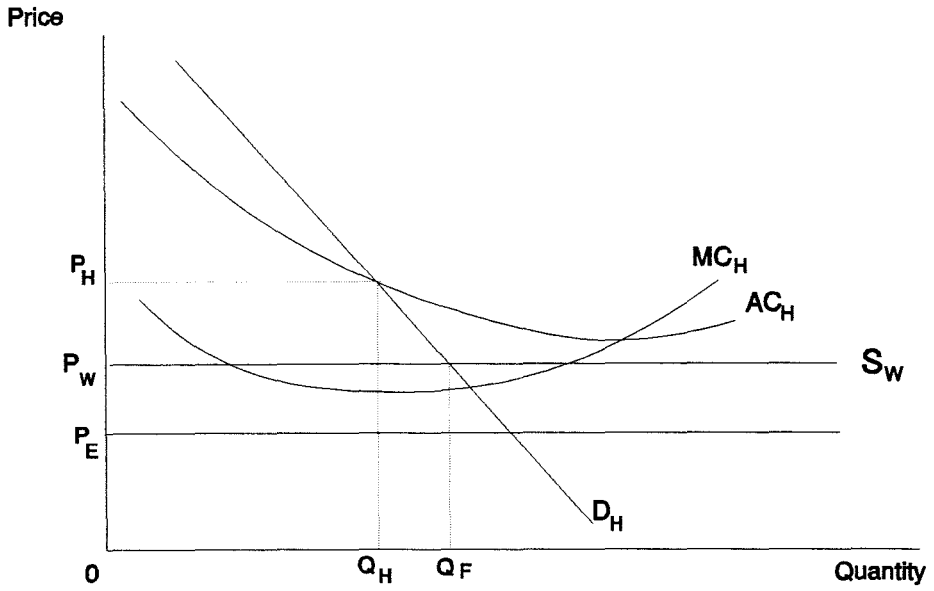

Figure 5.1: Made-to-measure tariffs and economies of scale

This can be illustrated with reference to Figure 5.1, where D_H is the domestic demand curve, AC_H is the local producer's average cost curve, and S_W is the world supply curve of imports to the home country. If, as shown, the price of imports from the ROW (P_W) lies below the break-even price P_H (at which average revenue equals average cost), and the firm's average and marginal cost curves lie everywhere above the export price P_E, then, in the absence of protection, the domestic firm will not produce at all.[7] If a tariff of t_H is imposed such that the tariff-inclusive import price is just equal to average cost (that is, so that $(P_W + t_H) = P_H$), the domestic producer will be able to produce OQ_H at zero profit, with imports wholly excluded. This is Corden's (1972, 1974) "made-to-measure" tariff, which is just sufficient to induce enough domestic production to satisfy domestic consumption without giving rise to excess profits. In contrast to the situation of increasing costs, described in Section 4.2 of Chapter 4, there is no tariff revenue (since there are no imports) and no producer surplus (since P_H equals average cost). A

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allowing for the simultaneous local production and import of differentiated goods, will be considered in Section 5.3 below.

[7] Domestic demand will be satisfied by OQ_F imports at a price P_W.

tariff below t_H would not be high enough to make domestic production viable, and would simply be a revenue tariff. On the other hand, a tariff higher than t_H would merely increase the firm's monopoly power, resulting in excess profit, lower output and a higher price to consumers. To simplify the analysis, it is assumed that the domestic price is determined by the tariff-inclusive world price (Corden, 1972: 467; Robson, 1987: 35).[8]

Now consider the formation of a customs union between two countries, where the partner is larger than the home country but both are small relative to the ROW. Figure 5.2 illustrates the demand and cost conditions in the two countries, where the difference in their economic size is reflected by their respective demand curves D_H and D_P, with the partner country having a relatively larger domestic market. Further, the partner country is assumed to be more efficient than the home country, so that its average cost curve lies below the home country's cost curve at each level of output. D_{H+P} is the horizontal sum of the two countries' demand curves, depicting total union demand for the homogeneous good.

Suppose that there is initially domestic production in both countries, with made-to-measure tariffs of P_WP_H in the home country and P_WP_P in the partner country. The home country's domestic demand is satisfied by OQ_H domestic production at the tariff-inclusive price P_H, while the partner country's demand is satisfied by domestic production of OQ_P at a price P_P, with imports wholly excluded. On union, the partner country has a cost advantage and will capture the entire union market. Total union demand of OQ_U will be provided by the partner country at a cost P_U, lower than the cost in either country pre-union, and requiring a tariff of P_WP_U. Consumption will increase to OQ_{H2} in the home country and OQ_{P2} in the partner country.

The welfare effects are as follows. The home country, which loses its industry, experiences a trade creation gain of P_HABP_U comprising the production effect (area P_HACP_U, due to the replacement of relatively inefficient domestic production with cheaper imports from the partner) and the consumption effect (area ABC, due to the

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[8] In practice, in the case of a tariff higher than t_H, the world price plus the tariff (which would be higher than P_H in Figure 5.1) sets only the *upper* limit of the price which a domestic producer may charge; it may pay a profit-maximising producer to charge less. For example, a monopolist's optimum price, while exceeding P_H, may be below this tariff-inclusive world price.

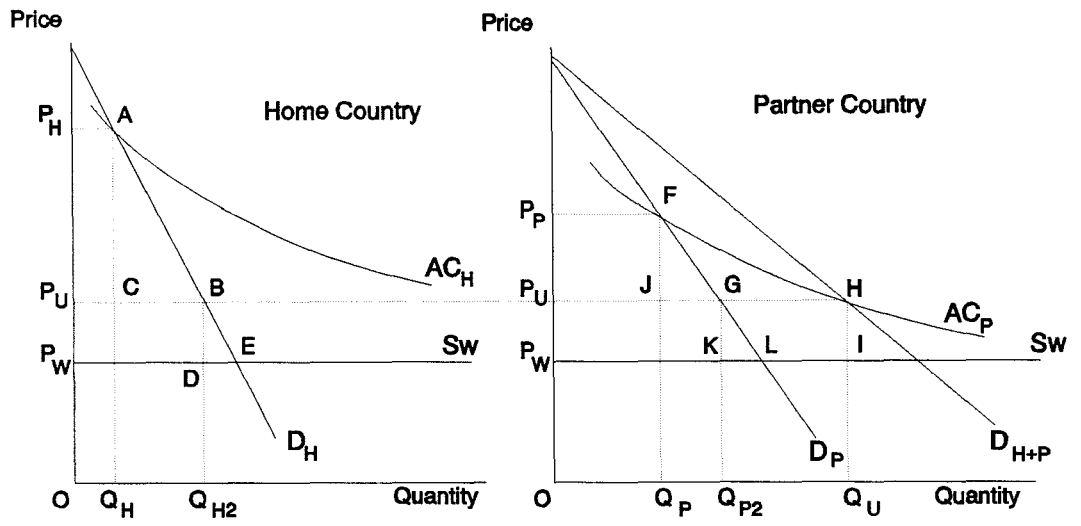

Figure 5.2: A customs union with economies of scale

Source: Robson (1987: 37).

additional consumption induced by the lower domestic price).[9] The partner country now obtains its domestic requirements at a lower cost. Corden (1972: 467) terms this the *cost reduction effect* to distinguish it from trade creation, since it refers to the cheapening of an *existing* source of supply, rather than a shift to a lower-cost source of supply in another country. The cost reduction effect is depicted by area P_PFGP_U in Figure 5.2, and also consists of a production component (area P_PFJP_U, the saving on the original amount of domestic production which is now obtainable at a lower price) and a consumption component (area FGJ, the gain in consumer surplus resulting from additional consumption at the lower price). Further, the partner country obtains a gain from its exports to the home country at a price exceeding P_W, denoted by area GHIK (equal to P_UBDP_W) (Robson, 1987: 36-38). In this case, in terms of orthodox static analysis, both countries gain from the formation of the customs union, although the home country loses its domestic industry.

Suppose, however, that prior to union there is initial production in one country only,

[9] Krauss (1972: 433) notes that the production component of the trade creation gain is twice as large in the case of decreasing costs as when the supply curve is upward-sloping.

with the other importing its requirements from the ROW. If this production takes place in the relatively more efficient partner country, while the home country imports the amount P_WE from the lowest-cost source (the ROW), the formation of a customs union will result in a loss of consumer surplus to the home country of P_UBEP_W, since imports from the partner will necessarily be more expensive than imports from the ROW. Of the home country loss, area P_UBDP_W denotes the trade diversion effect, as the new (lower) amount consumed ($P_WD = OQ_{H2}$) is obtained at a higher cost. Area BED is an adverse consumption effect, reflecting the loss of consumer surplus on consumption foregone at the higher price (Corden, 1972: 470). The partner country will gain areas P_PFGP_U and GHIK as before. Note, therefore, that the home country's loss due to trade diversion (P_UBDP_W = GHIK) represents a transfer to the partner country, and is not lost to the union as a whole. The net welfare impact on the union as a whole will thus be beneficial if the partner gain of P_PFGP_U outweighs the home country loss of BED.

On the other hand, if initial production occurs only in the higher-cost home country, with the partner importing P_WL from the ROW, then it is likely that the formation of a customs union will result in a "production reversal", so that the established producer ceases production while the partner country captures the entire union market (Robson, 1987: 38-39). This results in a trade creation gain for the home country of P_HABP_U, as described earlier, although its domestic industry is lost. Partner country consumers suffer a consumer surplus loss of P_UGLP_W, of which GLK is an adverse consumption effect, as before, and P_UGKP_W is a *trade suppression* effect. The (reduced) domestic demand in the partner country is now met by domestic production rather than imports from the ROW. Therefore, trade suppression, like trade diversion, involves a move from a lower-cost to higher-cost source of supply, although the higher-cost source in this case is the domestic producer rather than a producer in another member country. While Robson (1987: 39) seems to suggest that the partner country loses as a result of the formation of the customs union, given these adverse effects on its consumers, Lundahl and Petersson (1991: 195) note that the trade suppression loss to partner consumers (P_UGKP_W) is balanced by a gain of the same magnitude to the newly-established partner producer. Further, consumers in the *home* country pay the partner producer more than the world price for the product, thereby effectively transferring income represented by area P_UBDP_W (equal to GHIK) to the partner country. Therefore, while partner consumers lose consumer surplus of P_UGLP_W when the union is formed, the partner

producer gains area P_UHIP_W on domestic sales and on exports to the home country at a price in excess of the world price P_W. Both the home and partner country thus benefit, in this case, from the formation of the union.

If there is initially production in *neither* country, so that both import their requirements from the ROW, the formation of a customs union may induce production in one. The country in which production is established will experience a net gain, since (as outlined above) the loss to consumers due to trade suppression will be exactly offset by an equal gain to the newly-established producer, while the loss due to reduced consumption will be more than outweighed by the gains made on exports to the other country (Lundahl and Petersson, 1991: 196). However, the country in which production is not established will incur a net loss, due to trade diversion and reduced consumption. Further, it can be seen from Figure 5.2 that the country which gains (the partner, in this case) would be unable to compensate the other, since the latter's net loss of P_UBEP_W necessarily exceeds the partner's net gain of GHIL.

From the analysis above, it is apparent that with made-to-measure tariffs any gains or losses from the four effects (trade creation, trade diversion, cost reduction and trade suppression) are borne by consumers. Interestingly, Corden (1972) appears not to recognise the gains to the union producer from exports to its partner or from establishing production at home, identified by Robson (1987: 38) and Lundahl and Petersson (1991: 195-196). By focusing only on the gains or losses from the four effects, he concludes that, in the absence of tariff revenues and excess profits, "all gains and losses [from the union] will be borne by consumers" (Corden, 1972: 469).[10]

Robson (1987: 39) notes that the comparative static framework outlined above is of limited use in determining which of a number of possible equilibrium positions will result when a customs union is formed. In the case of a homogeneous good whose production is subject to economies of scale, with only one actual or potential producer in each country, it may be expected that a single firm will capture the entire market on union. However if, for example, the good is produced under identical cost conditions

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[10] Winters (1991: 183) points out that if tariffs are exogenous rather than made-to-measure, then the domestic prices faced by consumers will not be altered by the union. In this case, any benefits from lower costs will accrue, not to consumers, but rather to producers as excess profits, while the losses will be reflected as a loss of tariff revenue (see Corden, 1972: 467-469).

in both countries, as illustrated in Figure 5.3, then the analysis is unable to demonstrate which firm it will be. Although pre-union production costs may differ between the two countries due to differences in national market size, Figure 5.3 shows that in principle a firm in either country could produce for the union market since their costs would be identical at Q_U. While Corden (1972: 474) notes that the actual outcome will depend on a number of dynamic considerations, he nonetheless implies that the firm with the larger domestic market initially will have an advantage in the post-union situation, and will therefore be more likely to capture the entire market. The possibility, considered by Casella (1995), that the small country might be able to expand its scale of production, thus lowering its unit costs, improving its relative competitiveness and capturing an increasing share of the regional market, is not seriously contemplated.

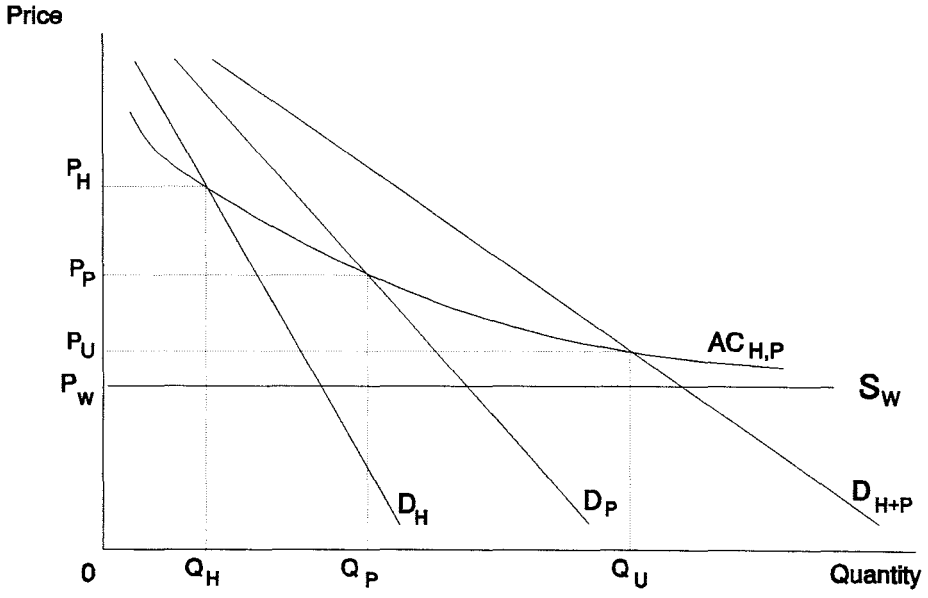

Figure 5.3: Economies of scale and equal costs of production in the member countries

Source: Lundahl and Petersson (1991: 177).

Lundahl and Petersson (1991: 185) suggest that in the presence of economies of scale, given the assumption of a single actual or potential producer in each country prior to union, the outcome whereby union demand is provided either entirely by imports from the ROW or else by a single producer within the union rests on the assumption of a

homogeneous good. They thus imply that in order for producers in *both* member countries to gain from the exploitation of economies of scale, it is necessary to extend the analysis to allow for product differentiation.[11] However, an alternative outcome to one producer capturing the entire market in the case of a homogeneous good may be suggested by the work of Brander (1981). In this model, the homogeneous good is initially produced by a single, identical firm in each country in the absence of trade, with constant marginal costs, but falling average costs. Once trade is allowed, each firm is assumed to make a separate decision regarding its sales to each national market and to follow Cournot behaviour, taking the other firm's output as fixed in each country (Brander and Krugman, 1983: 314). Although firms would not expand output in their own markets (since this would depress the price on existing sales), as long as price exceeds marginal cost in the rival's home market, there would be an incentive for each firm to sell there until, with symmetric firms, each has a fifty per cent share of each market (Krugman, 1990: 86).

Brander and Krugman (1983) show that, even in the presence of transport costs, two-way trade in the same product may occur, provided that price exceeds marginal cost plus the cost of transportation. In this case, the firm will have a smaller share of the foreign than the domestic market because of transport costs, and will thus perceive itself as facing a higher elasticity of demand for its exports than for domestic sales. It will therefore be willing to sell abroad at a lower mark-up over marginal cost than at home (Krugman, 1990: 86). The result is "reciprocal dumping" or two-way trade in homogeneous goods (Brander and Krugman, 1983: 320). While such cross-hauling is necessarily a waste of transport resources, the pro-competitive effect of trade forces price down closer to marginal cost, and is therefore welfare-improving.

Although this phenomenon is discussed in the context of a move from autarky to free trade, and not in the context of trade integration *per se*, it does illustrate that, in the case of a homogeneous good whose production is subject to economies of scale, where there is initially one producer in each country, there may be room for both firms to supply the regional market even if they have different costs, by adjusting market share. While such trade is a waste of transport resources, it may be welfare-improving for both

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[11] Casella's (1995) conclusions do, in fact, derive from a model incorporating differentiated goods. This aspect is considered further in Section 5.3 below.

countries if the pro-competitive effect dominates the loss due to transport costs. Further, it is possible to show that trade is necessarily welfare-improving if there is free entry, since profits will be zero (with price equal to average cost plus transport costs) and cross-hauling will not occur if transport costs are too high. As long as cross-hauling lowers price in both markets, reciprocal dumping will be beneficial (Vousden, 1990: 135).

The implicit assumption of Corden (1972) and Lundahl and Petersson (1991: 177, 185) in the case of homogeneous products, that firms in large countries will have an advantage post-union in sectors where economies of scale are important, due to their larger domestic markets, also seems to underlie Behar's (1991, 1995) empirical work on Latin America, even though, like Casella (1995), his analysis allows for product differentiation.

In his analysis of the Argentine-Brazilian Free Trade Agreement, Behar (1991: 548) finds that the Brazilian market is large enough to reach MES in most products, while the converse is true for Argentina. He concludes from this, in accordance with Cline (1982), that Argentina, the smaller partner, would *potentially* reap large gains in some sectors from exploiting economies of scale in a larger integrated market. However, he notes that, in practice, the magnitude and distribution of these gains depend not only on obtaining access to a broader market, but also on the effect of greater competition from the partner country on domestic firms (Behar, 1991: 549).[12]

In his subsequent empirical analysis of MERCOSUR, Behar (1995: 19) argues that the expansion of intra-MERCOSUR trade on integration does raise competition in each market, resulting in a loss of domestic market share for all members. He states that "[o]verall, the dimension of these losses...is inversely correlated to the size of the country", suggesting that "integration would reinforce market power for firms located in Brazil" (Behar, 1995: 19-20). With reference to Cline (1982) and Behar (1991), he concludes that the main reason for this is "the high likelihood for Argentine and Uruguayan firms to incur inefficiency costs in the form of suboptimal production scale"

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[12] Cline's (1982: 272) estimates of the potential benefits to the smaller countries of producing for a larger regional market do not consider their ability to compete with firms in partner countries.

(Behar, 1995: 20).[13]

Despite his view, cited earlier, that smaller countries stand to gain more than large ones from the exploitation of regional economies of scale, Cline (1982) provides a possible justification for the position taken by Corden (1972) and Behar (1995). He states that "[h]ypothetically, any country, however small, could produce any product, however large its economies of scale, and sell its production to the world market without regard for the domestic market", but that "[i]n practice, there is little historical evidence of development success based on manufacturing production at scale levels far in excess of national market size" (Cline, 1982: 246-247). He thus concludes that the size of the domestic market should provide the best guide as to whether or not a country is well positioned to take advantage of economies of scale.

Furthermore, Cline (1982: 275-276) appears to contradict his own earlier contention that small countries will tend to benefit most from regional economies of scale when he says that "the product sectors showing the smallest returns to scale would be prime candidates for specialization by the smaller countries". However, this statement seems to reflect the point raised by Behar (1991, 1995), noted earlier, that although the smaller countries would *potentially* stand to gain the most because of the higher excess cost of operating at below optimal scale, the effect of increased competition from larger partners in a regional union will be significant. The suggestion that smaller countries specialise in sectors with smaller returns to scale thus appears to be made in an attempt to shed light on "the kinds of intraregional trade that could emerge to provide benefits to *both* groups of countries" (Cline, 1982: 275, emphasis added). There may, evidently, be gains from economies of scale even in these sectors since, if scale is important at all in a given sector, research has shown that "the degree of returns to scale is very high at small scale, and then diminishes as larger scale is reached (the L-shaped cost curve)" (Cline, 1982: 243). Firms in larger countries can then be left to specialise in activities requiring greater scale, so that both groups of countries may benefit from economies of scale in a larger regional market.

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[13] Behar (1995: 20-21) notes, however, that the adverse effect of inadequate market size on the competitiveness of Argentine and Uruguayan firms may be mitigated by a number of factors, such as new trade opportunities offered by integration, greater price shocks on the Brazilian market due to higher pre-integration tariffs, and inter-country differences in the costs of labour, raw materials and electric power.

Cline's (1982) investigation of the possible scale-economy benefits of trade integration among a group of developing countries may be related to the analysis of Cooper and Massell (1965b), considered in Section 4.3.3 above. Cline (1982: 273) notes that the problem of insufficient domestic market size to support an efficient scale of production in any sector could be avoided by importing such products from the ROW in exchange for exports of primary products or manufactured goods for which the country does have an adequate domestic market. However, such a strategy would appear to forego potential gains for the region. In the light of the difficulties posed by a reliance on primary commodity exports, and accepting that the countries of Latin America wish to pursue industrialisation through import substitution, Cline (1982: 273-274) argues that such a pursuit "will be much more efficient if it is based on regional integration instead of isolated national markets". This view, akin to that of Cooper and Massell (1965b), sees integration as a development strategy based on inward-oriented production for the regional market.[14]

The validity of the scale motive for economic integration among developing countries has been questioned by Mazzeo (1984: 235-237), who argues that economies of scale entail the widespread use of modern capital-intensive technology, whereas labour is generally the more abundant factor in developing countries. Cline (1982: 238-245) investigates the relationship between factor intensities and returns to scale in an attempt to address the question of whether economies of scale are less important in developing countries than industrial countries, given their sharply different relative factor prices, but finds the empirical evidence inconclusive.[15] In the case of Latin America, specifically, however, the available empirical studies suggest that economies of scale are at least as great in Latin America as in industrial countries.

Both the theoretical and empirical analysis in this section suggests that there are benefits to be derived from the exploitation of economies of scale in an integrated

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[14] Robson (1987: 196) notes that while the optimal strategy may be first to supply domestic markets then move directly into world markets, the possibilities of exporting manufactures to world markets rather than protected regional markets will be limited for many less developed countries. There may be considerably less uncertainty in a regional union if market-swapping is taking place, especially if there is a common currency.

[15] More specifically, he finds little evidence "that small-scale production is relatively more efficient (or less inefficient) in developing countries than in industrial countries because of a correlation between scale economies and capital intensity" (Cline, 1982: 240).

regional market. Further, it seems that it cannot be concluded, *a priori*, that the enlarged market in a regional union among countries of unequal size and levels of development will, in sectors in which scale economies are important, mainly benefit producers in the larger countries. The regional context to which much of the empirical discussion in this section refers, however, is that of Latin America, so that the question remains of the relevance of this analysis to the SADC situation.

It seems improbable that no actual or potential industrial production of SADC members, in any individual sector, involves significant scale economies. In the case of South Africa, for example, using the OECD classification of manufacturing industries, Nordas (1996: 719) finds that as much as 70 per cent of manufacturing value-added is either resource-intensive (38 per cent) or scale-intensive (33 per cent). Since the resource-intensive industries also happen to be largely scale-intensive, there appears to be a significant potential to exploit economies of scale, given access to a larger market. Nordas (1996: 730) argues that the poor productivity and growth performance of a number of sectors in South African manufacturing industry can be explained in part by unexhausted economies of scale due to a small and stagnant domestic market.[16] According to Nordas (1996: 729), "the scale-intensive industries in South Africa are far from the point where economies of scale are exhausted, and potential gains from this source...are substantial".

If this is so, then the essential question is whether the demand of other SADC countries, in sectors in which scale economies are important, is large enough to make a significant difference to the scale at which South African plants operate when they supply the SADC market. The answer would involve determining the size of the regional market relative to the size required to achieve minimum efficient scale, as Cline (1982) and Behar (1991) have done for Latin America.[17] Estimates of the cost reduction benefits of integration, identified in Corden's (1972) theoretical analysis above, could then be obtained by estimating the unit cost of producing for the domestic market relative to the unit cost of producing for the regional market. Such calculations

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[16] Indeed, a commonly stated objection to South Africa's past regime of import substitution is that the domestic market is too small to support plants of minimum efficient scale (Fallon and de Silva, 1994: 74-79).

[17] For a discussion of alternative measures of national or regional market size, as well as the market size required to achieve minimum optimal scale, see Cline (1982: 247-253) and Behar (1991: 546-549).

should also take account of any estimated increase in demand as a result of the FTA itself.

For the smaller SADC countries, it may seem less likely that scale economies could be important. However, a study by Pearson and Ingram (1980) of the welfare effects of integration between Ghana and the Ivory Coast, based on the Corden (1972) framework, finds that both countries receive significant gains from cost reduction, due to economies of scale in industries which expand on union. According to Pearson and Ingram (1980: 1002), the widespread presence of under-utilised capacity in the industrial sectors of Ghana and the Ivory Coast provides a basis for significant economies of scale. Using individual firm data from the industrial sectors of the two countries, estimates are made of per unit cost reductions from expanding production to serve the regional market. These cost reduction effects are found to be significant in a number of sectors.[18] The overall welfare gains from integration for Ghana and the Ivory Coast are roughly 33 and 22 per cent, respectively, of the value of pre-integration gross output in world prices. About one-fifth of these gains have their source in Corden's (1972) cost reduction effects (Pearson and Ingram, 1980: 1007).[19]

If it is possible, as this discussion suggests, that scale economies could be important in some sectors in both South Africa and the smaller SADC countries, an indication of relative cost competitiveness in these sectors in the different countries would be important in determining the distribution of any gains from this source. Using a competitiveness index based on relative labour productivity and labour costs in South Africa and the United States (US), Nordas (1996: 725-728) finds that, in terms of this index, relatively competitive sectors *vis-à-vis* the US are non-ferrous metals, iron and steel, paper and printing, and shipbuilding, all of which are either resource-intensive (non-ferrous metals) or scale-intensive (the remainder). The ADB (1993b: 279-282) provides some measures of the relative competitiveness of South African and Zimbabwean industry, which suggest that Zimbabwe could compete with South Africa

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[18] The most significant scale economies are found in sectors with the lowest rates of capacity utilisation prior to integration: footwear, paper and food.

[19] Pearson and Ingram's (1980) widely cited study is an interesting synthesis and extension of the Corden (1972) and Cooper-Massell (1965b) analyses, focusing on the production effects of integration and stressing the importance of local industrial production. It also incorporates the presence of domestic divergences between private and social costs, drawing on Corden's (1974) theory of domestic divergences.

in some sectors in which scale economies are likely to be significant, such as paper, iron and steel, and foodstuffs.[20] The problem of assessing the potential benefits from the exploitation of economies of scale when a SADC FTA is formed is touched on again in Section 7.5.

5.3 Economic integration and intra-industry trade

5.3.1 Introduction

Both the Viner-Meade-Lipsey analysis and the Cooper-Massell approach, considered in Chapter 4, suggest that trade integration will lead to increased *inter*-industry specialisation among member countries. This applies even when Corden's (1972) analysis of economies of scale, discussed in Section 5.2 above, is incorporated into the framework (Robson, 1987: 41). However, early empirical studies of the effects of Western European integration (Verdoorn, 1960; Balassa, 1966; Grubel, 1967) found a marked expansion of trade *within* industries or sectors, suggesting a significant amount of *intra*-industry specialisation, a phenomenon barely acknowledged in the theoretical literature at that time.

Robson (1987: 42) notes that the inability of orthodox customs union theory to incorporate the possibility of intra-industry trade stems from the assumption of homogeneous products, which precludes a country from exporting and importing the same good.[21] Relaxation of this assumption, enabling the recognition of product differentiation and consumer demand for variety, together with the incorporation of scale economies, allows for the prospect of intra-industry specialisation and trade in differentiated goods. According to Krugman (1982: 197-198), this creates the possibility for reciprocal tariff reductions to lead to increased sales within an industry by producers in *both* countries, so that a particular country may expand both its imports

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[20] The measures of competitiveness used by both Nordas (1996) and the ADB (1993b) have severe limitations, as these studies acknowledge, and should be interpreted with caution.

[21] Recall, however, that in Brander and Krugman's (1983) reciprocal dumping model, considered in Section 5.2 above, oligopolistic rivalry between firms allows for the possibility of intra-industry trade in homogeneous goods. Intra-industry trade in homogeneous products may also result from border trade related to lower transport costs, or may be due to seasonality or entrepôt trade (Winters, 1991: 62). However, these factors alone cannot explain the recorded levels of intra-industry trade.

and exports in a specific sector, which could in turn make trade liberalisation "relatively easy to achieve". The welfare implications of potential intra-industry specialisation which may arise as a consequence of regional trade integration thus appear to be worthy of consideration.

The purpose of the present section, therefore, is to ascertain the relevance of the "new trade theory" to the question of the potential benefits of trade integration in southern Africa.[22] There is little evidence of any such analysis in the existing literature on the region, with the exception of Simson (1987: 122-140), whose study of intra-industry trade in South Africa considers the welfare and commercial policy aspects of intra-industry trade, with brief reference to economic integration.[23]

The discussion is organised as follows. In Section 5.3.2, the question of whether, or in what circumstances, trade liberalisation may lead to increased intra-industry specialisation is considered. Secondly, in Section 5.3.3, the welfare implications of intra-industry resource reallocation are examined. Finally, the potential for increased intra-industry specialisation in a regional union is explored in Section 5.3.4.

5.3.2 Sources of intra-industry trade

Greenaway (1989: 32) argues that there is no *a priori* reason why trade liberalisation *per se* (whether regional or multilateral) should specifically stimulate the growth of intra-industry rather than inter-industry trade. To the extent that liberalisation promotes trade expansion in general, it may indeed result in more intra-industry trade, but may equally

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[22] Following the approach of Greenaway (1991: 158) in his discussion of the role of these theories in explaining developing countries' trade, the "new trade theory" should be taken to refer here to the post-1979 literature on imperfect competition and international trade, with its emphasis on the role of market imperfections such as oligopoly, scale economies and product differentiation, noted in Section 5.1. The relevance of the technology theories of international trade, specifically the product cycle theories of Vernon (1966) and Hufbauer (1970), will be touched on in Section 7.4.3.

[23] This area is therefore even more under-researched in the SADC context than the scale economies question on its own. It is touched on briefly in Lundahl and Petersson (1991: 180-181) with respect to Lesotho and South Africa in the Southern African Customs Union, while the scope for intra-industry trade within SADC is referred to by Evans (1997a: 7) as an important field for future research.

stimulate more inter-industry trade.[24] In order to explore whether liberalisation (be it regional or multilateral) may stimulate intra-industry trade to a greater degree than inter-industry trade, Greenaway (1989: 32) argues that pre-union market structures in the potential partner countries need to be considered more closely.

A number of features of both the structure of demand and the structure of production have been identified in the literature as possible sources of intra-industry trade. These are worthy of consideration, since the presence of such characteristics in the economies of potential partner countries in a regional arrangement would suggest that trade liberalisation may lead to increased intra-industry specialisation, which could in turn have positive implications for welfare.

On the demand side, preference diversity (demand for variety) and overlapping demand have emerged as important sources of intra-industry trade. Firstly, the more uniform the distribution of preferences across products within a particular category, the greater the potential for intra-industry exchange in that category. This applies to both the horizontal product spectrum and the vertical product spectrum. An even distribution of preferences across the horizontal product spectrum implies diverse preferences for alternative combinations of a given set of attributes, whereas in the case of the vertical product spectrum it implies diverse preferences for alternative quality gradings (Greenaway, 1989: 32-33). The usual view is that product differentiation is mainly horizontal (Behar, 1991: 535-536), in which case greater demand for variety is associated with higher *per capita* income levels, suggesting that the possibilities for intra-industry trade will be greater among high-income countries (Havrylyshyn and Civan, 1983: 119; Robson, 1987: 42).

However, where product differentiation is defined by differences in quality, the demand for a variety of products (across the vertical spectrum) has been associated with unequal income levels (Falvey and Kierzkowski, 1987: 144, 158; Lancaster, 1979:

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[24] Greenaway (1989: 32) points out that trade liberalisation itself may be more extensive in an integration arrangement than under multilateral or unilateral liberalisation. The formation of a regional arrangement is often accompanied by the removal of non-tariff barriers, such as administrative barriers to trade, as well as tariff barriers. Reduction of uncertainty may also be important, particularly if the regional arrangement is more "credible" than multilateral arrangements. However, these issues will affect the degree of trade expansion in general, and will not necessarily alter the relative importance of intra-industry trade and inter-industry trade.

221). This type of product differentiation is therefore likely to be of interest in considering the potential for intra-industry trade among countries at unequal levels of development. Balassa (1979: 261) suggests that, in the case of vertical product differentiation, the attributes of the varieties traded will reflect the factor endowments of the countries concerned, so that, for example, the less developed countries may export lower-quality varieties (requiring mainly unskilled labour) to the more developed countries, in return for higher-quality varieties.

The second important demand factor is the extent of preference overlap between potential partner countries, as envisaged in Linder's (1961) theory of overlapping demands. It has been argued that the greater the degree of overlap, the greater the potential for intra-industry trade (Greenaway, 1982: 46-47). The Linder hypothesis suggests that countries with similar *per capita* income levels can be expected to have similar tastes or preference structures, and hence larger "overlapping demands", implying greater scope for intra-industry trade (Winters, 1991: 67; Carbaugh, 1995: 84).

In sum, therefore, on the demand side, intra-industry trade is likely to be most prevalent among countries with high and similar *per capita* income levels (capturing both diversity and overlap of preferences). The scope for intra-industry specialisation in a regional union between countries with low, but similar, *per capita* income levels, and between countries with unequal *per capita* income levels, will be considered further, in the light of this, in Section 5.3.4 below.

Turning to the supply side, intra-industry trade involves the exchange of goods with similar factor requirements, unlike the inter-industry trade based on comparative advantage predicted by the Heckscher-Ohlin theorem, which involves the exchange of goods with different factor requirements (Havrylyshyn and Civan, 1983: 113). Therefore, it is likely that countries with similar factor endowments will engage in intra-industry trade, while countries with very different factor endowments will engage in inter-industry trade (Krugman, 1981: 964).[25]

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[25] Recall, however, Balassa's (1979: 261) suggestion, noted earlier, that intra-industry trade in vertically-differentiated products reflects factor endowment differences between countries at unequal levels of development.

Since much intra-industry trade takes place between countries with similar factor endowments, producing similar *but differentiated* goods, diversity on the supply side is also important. Havrylyshyn and Civan (1983: 119) note that the more "advanced" or "sophisticated" the industrial sector of the economy, the greater will be its *ability* to produce a wide range of diverse (and probably heterogeneous) products.[26] While they acknowledge that product diversity is not necessarily the same as product differentiation, Havrylyshyn and Civan (1983: 121) assume that diversity is "a pre-condition for heterogeneity or at least that economies which have reached the level of advancement in which differentiated demand and supply exist must have also attained a large degree of diversity in production".

Krugman (1982: 198) notes that, in intra-industry trade theory, an "industry" is defined as a group of products which are all produced with similar factor intensities. The pattern of *inter*-industry specialisation, and, therefore, whether a country is a *net* exporter or importer in a particular industry, thus depends on the conventional notion of comparative advantage. However, because of economies of scale in production, each country specialises in a limited subset of products within each industry (*intra*-industry specialisation). The resulting intra-industry trade implies that countries which are *net* exporters will still be *gross* importers in a particular industry, because foreigners are producing differentiated goods (Krugman, 1982: 197-198).

Grimwade (1989: 134-135) argues, therefore, that it is not product differentiation *per se* which gives rise to intra-industry specialisation. If average costs increase with output, then it would pay producers to produce the whole range of products demanded by the consumer. It is the presence of decreasing costs which makes it unprofitable for producers to manufacture all the possible varieties of a product.[27]

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[26] In their own empirical work, Havrylyshyn and Civan (1983: 120-121) use a measure of industrial advancement to capture the supply side of the stage of development as distinct from the demand side (measured by the level of *per capita* income). For countries with a rich resource endowment, for example, they argue that *per capita* income may overestimate the extent of development of the industrial base, necessitating an alternative measure of advancement to capture the supply side of the level of industrial development. They suggest two proxies: the contribution of manufacturing to GDP, or an index of concentration of manufactured exports. The latter would appear to be the better proxy, since the former, as noted in Chapter 2, does not adequately capture diversity, and hence says little about stage of development.

[27] It should be noted, however, that Falvey (1981) and Falvey and Kierzkowski (1987) show that product differentiation can be consistent with the assumption of constant returns to scale, provided that the former is defined in terms of product quality (vertical product differentiation) (Behar, 1991:

It may be expected, then, theoretically at least, that the existence of a demand for variety and overlapping demands, together with decreasing costs, will facilitate intra-industry specialisation (Krugman, 1979; Greenaway, 1989: 33). Grimwade (1989: 34) notes, however, that a number of empirical studies (Caves, 1981; Balassa, 1986) have found a negative relationship between economies of scale and the level of intra-industry trade. He argues, however, that the type of economies of scale used in these studies is the economies of large plant size, proxied, for example, by the minimum efficient scale (MES). Industries in which such economies of scale are important, such as steel and petro-chemicals, are often characterised by a low degree of product differentiation, and will hence depict relatively low levels of intra-industry trade. On the other hand, the type of economies of scale which leads to intra-industry specialisation is that associated with long production runs, which can be achieved in comparatively small but specialised plants. Relatively high levels of intra-industry trade can be expected in industries where significant cost savings result from longer production runs.

Some of the particular features of the structure of demand and the structure of production, considered above, which have been identified as important sources of intra-industry trade, are summarised by Robson (1987: 42) as follows:

> "The existence of similar and therefore competitive, as opposed to complementary, production structures is clearly a necessary condition for intra-industry specialization to arise. If there is also some similarity of demand conditions among the member countries, reflected in overlapping tastes, and if goods are produced with economies of scale, so limiting the amount of product diversity that domestic producers can accommodate profitably, there will be an incentive to horizontal specialisation within industries in order to benefit from the economies of large-scale production".

The argument that competitive production structures are *necessary* for intra-industry specialisation immediately suggests that the scope for such specialisation among SADC countries would be limited. However, as noted earlier, Balassa (1979: 261, 267) argues that there *is* scope for horizontal specialisation (in vertically-differentiated products) between countries at different levels of development, with less developed countries specialising in product varieties which utilise unskilled labour, and importing higher-

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535). The existence of product differentiation in the presence of constant returns to scale will be considered further in Chapter 7.

quality varieties in return.[28] This aspect will be considered further in Section 5.3.4 below.

The observation, in the 1960s, that trade liberalisation among industrial countries was accompanied by the expansion of two-way trade within industries or sectors, was noted in Section 5.3.1 above. It was also noted, at the beginning of the present sub-section, that while trade liberalisation may promote trade expansion in general, and hence increase the *amount* of intra-industry trade, there is no *a priori* reason to suppose that the lowering of trade barriers *per se* will increase the *ratio* of intra-industry trade to total trade. Indeed, empirical analysis has found little evidence of such a link.[29] Caves (1981: 213-214, 218) stresses the lack of a theoretical rationale for such a relationship, but points to the likely influence of the *variability* of tariff rates on the degree of intra-industry trade.[30] He does find (weak) support for the view that a lower variance of tariff rates within industries results in a higher level of intra-industry trade, while Balassa and Bauwens (1987: 932) find a highly significant inverse relationship between tariff dispersion and intra-industry trade.

The discussion above suggests that trade barriers themselves may not be the most significant factor explaining variations in intra-industry trade. Rather, as Caves (1981: 204) argues, intra-industry trade may depend more importantly on the various structural features of markets considered earlier in this sub-section, and on the behaviour of firms within these markets. Nevertheless, as will be seen in Section 5.3.4, there may be reasons why trade liberalisation in a regional union could stimulate the expansion of intra-industry trade relative to total trade. It is therefore important to examine the

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[28] It should be clarified that both horizontal product differentiation (reflecting slight differences in product characteristics, and depending on consumer tastes) and vertical product differentiation (reflecting differences in product quality, and depending on consumer income) give rise to *horizontal* specialisation (reductions in product variety) (Kierzkowski, 1984: 2-3). Vertical specialisation, on the other hand, involves the production of parts, components and accessories for assembly in different countries (Balassa, 1979: 259-260).

[29] Pagoulatos and Sorenson (1975: 462) find a significant inverse relationship between the level of intra-industry trade and the height of trade barriers across sectors in the US, although this need not imply an increase in the *relative* importance of intra-industry trade when trade barriers are removed. Caves (1981) finds no corresponding empirical relationship for the OECD; nor do Balassa and Bauwens (1987: 930), in their multi-country study of 38 developed and developing countries.

[30] Caves (1981: 214) argues that the association between trade liberalisation and expanding intra-industry trade may be a short-run relationship, and may therefore not appear in cross-sectional analysis "where only long-run relationships are expected to hold".

welfare implications of increased intra-industry specialisation which may follow the removal of trade restrictions.

5.3.3 The welfare effects of intra-industry specialisation

As the discussion in the previous sub-sections suggests, an extensive literature has emerged since the mid-1970s in an attempt to develop a theoretical explanation for intra-industry trade (see, for example, Dixit and Norman, 1980; Lancaster, 1980; Falvey, 1981; Helpman, 1981; Krugman 1979, 1980, 1981, 1982; Brander and Krugman, 1983; Helpman and Krugman, 1985). The focus in this sub-section, however, is specifically on the theoretical literature which considers the implications of intra-industry specialisation in the context of trade liberalisation.

The welfare effects of intra-industry specialisation may be considered, firstly, in terms of the gains from trade in differentiated goods and, secondly, in terms of the implications of intra-industry specialisation for the costs of adjustment to trade liberalisation.

According to Gray (1973: 27), the gains from trade in differentiated products "are to be found in the wider choice offered to consumers in the different nations, in the possibilities of an exchange of scale economies among nations, and perhaps the most important, in the exposure to foreign competition of domestic industries". The gains from intra-industry trade arising from the availability of a greater variety of products and the exchange of scale economies, noted in Section 5.3.2 above, have been highlighted by Krugman (1979, 1981) and Greenaway (1982). Further, Greenaway (1982: 51) argues that the X-efficiency gains emphasised by Gray (1973: 27) may particularly follow increased intra-industry exchange when autarkic or protected markets are oligopolistic or monopolistic.[31]

Perhaps more interestingly, it has been suggested that the costs of adjustment to trade liberalisation are likely to be less if tariff reductions lead to intra-industry rather than

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[31] This aspect is also stressed by Balassa (1979: 257), and was noted in Section 5.2 in relation to Brander and Krugman's (1983) model of intra-industry trade in homogeneous goods.

inter-industry specialisation (Balassa, 1979: 267; Krugman, 1981, 1982; Greenaway, 1982: 52; Behar, 1991: 532-533). For example, Behar (1991: 533) argues that although inter-industry specialisation may be efficient in the long run, "it necessarily produces serious dislocation in both production and employment in the short run". On the other hand, the adjustment process would be less disruptive with intra-industry specialisation. There are two aspects to this view.

Firstly, it may be argued that, in the case of goods which are substitutable in production, it will be easier for firms to switch between the production of close varieties than to reallocate resources to another type of industry (Willmore, 1979: 201; Caves, 1981: 204; Behar, 1991: 533). Caves (1981: 204), for example, suggests that "the growth of intra-industry trade is attractive as a process of adjustment, because production can become more efficient without a high concurrent cost of transferring factors of production to different locations and lines of work".

Secondly, the distributional effects of trade liberalisation may not be so dramatic under conditions of intra-industry specialisation. The Stolper-Samuelson theorem predicts that, in the case of inter-industry specialisation in the conventional Heckscher-Ohlin framework, the abundant factor gains from trade while the scarce factor loses absolutely (Stolper and Samuelson, 1941). However, the models of Krugman (1981, 1982) show that, in the presence of increasing returns, with products that are close but not perfect substitutes, *both* productive factors may gain from trade.

In Krugman's (1982) model of two-way trade in the context of monopolistic competition, the pattern of inter-industrial specialisation is determined by factor proportions, so that the model incorporates an element of comparative advantage. However, the existence of economies of scale and differentiated products ensures that there is also *intra*-industry specialisation and trade, which does not depend on comparative advantage (Krugman, 1982: 197). Trade liberalisation then allows producers in each country to expand both their exports and imports within an industry.[32]

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[32] Krugman (1982: 199) notes that the definition of an industry has been a major problem in modelling intra-industry trade, particularly with respect to whether a "supply-side" or "demand-side" concept should be used. In Krugman (1982), industries consist of products which are relatively close substitutes on both the supply and demand side. He argues that this is an empirically reasonable

The products of each industry in Krugman's (1982) model are produced with industry-specific labour, and each country has a different endowment of sector-specific labour supplies. A country's net export position in a given industry (that is, whether it has an overall comparative advantage or disadvantage in that sector) depends on its relative endowment of the industry-specific factor. However, a country will still import even when it has a comparative advantage, and will still export when it has a comparative disadvantage. The importance of intra-industry trade within a sector depends on the degree of product differentiation within that sector and on the strength of comparative advantage (Krugman, 1982: 203-204).

Krugman (1982: 203-204) argues that producers in both countries will oppose unilateral trade liberalisation, since foreign competition will lower the return to the industry-specific factor, usually without a compensating consumption gain. However, *reciprocal* tariff reductions will not only benefit producers in the country with a comparative advantage, but may also raise the welfare of producers in the country with a comparative disadvantage.

This may be explained as follows. Since different countries produce commodities which are imperfect substitutes for one another, the removal of trade barriers will offer consumers a wider choice. If this induces them to spend a larger share of their income on a particular industry's products then, if products are sufficiently differentiated and comparative advantage is weak, the return to that industry's specific factor may increase in the country with a comparative disadvantage.[33]

Krugman (1982: 206-207) concludes that in industries where comparative advantage

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assumption, since products with similar characteristics are likely to have similar inputs. Willmore (1979) distinguishes between intra-industry trade in products which are close but imperfect substitutes in production, consumption or both, which he terms Type A, B and C goods respectively. He argues that intra-industry trade expansion in Type A or C goods will involve very low adjustment costs, but that the benefits of intra-industry specialisation and longer production runs are more likely to occur in the case of Type A goods than Type C goods (Willmore, 1979: 200-201).

[33] The approach used by Krugman (1982) is similar to that of Jones (1971), in the sense that it allows for industry-specific factors (unlike the Heckscher-Ohlin model). While Jones (1971: 9) shows that the return to the scarce factor may increase as a result of trade, his result differs from that of Krugman (1982) in that the scarce factor which gains is that which is specific to the industry in which the country has a comparative advantage (that is, the industry for which relative prices increase when trade is opened). The specific factor in the industry with a comparative disadvantage loses absolutely in the Jones (1971) model.

is strong and product differentiation is weak, producers in the country with a comparative disadvantage stand to lose from trade liberalisation. However, producers in *both* countries will gain from mutual or bilateral trade liberalisation in an industry if neither country has too great a comparative advantage and if products are strongly differentiated within that industry, since it is then possible for both productive factors to gain from trade. This suggests that the adjustment to trade liberalisation is likely to be easier when the growth in trade is of the intra-industry type rather than the inter-industry type, which in turn is more likely to be the case between countries with similar factor endowments.[34]

The theoretical predictions of Krugman (1981, 1982) find some support in Brown *et al.*'s (1992) empirical analysis of NAFTA. According to Brown *et al.* (1992: 14), "the expected realisation of economies of scale due to a more competitive environment within the NAFTA could potentially raise the real return to both capital and labour in all three countries". This can be illustrated with reference to the profit-maximising condition for the employment of factors, namely that a firm will hire each factor up to the point where the return to that factor is equal to its marginal revenue product. For an imperfectly competitive firm, this is given by:

$$r_i = MR \times MP_i = P(1 - 1/\epsilon) \times MP_i$$

where r_i is the return to factor i, MR is the firm's marginal revenue, MP_i is the marginal physical product of factor i, and $\epsilon > 0$ is the firm's perceived elasticity of demand (Brown *et al.*, 1992: 14).

Trade liberalisation will tend to lower the return to the scarce factor by reducing its marginal product, as the Stolper-Samuelson theorem predicts. However, if it also leads each firm to perceive a more elastic demand curve, then the real return to each factor (measured by r_i/P) may increase, even though factor i's marginal physical product falls.

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[34] Krugman (1982: 198) concedes that his model depends on a number of special assumptions about utility and production functions, which are necessary to model a monopolistically competitive market structure. Indeed, Simson (1987: 124) points to the lack of a general model which shows that countries gain from trade in the presence of increasing returns and product differentiation. According to Krugman (1982: 198), it is therefore necessary in models of intra-industry trade to "be satisfied with illustrating propositions rather than proving them". While their generality is not firmly established, the results are nevertheless intuitively appealing.

Thus, in the case of increasing returns, as firms move down their average cost curves, the average product of both factors may increase, and although the *relative* return to one factor could fall, both factors may gain in absolute terms (Brown *et al.*, 1992: 14).[35]

From the discussion in the present sub-section, it appears that the welfare benefits of intra-industry exchange lie not only in the gains from trade in differentiated products, but also in the lower costs of adjustment to trade expansion of the intra-industry type. More specifically, in contrast to the traditional outcome, there may be what Simson (1987: 136) has called "an extra gain from trade", since it is possible for both productive factors in a particular country to benefit from the removal of trade restrictions.

5.3.4 The prospects for intra-industry specialisation in a regional union

Krugman's (1982) analysis, considered in Section 5.3.3 above, suggests that producers in both countries will favour reciprocal trade liberalisation over unilateral trade liberalisation in industries in which products are differentiated, due to the possibility of an "extra" gain from intra-industry exchange. Such reciprocal tariff reductions could take place either in a multilateral framework or in the context of the formation of a regional integration arrangement. The question to be considered in the present sub-section, therefore, is whether there is any reason to suppose that the potential for intra-industry specialisation may be higher in a regional rather than multilateral setting, particularly in the case of developing countries.

A number of studies have addressed the question of the specific relationship between economic integration and intra-industry trade. According to Greenaway (1991: 167), such studies have often found a tendency for intra-industry trade to be higher among countries involved in an integration arrangement, whether developing or developed (Willmore, 1974; Balassa, 1979; Balassa and Bauwens, 1988), although the theoretical

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[35] According to Behar (1991: 533), the view that the distributional consequences of trade in differentiated products are not as serious as those associated with inter-industry trade has been corroborated by Norman (1990), in a comparison of the welfare effects of tariff reductions in the European Community and the European Free Trade Association under alternative market conditions.

analysis of the link between the two is poorly developed.[36]

Despite the lack of a theoretical point of reference, Greenaway (1989: 33) identifies a number of possible causal connections between economic integration and intra-industry trade, most of which relate to the sources of intra-industry trade considered in Section 5.3.2. For example, he argues that, if the potential partner countries in a regional union have similar preference structures prior to integration, and produce similar, but differentiated products, "a greater stimulus will be given to intra-industry exchange than would be the case with multilateral liberalisation" (Greenaway, 1989: 33). Thus, the presence of similar factor endowments, similar *per capita* incomes and similar demand structures between potential partners in an integration arrangement will provide an important basis for the expansion of intra-industry trade, as observed in the European Community. Further, if access to a larger protected market through integration allows producers to lengthen production runs and effectively "exchange" scale economies, as discussed in Section 5.2 above, then the existence of demand for variety and overlapping demands together with decreasing costs may facilitate a greater degree of intra-industry specialisation than would otherwise be expected.

A final possible causal link between economic integration and intra-industry trade, considered by Greenaway (1989: 33-34), is primarily relevant to the analysis of common markets, and relates to the possible concomitant relaxation of controls on factor movements in a regional union.[37] If economic integration is accompanied by the liberalisation of capital flows, foreign direct investment may result in intra-firm trade which is recorded as intra-industry trade, either via horizontal or vertical specialisation. In this view, factor movements and intra-industry trade are considered to be complementary, with intra-industry trade emerging as a result of the activities of the multinational corporation in the international market (Agmon, 1979: 50).[38]

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[36] Ethier and Horn (1984: 210) note that the extension of theoretical models of product differentiation and intra-industry trade to customs union theory is clearly called for.

[37] This aspect was briefly considered in Section 4.3.1 of Chapter 4, in the context of Mexico's accession to NAFTA.

[38] The conventional view of the relationship between factor movements and commodity trade is that they are substitutes rather than complements (Mundell, 1957). However, Markusen (1983: 355) argues that this may be a special result which only holds when there is a Heckscher-Ohlin basis for trade. He shows that when the basis for trade is something other than differing relative factor proportions, then factor movements and commodity trade may be complements. For further

Having identified various possible deterministic links between economic integration and intra-industry trade, Greenaway (1989: 34-36) provides a comprehensive overview of the empirical evidence on the relationship between the two phenomena, distinguishing between existing documentary and econometric studies. The former consider trends in intra-industry trade over time, and include the work referred to in Section 5.3.1 above on European integration (such as Balassa, 1966) and on Latin American integration (Willmore, 1974, 1979; Balassa, 1979). In an attempt to overcome the *anti-monde* problem (that is, the question of whether the growth of intra-industry trade would have been as rapid in the absence of integration), these studies have tended either to examine intra-bloc intra-industry trade relative to total intra-industry trade, or to compare the growth of intra-industry trade in countries participating in an integration arrangement with that in comparable countries which are not members of a trading bloc.

Econometric studies have attempted to find evidence of integration effects in cross-sectional analyses of intra-industry trade (Balassa, 1979; Havrylyshyn and Civan, 1983; Balassa and Bauwens, 1987). Integration effects are tested using dummy variables, which, in most cases, turn out to be statistically significant (Greenaway, 1989: 35-36).

For the purposes of the present study, the empirical work of Willmore (1974, 1979) and Balassa (1979), linking the growth of intra-industry trade to economic integration among developing countries, is of particular interest. Balassa's (1979) study of intra-industry trade in Latin America finds that, for the most part, the degree of intra-industry specialisation in the Latin American Free Trade Association (LAFTA) countries is greater with LAFTA partners than with other developing or developed countries. This has been linked to the so-called complementarity agreements, originally designed to provide a framework for specialisation among LAFTA countries in particular product varieties, but which, under modified rules, subsequently became vehicles for preferential tariff reductions between signatories, and did not necessarily involve product specialisation (Balassa, 1979: 251). Intra-industry specialisation is found to be greater than average in electrical machinery and equipment, non-electrical machinery, and chemicals, sectors in which there are a large number of complementarity agreements.

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discussion of factor movements and intra-industry trade, see Agmon (1979) and Greenaway (1989: 34).

Intra-industry specialisation within the Central American Common Market (CACM) is also found to be higher than between the CACM countries and other developing or developed countries, and is greatest in textiles and clothing, fabricated metal products, and miscellaneous manufactured goods, followed by paper and paper products. Balassa (1979: 255) argues that the extent to which the CACM, whose members are at lower levels of development than the LAFTA countries included in the study, shows a higher degree of intra-industry specialisation than LAFTA reflects the more extensive liberalisation of intra-regional trade which has taken place in the CACM, involving the elimination of tariffs on nearly all intra-bloc trade in manufactures.

In contrast to the studies of Willmore (1974, 1979) and Balassa (1979), Havrylyshyn and Civan (1983: 127-128) find that the Latin American integration schemes do not appear to have had a significant impact on intra-industry trade. They argue that the most important reason for these contradictory results is that the dependent variable in their study is the level of *global* intra-industry trade, rather than bilateral intra-industry trade, as in the other studies. Although trade integration may increase the degree of intra-bloc intra-industry trade, if the integration scheme is essentially trade-diverting this will be offset by a reduction in extra-bloc intra-industry trade. Havrylyshyn and Civan (1983: 119) therefore argue that the net effect of economic integration on intra-industry trade will depend on whether trade creation or trade diversion predominates. While membership of a "successful" integration scheme, defined as one which results primarily in trade creation, such as the European Community, will tend to raise intra-industry trade, schemes which result in significant trade diversion, such as those in Latin America, are likely to have little net effect on intra-industry trade, and may even lower it.[39]

Greenaway (1989) concludes that the empirical evidence, taken together, suggests a causal link between economic integration and intra-industry trade, but that theoretical analysis of the underlying mechanisms is still unsatisfactory. As Behar (1991: 532) notes, "intra-industry trade may be stimulated by economic integration, but this effect is mediated by factors such as preference diversity and overlapping demand, decreasing

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[39] Balassa (1979: 259) does note that since the tariff reductions in LAFTA were undertaken on a preferential basis, they tended to be trade-diverting. However, he argues that the more complete removal of tariffs on intra-CACM trade in manufactures lead on balance to trade creation, which provided a comparatively greater stimulus to intra-industry specialisation.

costs in production and intra-firm trade, oligopolistic competition and product differentiation".

It was noted in Section 5.3.2 that the prospects for increased intra-industry specialisation are likely to be greater among countries with high and similar levels of *per capita* income. Balassa (1979: 258), however, argues that countries with relatively low but similar *per capita* income levels have much to gain from intra-industry trade in the context of a regional union, because industrialisation will occur in the framework of a larger market, allowing increased specialisation and greater competition, and avoiding the establishment of relatively high-cost industries to serve protected national markets. The ease of adjustment in the case of intra-industry specialisation, in contrast to the adjustment costs of inter-industry specialisation, provides an argument for trade integration between these countries (Balassa, 1979: 266).

While integration will be more difficult between countries at different levels of development, particularly when the more advanced members of the group have industrialised behind high tariff barriers, Balassa (1979: 266-267) argues that there is nevertheless scope for reaping benefits from horizontal and vertical specialisation in a regional union among unequal partners.

As in the case of economies of scale, considered in Section 5.2 above, the empirical evidence of the importance of intra-industry specialisation in a regional arrangement among developing countries, discussed in this section, relates essentially to the Latin American regional context. The question again arises, therefore, of the relevance of this analysis to the SADC situation. It is interesting to note, however, that even in the case of the CACM, whose members are at lower levels of development than the LAFTA countries included in Balassa's (1979) study, intra-industry trade is generally found to be higher within the bloc than between the members of the bloc and other developed or developing countries.

In the southern African context, it would be useful to examine the current extent of intra-industry trade between SADC countries in relation to the levels of intra-industry trade between SADC countries and their external trading partners, as Balassa (1979) has done for Latin America. It would also be instructive to consider the factor intensity

of these countries' trade with each other in relation to their trade with the rest of the world. It may perhaps be suggested that if the factor intensities of trade, as well as *per capita* income levels, are more similar among southern African countries (or among a subset of southern African countries) than between these countries and their trading partners in the rest of the world, then regional liberalisation could provide benefits from intra-industry specialisation which may not be readily attainable through multilateral liberalisation. This question will be considered further in Section 7.5.

5.4 Dynamic effects

The preceding analysis in this chapter, as well as in Chapter 4, has focused on the static resource reallocation effects of regional integration. It is often argued, however, that the dynamic effects of integration, while less extensively analysed and not readily quantifiable, are of greater importance, particularly in the developing country context (Jaber, 1970-71: 256; Lundahl and Petersson, 1991: 197).[40]

As noted in Section 5.1 above, the dynamic effects of economic integration refer to the possible ways in which integration may influence the rate of growth of GNP of the member countries in a regional union, in contrast to the static effects which result in a once-and-for-all welfare change. These dynamic effects have been defined to include the possible exploitation of dynamic external economies in a larger union market; the effect of integration on the volume and location of investment; the effect on economic efficiency of increased competition and reduced uncertainty; and the polarisation effect, which refers to "the cumulative worsening of the relative, or absolute, economic position of a member country or some regions in the integrated area" (Jaber, 1970-71: 254).

According to Robson (1987: 32-33), some of these factors can only doubtfully be termed "dynamic". Indeed, the whole issue of the "dynamic" effects of integration is,

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[40] Jaber (1970/71: 256), for example, argues that "[t]he emphasis should be put on dynamic rather than static effects in evaluating the desirability of economic integration among LDCs. The present economic structure is not acceptable and each LDC is trying individually to introduce positive changes. These changes are not marginal but structural. Their net effect will not be felt over a short period of time. Accordingly, any evaluation of economic integration schemes should concentrate on potential or dynamic effects".

he argues, fraught with difficulty, and insufficiently analysed. There is, however, a useful distinction to be made between the effects of market enlargement due to regional integration which result at a point in time, and those that operate continuously and depend on the lapse of time. The latter have been termed "economies of time" by Corden (1974: 249), and include dynamic external economies, which lower average costs as the length of time over which the output is produced increases, as well as the cumulative changes that are part of the process of polarisation, referred to above (Robson, 1987: 32).[41] These two aspects of the dynamic effects of integration will be the focus of the discussion in this section, after a brief consideration of the possible effects of integration on the volume and location of investment.

It has been argued that foreign direct investment (FDI) may be an essential catalyst for the dynamic benefits of integration identified in the regional integration literature (Blomström and Kokko, 1997: 12). Theoretical analysis of the possible impact of integration on foreign investment is, however, poorly developed and inconclusive, although some general observations can be made. Firstly, regional trade liberalisation may have a differential impact on foreign investment by "insiders" and "outsiders", depending on the motivation for FDI. Intra-regional FDI flows of the tariff-jumping variety are likely to fall with the removal of intra-area tariffs. However, if integration leads to trade creation, then intra-regional FDI may increase in some member countries in response to changes in the regional structure of production. This has been termed "investment diversion" by Kindleberger (1966) (Blomström and Kokko, 1997: 5-6). The removal of intra-regional tariffs may also result in "investment creation" (an inflow of FDI from the rest of the world), if external suppliers lose export markets as a result of trade diversion.[42] In the presence of internal free trade, the location of new FDI into

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[41] Corden (1974: 249) notes that the distinction should be emphasised between "economies of time" or dynamic economies and the essentially static concept of economies of scale, considered in Section 5.2 above, which results in falling costs as the scale of output *at any point in time* increases (with given factor prices). Dynamic external economies result when a firm's production creates benefits for other firms for which they do not pay, leading to lower costs for the industry as a whole over time. Such benefits may include "on-the-job" training which is relevant to the industry in general, as well as the diffusion of knowledge, both of which may generate favourable spread effects to the rest of the economy or the region (Corden, 1974: 257-264).

[42] Investment diversion is therefore a response to trade creation, while investment creation is a response to trade diversion. External FDI flows may also increase if they were initially restricted by inadequate national market size.

the region will depend on the comparative advantages of the member countries.[43]

Secondly, if the motive for FDI is internalisation of firm-specific intangible assets rather than the avoidance of trade barriers, the removal of tariffs will not reduce the incentive to engage in FDI, and may in fact stimulate overall investment flows between member countries by facilitating the more efficient operation of multinationals across regional borders.[44] Although, in this case, integration seems likely to exert a positive effect on aggregate FDI flows both into and within the region, it is possible that some member countries will experience a reduction in investment, as FDI will tend to concentrate in countries in which investment conditions are most favourable.[45] The actual outcome is ultimately an empirical question, and will depend on the degree to which trade and investment flows are liberalised in the regional union, on the locational advantages of the countries in question, and on the motivation for FDI.[46] A concentration of investment in some parts of the union could exacerbate any tendency towards polarisation within the area, considered further below.

Lundahl and Petersson (1991: 197-198) argue that the formation of an integration arrangement may permit the exploitation of dynamic external economies in a larger regional market, thereby lowering the costs of infant industry protection during the learning period and allowing optimum capacity to be reached in a shorter period of time. The benefits of dynamic economies will facilitate the gradual reduction and eventual elimination of tariffs, thereby offsetting the costs of protection and trade diversion. This

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[43] In the FTA case specifically (where there will be internal free trade but no common external tariff), foreign investors may move funds to countries with lower tariffs on raw materials and intermediate goods, resulting in "investment deflection" (El-Agraa, 1989: 49).

[44] Internalisation via the establishment of foreign affiliates will occur when the alternatives of exporting or licensing carry comparatively high transactions costs. For more discussion, see Dunning (1981), whose eclectic theory of FDI suggests that a country's net international investment position is determined by three sets of factors: ownership, locational and internalisation (OLI) advantages.

[45] More specifically, countries with unprotected and efficient markets prior to integration are likely to experience the greatest increases in foreign and domestic investment. This is because countries with lower trade barriers will be less likely to be hosting tariff-jumping FDI that may be withdrawn or diverted on integration. At the same time, those sectors characterised by high levels of protection and weak locational advantages may experience a reduction in both foreign and domestic investment.

[46] To the extent that South African multinationals, for example, have operated in neighbouring countries like Zimbabwe to avoid trade barriers, the formation of a SADC regional union may reduce intra-regional FDI. However, there may be a net increase in intra-regional FDI flows of the efficiency-seeking type. It is difficult to envisage that a SADC FTA would have a significant impact on FDI flows from outside the region, although there may be some investment deflection.

may essentially be seen as an extension of the Cooper-Massell (1965b) argument for regional integration as a means of achieving industrialisation, considered in a static framework in Section 4.3.3.

According to Lundahl and Petersson (1991: 202), dynamic external economies may provide a case for regional integration among countries at unequal levels of development, since favourable spread effects may be induced from the more advanced centres to the less developed regions and to the integrated area as a whole.[47] However, it is widely argued that any favourable dynamic effects from integration may be outweighed by adverse polarisation effects for some members in a regional union among countries at unequal levels of development (Vaitsos, 1978: 739, 746; Robson, 1987: 169-175; Lundahl and Petersson, 1991: 202). Indeed, the issue of polarisation has been a prominent theme in the literature on the effects of trade integration in southern Africa, particularly with reference to the Southern African Customs Union (SACU).[48] By contrast, Holden (1996: 54-56), drawing on the analysis of Krugman (1991), suggests that polarisation may not be inevitable in an integration arrangement involving South Africa and the smaller SADC countries.

Krugman (1991: 83) examines the question of whether smaller countries should fear economic integration "lest their industry be pulled into the inevitably larger cores of their larger neighbours". His analysis suggests a U-shaped relationship between economic integration (taken to be the absence of transport costs or barriers to trade) and welfare in the peripheral areas of a regional union, so that close integration is beneficial, but a limited move towards integration may be harmful.

This may be explained using the example of a region consisting of a "central" nation (South Africa), in which wages and hence production costs are relatively high, but which has access to a larger market, and a "peripheral" nation (Malawi), with low labour costs, but poorer market access. Suppose that the location of production for an industry is chosen simply to minimise the sum of production and transport costs

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[47] These effects include technological diffusion and a higher demand for imports generated by the growth of the more advanced centres.

[48] See, for example, Lundahl and Petersson (1991: 202-207), Mayer and Zarenda (1994: 36-38) and McCarthy (1994: 175-180).

(Krugman, 1991: 96-97).[49] In terms of production costs alone, it is cheaper to produce the good in Malawi, where wages are lower. However, it is cheaper to produce the good in one location only, rather than in both, because of economies of scale. Further, production in South Africa (the central nation) involves lower transport costs than production in Malawi, while production in both countries reduces transport costs to zero.

When transport costs are high enough to outweigh the economies of scale benefit of producing in one location only, production will take place in both countries. On the other hand, if transport costs are very low, production will take place in the lower-wage country, Malawi. However, if transport costs are at an intermediate level, they may be low enough to make the concentration of production to reap economies of scale worthwhile, yet still high enough to make market access outweigh production cost as a determinant of location, so that production shifts to the higher-cost central nation, South Africa. The relationship between transport costs and the peripheral country Malawi's output in this industry is therefore U-shaped. This implies that if trade barriers are substantially reduced in a regional union, peripheral low-wage countries should not lose industry to the core; however, a partial move towards integration may induce polarisation.

According to Krugman (1991: 84-87), therefore, polarisation of industrial activity is not inevitable, and will depend on the size of the larger core, the level of transport costs, the degree of economies of scale and the share of "footloose" industries. This implies that it cannot be concluded, *a priori*, that the integration of South Africa with the smaller SADC countries will result in polarisation.

Robson (1987: 74) notes that, from an *ex post* point of view, it is difficult to determine the extent to which polarisation can be attributed to the effect of integration *per se*, rather than to the impact of structural factors that would have produced a similar result even in the absence of integration. The question of the degree to which SACU has resulted in the polarisation of development is a case in point, particularly in view of the length of time for which the union has been in existence.

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[49] As Holden (1996: 55) notes, transport costs may be interpreted in the broader sense to include all barriers to trade.

There has been much debate in the southern Africa literature about whether the practical workings of SACU *per se* have been the major constraint on the industrial development of the smaller SACU countries (Maasdorp, 1982: 90-95; Lundahl and Petersson, 1991: 218-219; ADB, 1993b: 266-270). While the ADB (1993b: 267) argues that the workings of SACU have been a major factor behind the shallow industrial structures of Botswana, Lesotho, Namibia and Swaziland (BLNS), it also emphasises the "natural" constraints on industrial deepening in these countries, such as the small size of domestic markets, skills shortages, geographical remoteness and high transport costs. Other reasons given for the inability of the BLNS countries to take advantage of access to the larger customs union market include the economies of scale and agglomeration benefits of locating close to the larger, more developed South African market, as well as competition from the former homelands as a result of subsidies offered under South Africa's regional industrial development programme (ADB, 1993b: 268).

Problems related to the SACU Agreement directly have mainly revolved around the use of the provisions of the Agreement relating to industrial development.[50] While it has been argued that the BLNS countries have not taken full advantage of these provisions, their use was made difficult by a Secret Memorandum of Understanding attached to the 1969 Agreement, whose existence only came to light in the late 1980s, requiring applicants for protection in the smaller countries (not South Africa) to demonstrate that they were in a position to supply at least 60 per cent of the SACU market (Maasdorp and Whiteside, 1993: 44; Blumberg, 1994: 3).[51] Mayer and Zarenda (1994: 37) argue that there is widespread support for the view that the Secret Memorandum "has been the single largest constraint to industrial development in the BLNS countries", while Holden (1996: 62) suggests that further research into the determinants of industrialisation in the BLNS countries is needed before any conclusions can be drawn.

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[50] These include Article 6, allowing for infant-industry protection by the smaller countries for up to eight years; Article 7, allowing the specification of "pioneer" industries in the smaller countries and the period for which they should receive tariff assistance and relief; and Article 11, allowing the prohibition of imports "for economic, social, cultural and other reasons" (Maasdorp, 1982: 91-92).

[51] South Africa's use, in the past, of Article 11 to prevent certain projects from going ahead in the smaller countries has also been seen as a deliberate attempt to frustrate their industrial development (ADB, 1993b: 268). A further problem often cited as a contributing factor to polarisation is the smaller countries' lack of fiscal discretion, noted in Chapter 1, as customs and excise policies for the union are determined by South Africa (Mayer and Zarenda, 1994: 37).

A further consideration is that many South African and overseas firms were established in Botswana, Lesotho and Swaziland during the sanctions period (ADB, 1993b: 267; Holden, 1996: 62).[52] Holden (1996: 62) argues that there is no evidence of such firms relocating back to South Africa, while there is evidence of increasing investments by South African firms in Zimbabwe, Zambia, Mozambique and Malawi. She suggests, therefore, that the reduction of trade barriers, including transport costs, in southern Africa may well encourage the location of firms in lower-wage areas, implying that polarisation is not an inevitable outcome.[53]

5.5 Conclusion

As noted in Section 5.1, the theoretical analysis in Chapter 4 considers only the static welfare effects of economic integration based on the assumption of perfect competition. Any assessment of the potential effects of trade integration, particularly in the developing country context, needs to go further, however, to incorporate an analysis of imperfectly competitive market structures and the dynamic effects of integration.

In Section 5.2, the comparative static framework of Chapter 4, in which production is subject to constant or rising costs, was extended to include the possibility of internal economies of scale. While the exploitation of economies of scale in a larger regional market is seen as a major motive for integration, the important question, for the purposes of this study, is whether the enlarged market in a regional union among countries of unequal size and levels of development will, in sectors in which scale economies are important, mainly benefit producers in the larger countries. The discussion in this section suggests that it cannot be concluded, *a priori*, that this will be the case, and that the smaller countries may in fact be the major beneficiaries, because of the higher excess cost they incur of operating at below optimal scale.

Further, it may be argued that the presence of scale could enhance the advantages of

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[52] These countries have also benefited from access to overseas markets under both Lomé and GSP preferences.

[53] As noted in Chapter 3, investment flows from South Africa to the rest of SADC are seen as an important way of offsetting trade imbalances in the region.

a protected regional market over non-preferential tariff policy as a means of achieving industrialisation more efficiently.[54]

The discussion in Section 5.3 considered the implications of increased intra-industry specialisation as a result of regional integration, by allowing for product differentiation in the presence of increasing returns. While intra-industry trade is predominantly a feature of trade between high-income countries at a similar stage of development, the analysis suggests that there is scope for intra-industry specialisation between similar low-income countries, as well as between countries at unequal levels of development.

An analysis of the welfare implications of intra-industry specialisation shows that there may be gains from intra-industry trade in excess of those predicted by conventional trade theory, largely because of economies of scale and product differentiation. Further, the adjustment to trade liberalisation is likely to be easier when the ensuing trade expansion is of the intra-industry type. While the costs of adjustment are entirely ignored in the comparative static analysis of customs unions, Robson (1987: 44) argues that they should be included in any complete welfare appraisal.

Given the potential benefits of intra-industry specialisation, the prospects for achieving these gains in a regional union among developing countries was considered. The evidence on Latin America suggests that there may be more scope for intra-industry specialisation in a regional union with other developing countries than in the case of generalised multilateral liberalisation. Empirical analysis is required to investigate the relative levels of intra-regional and extra-regional intra-industry trade in SADC, as well as the factor intensity of trade between SADC members relative to their trade with the rest of the world. These issues are examined further in Section 7.5.

Finally, the possible dynamic effects of economic integration were examined in Section 5.4. While this whole area is fraught with difficulty, the polarisation aspect is a prominent theme in the southern African literature on trade integration. The question of polarisation essentially relates to what Foroutan (1993: 259) has called the "cost" of trade creation, namely the possible loss of industrial activity by less-developed

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[54] Robson (1987: 48-52) adapts the Cooper-Massell (1965b) analysis, considered in Section 4.3.3, to Corden's (1972) economies of scale framework.

members if industry migrates to the more advanced countries in the union, considered in these terms in Section 4.3.3. However, the discussion in Section 5.4 suggests that polarisation of development may not be inevitable in a regional union among countries of unequal size and levels of development. This in turn has important implications for the current debate about the question of compensation in a regional FTA involving South Africa and the other SADC countries, considered further in Chapter 8.

It is apparent from the discussion in Chapters 4 and 5 that a full assessment of the likely effects of the formation of a SADC FTA on member countries in the aggregate, and on individual sectors within member countries, would need to account for a wide range of factors. As Page (1997: 6-7) notes, both the theoretical and empirical analysis of the effects of the formation of a regional bloc have to be based on a large number of assumptions, and the data are never good enough for the calculations required. In the absence of a thorough and complete welfare assessment, it does not seem possible to conclude, *a priori*, that the smaller SADC members will necessarily lose from joining South Africa in a FTA.

Of the studies considered in Chapter 3, only Evans (1996, 1997a,b) and IDC (1995b) have attempted a sectoral analysis of the effects of the formation of a SADC FTA. Despite the limitations of these studies, to be considered in subsequent chapters, some quantification of the possible effects of the FTA is important, to determine whether there is likely to be a need for compensation within the union, and whether the benefits will be large enough for those who gain to compensate those adversely affected.[55]

The studies of Evans (1996, 1997a,b) appear to be the most analytically ambitious attempts to address, empirically, the question of the economic desirability of a southern African FTA. Evans (1996) is apparently the only study available to date (apart from IDC's rough simulation) which gives detailed sectoral effects of the formation of a SADC FTA for each country. Given the debate about the sectoral and distributional implications of a southern African regional union incorporating South Africa, the results of the Evans studies, and the method by which they were derived, warrant careful consideration.

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[55] Other studies which have attempted to quantify the welfare effects of trade integration in southern Africa have focused on SACU (Bourne, 1989; Leith, 1992).

CHAPTER 6

THE REGIONAL TRADE MODEL FOR SOUTHERN AFRICA

6.1 Introduction

As noted in Chapter 5, one of the most analytically ambitious studies available to date of the likely effects of regional trade integration in southern Africa is that of Evans (1996). This study's important contribution is that it appears to be the only serious attempt so far to provide quantitative estimates of the impact of a SADC FTA on each of the individual members of SADC. Furthermore, the study does this on the basis of estimates of the effects on member countries for each of 27 individual sectors of the economy. It thus appears to be the only available study which addresses quantitatively the critical questions currently occupying policy-makers and researchers in the region of the potential sectoral and distributional effects of the formation of the FTA.[1]

In view of this, the way in which the results of Evans (1996) are arrived at calls for careful consideration. The aim of this chapter, thus, is to explain in some detail, indeed in rather more detail than is provided in the study itself, the nature of the simulation model employed by Evans in arriving at his estimates of the impact of a SADC FTA on member countries.

With this as essential background, an attempt is made in Chapter 7 to provide a critical assessment of Evans' quantitative estimates and the inferences drawn from them. The analysis will draw on similar empirical studies conducted for other regional groupings, as well as on some of the considerations raised in Chapters 4 and 5. Ultimately what is at stake is the validity of Evans' conclusion that the gains from the formation of a FTA among members of SADC are likely to be widespread, and the adverse effects limited.

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[1] As noted in Chapter 3, Evans (1997a) undertook a subsequent simulation of the effects of a SADC FTA, with an improved database. Although the *detailed* simulation results for each sector were not reported in the second study, the results of both simulations are considered in the discussion which follows.

Evans (1996) uses a static, partial equilibrium model to estimate the effects of the formation of a SADC FTA on output, trade, employment and customs revenue for 27 sectors in eight SADC countries using data for the period 1990-92 or, in some cases, 1991-93.[2] The effects of the formation of the FTA are estimated for two scenarios: a "worst-case" or "no-growth" scenario, and an alternative scenario characterised by 3 per cent growth in both SADC and the ROW, as well as a 3 per cent reduction in tariffs faced by SADC exporters in ROW markets.

In the "growth" scenario, the assumed 3 per cent growth rate does not result from the formation of the FTA itself, and the estimated effects on output, trade and employment therefore do not seem to reflect the effects of the formation of the FTA as such. Moreover, while the "growth" scenario also reflects the effects of a 3 per cent reduction in tariffs faced by SADC exporters in ROW markets (presumably due to the implementation of the Uruguay Round), it involves no corresponding reduction in *SADC* tariffs faced by ROW exporters, despite the fact that the tariffs which will be applied by SADC countries when the FTA is formed will also be significantly different from those which have been assumed.[3] Furthermore, Evans' own policy recommendations appear to be based on the results he obtains for the so-called "worst-case" scenario. The discussion below therefore focuses on this case.

In the "worst-case" scenario, Evans (1996: 9) finds that the formation of a SADC FTA results, in SADC as a whole, in only a 0.2 per cent increase in total demand, a 0.1 per cent fall in import-competing production, and has a negligible effect on employment.[4] Intra-regional imports increase by 16.9 percent and intra-regional exports rise by 11.9

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[2] The BLNS countries were excluded from the 1996 simulation for data reasons. In the 1997 simulation, the SACU database had been completed, allowing the model to be estimated for the seven SADC countries outside SACU, and for SACU as a whole (Evans, 1997a: 3-4).

[3] In the later simulation, the tariffs levels used reflect "the stylised fact that the SAPs [in all SADC countries except Angola]...have reduced tariffs to a rough equivalence with SACU for 1996, except where country tariffs are lower than SACU" (Evans, 1997a: 3). The question of the tariff estimates used by Evans (1996, 1997a) will be considered further in Chapter 7.

[4] The corresponding results for the subsequent simulation were a 0.3 per cent increase in demand, a 0.2 per cent fall in import-competing supply, and a 0.09 per cent increase in employment (Evans, 1997a: 11).

per cent.[5] SADC's imports from the ROW decrease by 1.3 per cent overall, while exports to the ROW are unchanged. The overall SADC balance of payments position therefore improves, but there is a net loss of customs revenue for SADC as a whole of 8.4 per cent (US$303.8 million).[6] In absolute terms, demand increases by US$252.8 million, import-competing production falls by US$90.7 million, imports from the ROW fall by US$255.2 million, intra-SADC imports increase by US$353.7 million, and intra-SADC exports expand by US$204.9 million.[7] On the basis of these results, Evans (1996: 2) concludes, in contrast to many other studies, that the formation of the FTA will lead to "strong intra SADC trade creation effects".

Although the effect on SADC as a whole is important, the overriding consideration for SADC members is the impact of the FTA on individual countries and on "sensitive" sectors within SADC. The question of the *distribution* of the gains and losses resulting from the formation of the FTA is therefore arguably the more important issue, and will be the focus of the subsequent discussion. This has been stressed by Page (1997: 9), who notes that although the aggregate effects of the FTA may not be large, the effects for individual industries or producers in particular countries may be larger.

The remainder of this chapter will examine the structure and mechanics of the Regional Trade Model for Southern Africa (RTMSA). While Evans (1996) reports detailed simulation results for each sector in each SADC country included in the exercise, and

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5 These should, of course, be equal (see Section 2.6.1). However, Evans (1996: 7) notes that "no attempt was made to reconcile exports recorded by a reporting country, and the recorded imports from that country reported by her SADC trading partners". Initial intra-regional imports and exports are given as US$2092.9 million and US$1721.6 million respectively (Evans, 1996: 9). In the subsequent 1997 simulation, it was generally "assumed that the import estimates were correct and the exports were adjusted using the accounting identify (*sic*) that SADC imports and exports in each sector must be the same" (Evans, 1997a: 3). Here, initial intra-SADC imports and exports are given as US$1099.8 million and US$1100 million respectively, both of which increase by 18.5 per cent on formation of the FTA (Evans, 1997a: 11).

6 In Evans (1997a: 11), there is a negligible change in the level of imports from the ROW (reported as 0.0 per cent to one decimal place). However, there is a *worsening* of the overall SADC balance of payments position, which suggests an *increase* in imports from the ROW (albeit a small one), since exports to the ROW are not affected in the "worst-case" scenario. This important difference in the direction of change in ROW imports in the two simulations, which has implications for the trade diversion consequences of the FTA, will be considered further in Chapter 7. Evans (1997a: 11) reports a customs revenue loss of 6.0 per cent for SADC as a whole.

7 Again, the absolute changes in intra-SADC imports and exports should be equal (see Footnote 4 above). In the later simulation, overall demand increases by US$431.2 million and import-competing production falls by US$240.9 million, while intra-SADC imports and exports each increase by US$203.5 million.

outlines the structure of the import side of the model, there is no in-depth explanation of how relative price changes resulting from the removal of intra-SADC tariffs, in a given sector, work through the model to affect the key economic variables under analysis. More specifically, it is not clear from the report how the structure and assumptions of the RTMSA influence the magnitude and direction of change of these key variables when a FTA is formed. It is important to understand how the results were obtained in order to see why particular countries or sectors gain or lose in terms of the criteria used in the study, and to be able to assess the usefulness of such simulation exercises.

The rest of the chapter is organised as follows. Section 6.2 examines the workings of the import side of the RTMSA. An attempt is made to clarify how the model's structure and assumptions affect the direction and magnitude of the changes in a country's imports from SADC and the ROW, domestic import-competing supply and domestic demand for importables in a given sector when intra-SADC tariffs are removed. In Section 6.3, the method of calculation of the effects of the FTA on customs revenue is outlined given the direction of change in imports from the two sources predicted by the model. Section 6.4 considers the export side of the RTMSA, specifically the method of calculation of a country's change in exports in a particular sector on formation of the FTA. In Section 6.5, an attempt is made to clarify the balance of payments implications of the FTA in the light of the model's assumptions, while Section 6.6 examines the calculation of the effects of the FTA on employment. The aim in each section is to draw out the implications of the model's structure and assumptions, which will be considered further in Chapter 7. Section 6.7 concludes.

Evans (1996: 9) defines the key economic variables under consideration as follows:

D	=	domestic demand for importables
S_M	=	import-competing production (domestic production for domestic use)[8]
M	=	total imports
M_S	=	imports from SADC
M_R	=	imports from the ROW (thus $M = M_S + M_R$)
E	=	total exports
E_S	=	exports to SADC
E_R	=	exports to the ROW (thus $E = E_S + E_R$)
L	=	employment.

[8] Denoted as S_M in the tables containing the simulation results (Evans, 1996: 9, 37-44), but as S in the technical annex (Evans, 1996: 59-65).

The simulation results (Evans, 1996: 9, 37-44) indicate the initial values and percentage changes in these variables which follow the formation of the FTA. The initial values of gross output are not shown separately by Evans (1996), but can be calculated as the sum of initial import-competing production and exports.[9] It is useful for the purposes of the discussion to spell out the following relationships which hold between the variables, but which are not stated explicitly in the study:

$D = GO + M - E$
$S_M = GO - E$ where GO = gross output.

Thus,

$D = S_M + M = S_M + M_S + M_R$ and
$GO = S_M + E = S_M + E_S + E_R$.

6.2 The import side of the RTMSA

The import side of the RTMSA uses the Armington (1969) formulation where goods from different sources of supply are treated as imperfect substitutes (as opposed to the more standard trade specification where domestically and foreign-produced goods are perfect substitutes), allowing for product differentiation by country of origin, and hence intra-industry trade (Dervis *et al.*, 1982: 219-221, 233). The Armington methodology, in which the elasticity of substitution between different sources of supply is treated as constant, has been useful in estimating the effects of relative price changes (due, for example, to changes in trade policy) on the balance between imports and domestic production in import-competing sectors (Evans, 1996: 31).

Evans (1996) introduces further substitution into the Armington formulation, whereby imports from within SADC and from the ROW are also imperfectly substitutable and responsive to relative price changes.[10] The Armington functions are therefore twice nested: at the first level, a composite import commodity M_i is defined which is made up

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[9] The percentage change in gross output in each sector which occurs when the FTA is formed is not shown either, but will equal the percentage change in employment in each sector, given the assumption that the output/employment ratio remains constant (see Section 6.6 below). This, of course, does not imply that the *absolute* changes in output and employment will be equal.

[10] In this respect, the structure of the model is similar to that developed by Corado and de Melo (1986) to analyse the impact of a country joining a customs union, which they apply to an *ex ante* examination of the effects of Portugal's accession to the European Community.

of imports from within SADC and from the ROW, while at the second level, the composite import is then imperfectly substitutable for import-competing production. The latter stage defines a composite importable commodity D_i which is a constant elasticity of substitution (CES) aggregation of the composite import and import-competing production. As in Corado and de Melo (1986: 155), the elasticities of substitution between the two sources of imports on the one hand, and between aggregate imports and domestic production on the other, are constant, but not necessarily equal. Total domestic supply is then the sum of import-competing production and aggregate imports, while domestic demand is determined by a demand function in which the price of the composite good and income are arguments (Evans, 1996: 60). Once each variable has been defined in the base period, its variation in response to relative prices changes resulting from the removal of intra-SADC tariffs can be determined.

Section 6.2 is divided into four main subsections. Section 6.2.1 corresponds to the first level of nesting in the model, and derives expressions for the changes in imports from SADC and the ROW when a FTA is formed. Section 6.2.2 corresponds to the second level of nesting, and examines the effect of relative price changes on the balance between imports and domestic production. In Section 6.2.3, expressions for the changes in the levels of domestic demand and its components are derived. Section 6.2.4 considers how the model's assumptions influence the magnitude and direction of the changes in these variables.

6.2.1 Share of imports from SADC and the ROW in aggregate imports

At the first level of nesting, for each commodity i, Evans (1996: 60) defines an aggregate or composite import M_i which is a CES aggregation of imports from SADC (M_{Si}) and imports from the ROW (M_{Ri}).[11] Given the prices of imports from the two sources, the problem facing the user or buyer is noted by Dervis *et al.* (1982: 222) to

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[11] The CES aggregation function is given by:

$$M_i = B_{Mi}[\delta_{Mi}M_{Si}^{-\rho Mi} + (1-\delta_{Mi})M_{Ri}^{-\rho Mi}]^{-1/\rho Mi}$$

where B_{Mi} and δ_{Mi} are parameters, and $1/(1+\rho_{Mi}) = \sigma_{Mi}$ is the elasticity of substitution between imports from the two sources (Evans, 1997b).

be "mathematically equivalent to that facing the firm wishing to produce a specified level of output at minimum cost". The solution is to find a ratio of "inputs" (M_{Si} to M_{Ri}) so that the marginal rate of substitution (MRS) equals the ratio of the price of imports from the ROW to the price of imports from SADC (P_{MRi}/P_{MSi}).

The first-order condition for cost minimisation gives:

$$m_{SRi} = (M_{Si}/M_{Ri}) = (P_{MRi}/P_{MSi})^{\sigma Mi}(\delta_{Mi}/1-\delta_{Mi})^{\sigma Mi} \quad (1)$$

where P_{MSi} and P_{MRi} are the prices of imports from SADC and the ROW respectively (Evans, 1997b; Dervis *et al.*, 1982: 222).[12]

In Section 6.2.1.1, the variation in the ratio of imports from the two sources (m_{SRi}) when relative prices change is determined. This allows for the derivation in Section 6.2.1.2 of expressions for the calculation of the proportionate changes in the levels of imports from the two sources when a FTA is formed.

6.2.1.1 The change in the ratio of imports from the two sources

In order to find the variation in the ratio of imports from the two sources (m_{SRi}) when relative prices change, the first order condition is log differentiated, yielding:

$$\hat{m}_{SRi} = \sigma_{Mi}(\hat{P}_{MRi} - \hat{P}_{MSi}) \quad \text{(Evans, 1997b).}[13]$$

This can be explained more intuitively by defining the (constant) elasticity of substitution between imports from SADC and imports from the rest of the world as:

$$\sigma_{Mi} = \frac{\%\Delta(M_{Si}/M_{Ri})}{\%\Delta(P_{MRi}/P_{MSi})} \quad (2)$$

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[12] The first-order condition can be expressed by $MRS_{MSi,MRi} = (P_{MRi}/P_{MSi})$ (Henderson and Quandt, 1980: 14).

[13] A ^ indicates a log differential.

rather than using the form $\sigma_{Mi} = 1/(1+\rho_{Mi})$ defined in the study.

In this way it can clearly be seen that the change in the ratio of imports from SADC to imports from the ROW depends on the change in the relative price of imports from the two sources and the elasticity of substitution σ_{Mi}.[14] The elasticity of substitution is assumed by Evans (1996: 34) to be 2.5 (evidently across *all* sectors in *all* SADC countries), indicating a fairly high degree of substitutability between imports from within SADC and from the ROW.[15]

In the case of a FTA, the removal of a country's tariff on imports from SADC in a particular sector will lower the price of imports from SADC (raising the relative price of imports from the ROW).[16] If, for example, the relative price ratio (P_{MRi}/P_{MSi}) increases by 20 per cent, then, with an elasticity of substitution of 2.5, the ratio m_{SRi} (i.e. M_{Si}/M_{Ri}) will increase by 50 per cent.[17]

With initial import prices set equal to one, $\hat{P}_{MRi} = dt_{MRi}$ and $\hat{P}_{MSi} = dt_{MSi}$ (Evans, 1997b). Since $\hat{P}_{MRi} = 0$ in the FTA case, it follows that:

$$\hat{m}_{SRi} = \sigma_{Mi}(\hat{P}_{MRi} - \hat{P}_{MSi})$$
$$= -\sigma_{Mi}(\hat{P}_{MSi}).$$

For a given elasticity of substitution, the increase in the ratio of imports from SADC to imports from the ROW (m_{SRi}) will be greater, the higher the fall in the price of imports from SADC (P_{MSi}) on formation of the FTA, and hence the higher the initial tariff. The increase in m_{SRi} can be calculated, given the initial tariff data and the assumed elasticity of substitution between imports from the two sources.

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[14] An infinite elasticity of substitution would mean that imports from the two sources were perfect substitutes, while an elasticity of substitution equal to zero would indicate perfect complements.

[15] The model's elasticity assumptions will be considered more fully in Chapter 7.

[16] In the case of a *customs union*, the change in relative prices would also be affected by the level at which the common external tariff against the ROW is set.

[17] Note that σ_{Mi} as defined in (2) will be positive.

6.2.1.2 The change in imports from SADC and the ROW individually

The functional forms outlined above allow for the derivation of expressions to determine the proportionate changes in imports from SADC and the ROW resulting from the removal of intra-SADC tariffs.

From (1) it can be seen that $\hat{m}_{SRi} = \hat{M}_{Si} - \hat{M}_{Ri}$. Hence:

$$\hat{M}_{Si} = \hat{m}_{SRi} + \hat{M}_{Ri} \qquad (3)$$

where $\hat{M}_{Si}$ is the proportionate or percentage change in imports from SADC.

The proportionate change in composite imports can be written as:

$$\hat{M}_i = \hat{M}_{Si}\theta_{MSi} + \hat{M}_{Ri}\theta_{MRi} \qquad (4)$$

where θ_{MSi} and θ_{MRi} are the respective value shares *at initial prices* of imports from SADC and imports from the ROW in total imports of good i; that is, $\theta_{MSi} = (P_{MSi}M_{Si}/P_{Mi}M_i)$ and $\theta_{MRi} = (P_{MRi}M_{Ri}/P_{Mi}M_i)$ (Evans, 1997b).

An expression for the proportionate change in imports from the ROW can be found by substituting $\hat{M}_{Si}$ from (3) into (4) which yields, after some manipulation:

$$\hat{M}_i = \hat{m}_{SRi}\theta_{MSi} + \hat{M}_{Ri}.$$

This can be re-arranged to give:

$$\hat{M}_{Ri} = \hat{M}_i - \hat{m}_{SRi}\theta_{MSi} \qquad (5).$$

Substituting $\hat{M}_{Ri}$ from (5) into (3) gives:

$$\hat{M}_{Si} = \hat{M}_i + \hat{m}_{SRi}\theta_{MRi} \qquad \text{(Evans, 1997b) (6).}$$

The proportionate changes in the levels of imports from the two sources can thus be found by calculating the proportionate change in composite imports. The latter is determined from the next level in the Armington aggregation.

6.2.2 Share of composite imports and domestic production in total domestic use

At the second level of nesting in the RTMSA, an aggregate or composite commodity D_i is defined which is a CES aggregation of composite imports (M_i) and domestic production for domestic use (S_{Mi}).[18] In an analogous manner to the former level, the user will find the ratio of M_i to S_{Mi} so that the marginal rate of substitution (MRS) equals the ratio of the price of the domestically-produced commodity to the price of the imported commodity (P_{SMi}/P_{Mi}) (Dervis *et al.*, 1982: 222).

The first-order condition for cost minimisation by users of imported and domestic goods gives:

$$r_{MSi} = (M_i/S_{Mi}) = (P_{SMi}/P_{Mi})^{\sigma Di}(\delta_{Di}/1-\delta_{Di})^{\sigma Di} \qquad (7)$$

where P_{SMi} and P_{Mi} are the domestic and composite import good prices respectively (Evans, 1997b; Dervis *et al.*, 1982: 222).[19]

In a similar manner to the previous level, Section 6.2.2.1 determines the variation in the ratio of composite imports to domestic production (r_{MSi}) when relative prices change, allowing the derivation of expressions for the calculation of the proportionate changes in composite imports and import-competing production when a FTA is formed. However, it is found that to calculate the variation in this ratio, the impact of the removal of intra-SADC tariffs on the price of the composite import good needs to be determined. This is dealt with in Section 6.2.2.2.

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[18] The CES aggregation function is given by:

$$D_i = B_{Di}[\delta_{Di}M_i^{-\rho Di} + (1-\delta_{Di})S_{Mi}^{-\rho Di}]^{-1/\rho Di}$$

where B_{Di} and δ_{Di} are parameters, and $1/(1+\rho_{Di}) = \sigma_{Di}$ is the elasticity of substitution between composite imports and domestic production (Evans, 1997b).

[19] The first-order condition can be expressed, similarly as before, by $MRS_{Mi,SMi} = (P_{SMi}/P_{Mi})$.

6.2.2.1 The change in the ratio of imports to domestic production

As before, to find the variation in the ratio of imported to domestically-produced goods (r_{MSi}) when relative prices change, the first order condition is log differentiated, yielding:

$$\hat{r}_{MSi} = \sigma_{Di}(\hat{P}_{SMi} - \hat{P}_{Mi}) \qquad \text{(Evans, 1997b).}$$

Once again, it is useful to define the constant elasticity of substitution between imports and domestic production as:

$$\sigma_{Di} = \frac{\%\Delta(M_i/S_{Mi})}{\%\Delta(P_{SMi}/P_{Mi})} \qquad (8).$$

The change in the ratio of imports to domestic production for domestic use therefore depends on the change in the relative price of domestic to foreign goods and the elasticity of substitution σ_{Di}. The elasticity of substitution between composite imports and domestic production is assumed by Evans (1996: 34) to be 0.5 for capital and intermediate goods, and 2.5 for "other" (mostly consumer) goods (once again, evidently across *all* SADC countries). This indicates that imports and domestic production are less substitutable (i.e. more complementary or "non-competing") in capital and intermediate good sectors than in other sectors.

Further, the price elasticity of domestic supply is assumed to be infinite, due to the assumption of excess capacity in the manufacturing sectors of the SADC region (Evans, 1996: 33-34). This feature of the model, which is considered more carefully in Chapter 7, implies that there will be no adjustment in the domestic price when tariffs are removed (Corado and de Melo, 1986: 155). Thus $\hat{P}_{SMi} = 0$, and $\hat{r}_{MSi} = -\sigma_{Di}\hat{P}_{Mi}$.

Given the assumption of excess capacity, then, the change in the ratio of imports to domestic production (r_{MSi}) depends on the constant elasticity of substitution between composite imports and import-competing production (σ_{Di}) and the change in the composite import good price (P_{Mi}). Since σ_{Di} is given, the impact of the removal of intra-SADC tariffs on the price of the composite import good needs to be determined, in order to see how the ratio r_{MSi} is affected in the case of a FTA.

6.2.2.2 The change in the composite import price due to the removal of the intra-SADC tariff

Since imports from SADC of commodity i are one component of the "aggregate" or composite import commodity M_i (made up of imports from SADC and imports from the ROW), the fall in the relative price of imports from SADC when intra-SADC tariffs are removed will lower the average price of the "aggregate" import M_i. Total differentiation of the cost function derived from the CES aggregation function in Section 6.2.1 yields an expression for the variation in the composite import good price:[20]

$$\hat{P}_{Mi} = \theta_{MSi}\hat{P}_{MSi} + (1-\theta_{MSi})\hat{P}_{MRi}$$

where θ_{MSi} is, once again, the value share of imports from SADC in total imports of commodity i (Evans, 1997b; Dervis *et al.*, 1982: 238).[21] The variation in the aggregate import price can be seen as a weighted sum of the variation in the prices of imports from the two sources, with their respective value shares serving as the weights.

In the FTA case (when $\hat{P}_{MRi}=0$), the responsiveness of the aggregate import price P_{Mi} to a given fall in P_{MSi} depends on the value share of imports from SADC in total imports of the good (θ_{MSi}). The higher this share, the larger is the fall in the aggregate import price. The fall in the average import price in this case is therefore some proportion of the fall in the price of imports from SADC, the proportion being larger, the larger the initial share of imports from SADC in total imports.[22]

Equally, for a given value share θ_{MSi}, the fall in the aggregate import price will be larger, the larger the fall in the price of imports from the SADC source (i.e. the higher the initial tariff). The greatest reduction in the price of the composite import good (i.e. the

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20 The cost function derived from the CES aggregation function is:
$$P_{Mi} = (1/B_{Mi})[\delta^{\sigma Mi}P_{MSi}^{(1-\sigma Mi)} + (1-\delta)^{\sigma Mi}P_{MRi}^{(1-\sigma Mi)}]^{1/(1-\sigma Mi)}$$ (Dervis *et al.*, 1982: 232).

21 Note that $(1-\theta_{MSi}) = \theta_{MRi}$, the value share of imports from the ROW in total imports, defined earlier.

22 Assuming there is a tariff on good i, the composite import price P_{Mi} will necessarily fall in the FTA case, because the initial tariff is retained on imports from the ROW. In the case of a *customs union*, the change in P_{Mi} will also be influenced by any difference between the level at which the common external tariff (CET) is set and the initial tariff level. Such a difference would affect P_{MRi}, which may increase or fall, depending on whether the initial tariff on the good is raised or lowered to meet the CET.

greatest $\hat{P}_{Mi}$) can thus be expected in those sectors with a relatively high initial tariff in which the value share of imports from SADC in total imports is relatively high. The fall in P_{Mi} can be calculated, given the initial tariff data and the initial share of imports from SADC in total imports.

Recall from Section 6.2.2.1 that the change in the ratio of imported to domestically-produced goods in the case of a FTA can be expressed as $\hat{r}_{MSi} = -\sigma_{Di}\hat{P}_{Mi}$. Since σ_{Di}, as defined in Expression (8), is positive, the fall in the composite import good price will clearly raise the ratio of imports to domestic production (r_{MSi}).[23] For a given elasticity of substitution, the increase in the ratio of aggregate imports to domestic production will be greater the higher the fall in P_{Mi}, and hence the higher the initial tariff and share of imports from SADC in total imports.

The magnitude of the substitution elasticity σ_{Di} itself determines the responsiveness of the ratio $r_{MSi} = (M_i/S_{Mi})$ to changes in the relative price of imported goods brought about by the formation of the FTA (Dervis *et al.*, 1982: 222). Recall that the elasticity of substitution between imports and domestic production is assumed to be 0.5 for capital and intermediate goods and 2.5 for consumer goods. Clearly, then, for a given fall in P_{Mi}, the increase in r_{MSi} will be five times smaller in intermediate and capital good sectors than in other sectors, indicating that imports are less substitutable for domestic production.

The increase in r_{MSi} can now be calculated, given the fall in the import price calculated above, and given the assumption that domestic supply is perfectly elastic, as well as the assumed magnitudes of the elasticity of substitution between imports and domestic production.

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[23] In terms of Expression (8), given the assumption of excess capacity, the fall in the composite import good price (P_{Mi}) when the tariff on imports from SADC is removed will raise the relative price ratio (P_{SMi}/P_{Mi}), and hence the ratio of imports to domestic production (M_i/S_{Mi}). Note that although the ratio $r_{MSi} = (M_i/S_{Mi})$ increases, this does not necessarily mean that import-competing production S_{Mi} will fall (see Section 6.2.4.3 below).

6.2.3 Changes in domestic demand, imports and import-competing supply

In the model's final stage, changes in the actual levels of domestic demand, imports and import-competing supply when relative prices vary can be determined, given the increase in the ratio of imported to domestically-produced goods calculated above. In Section 6.2.3.1, an expression for the proportionate change in domestic demand D_i is derived. In order to solve this expression, it is apparent that the change in the price of the composite good P_{Di} needs to be determined. This is dealt with in Section 6.2.3.2. Finally, expressions are derived for the proportionate changes in aggregate imports M_i and import-competing production S_{Mi} in Sections 6.2.3.3 and 6.2.3.4 respectively.

6.2.3.1 The change in domestic demand D_i

It was noted at the beginning of Section 6.2 that demand for the composite commodity D_i is a function of its price and the level of income:

$$D_i = f(P_{Di}, Y)$$

from which one can write:

$$\hat{D}_i = \epsilon^d_i \hat{P}_{Di} + \phi_i \hat{Y} \qquad \text{(Evans, 1997b).}$$

ϵ^d_i is the price elasticity of demand for the composite good and ϕ_i is the income elasticity of demand. The price elasticity of demand is assumed by Evans (1997b) to be -0.8 for agricultural, intermediate and capital goods, and -1.3 for other goods, in all SADC countries.[24] In the "worst-case" scenario, on which the discussion is based, the change in domestic demand can be written as $\hat{D}_i = \epsilon^d_i \hat{P}_{Di}$.

In order to determine the change in demand for the composite good D_i, it is necessary to find the effect of the change in the composite import price P_{Mi} on the price of the composite commodity P_{Di} when intra-SADC tariffs are removed.

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[24] The portion of the change in domestic demand D_i which is due to a change in income, i.e. $(\phi_i \hat{Y}_i)$, is only relevant in the so-called "growth" scenario. The income elasticity of demand is assumed to be 0.75 for agricultural, intermediate and capital goods, and 1.25 for other goods (Evans, 1997b).

6.2.3.2 The change in the price of the composite commodity due to the change in the composite import price

Since aggregate imports are one component of the composite commodity D_i (comprised of aggregate imports and import-competing production), the fall in P_{Mi} will, given the assumption of excess capacity, lower the price of the composite good P_{Di}. Proceeding as before, total differentiation of the cost function derived from the CES aggregation function in Section 6.2.2 yields the following expression for the variation in P_{Di}:

$$\hat{P}_{Di} = \theta_{Mi}\hat{P}_{Mi} + (1-\theta_{Mi})\hat{P}_{SMi}$$

where θ_{Mi} is the value share of imports in total domestic demand for good i; that is $(P_{Mi}M_i/P_{Di}D_i)$.[25] The variation in the price of the composite commodity ($\hat{P}_{Di}$) can thus be seen as a weighted sum of the variation in the prices of the composite import good and the domestically-produced good, with their respective value shares in composite domestic demand serving as the weights.

Given the assumption of excess capacity, which implies that $\hat{P}_{SMi}=0$, the variation in the price of the composite commodity $\hat{P}_{Di}$ can be written as $\theta_{Mi}\hat{P}_{Mi}$ (Evans, 1997b). The responsiveness of the composite good price P_{Di} to a given fall in P_{Mi} thus depends on the import share θ_{Mi}. The higher the import share, the larger is the fall in the composite good price. The fall in the composite good price is thus some proportion of the fall in the aggregate import price, the proportion being larger, the larger the initial import share.

Further, for a given import share θ_{Mi}, the fall in the price of the composite good will be larger, the greater the fall in the aggregate import price P_{Mi}. Recall from Section 6.2.2.2 that the largest fall in the aggregate import price in the FTA case can be expected when the value share of imports from SADC in total imports is relatively high and the initial tariff is relatively high. Thus, given the assumption of excess capacity, the greatest reduction in the composite good price P_{Di} can be expected in those sectors with a high import share, in which imports from SADC form a relatively high proportion of total

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[25] Note that $(1-\theta_{Mi}) = \theta_{SMi}$, the value share of import-competing production in domestic demand, $(P_{SMi}S_{Mi}/P_{Di}D_i)$.

imports, and which have relatively high initial tariffs.[26]

The fall in P_{Di} can be calculated, given the fall in P_{Mi} determined in Section 6.2.2.2, and given the initial share of imports in total domestic demand.

Recall from Section 6.2.3.1 that the change in demand for the composite good in the "worst-case" scenario can be written as $\hat{D}_i = \epsilon^d_i \hat{P}_{Di}$. Given the assumed price elasticity of demand for the composite good and the fall in P_{Di} calculated above, the increase in demand for the composite good, resulting from the fall in the import price when the FTA is formed, can be determined. For a particular elasticity, the increase in D_i will be greater, the larger the fall in P_{Di}.

The magnitude of the price elasticity of demand for the composite good itself will determine the responsiveness of demand to a given change in the composite good price. If ϵ^d_i is large, a given fall in P_{Di} will result in a substantial increase in D_i.[27]

The determination of the proportionate change in total domestic demand allows for the derivation of expressions for the proportionate changes in its components, aggregate imports M_i and import-competing production S_{Mi}, when relative prices vary.

6.2.3.3 The change in composite imports M_i

It was noted in Section 6.2.1.2 that in order to calculate the proportionate changes in imports from SADC and the ROW individually which result from the formation of the FTA, the proportionate change in composite imports had to be determined from the next level in the Armington aggregation.

Domestic demand for commodity i is the sum of composite imports and domestic production for domestic use. The total derivative of this is:

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[26] The implications of the assumption of excess capacity will be considered further in Chapter 7.

[27] It will also be seen, in Section 6.2.4 below, that the *relative magnitudes* of the price elasticity of demand and the elasticity of substitution between imports and domestic production are important in determining the net effect of a FTA on the components of D_i, namely import-competing production S_{Mi} and composite imports M_i.

$dD_i = dM_i + dS_{Mi}$.

Hence, the proportionate change in demand for the composite good can be written as:

$$\hat{D}_i = \hat{M}_i\theta_{Mi} + \hat{S}_{Mi}(1-\theta_{Mi}) \qquad \text{(Evans, 1997b) (9).}$$

Recall that r_{MSi} denotes the ratio of imported to domestically-produced goods (M_i/S_{Mi}). Hence, $\hat{r}_{MSi} = \hat{M}_i - \hat{S}_{Mi}$. This can be re-arranged to give:

$$\hat{S}_{Mi} = \hat{M}_i - \hat{r}_{MSi} \qquad (10).$$

Substituting $\hat{S}_{Mi}$ from (10) into (9) yields:

$$\hat{D}_i = \hat{M}_i\theta_{Mi} + (\hat{M}_i - \hat{r}_{MSi})(1-\theta_{Mi}).$$

After some manipulation, this can be re-arranged to give an expression for the proportionate change in aggregate imports:

$$\hat{M}_i = \hat{D}_i + \hat{r}_{MSi}(1-\theta_{Mi}) \qquad \text{(Evans, 1997b) (11).}$$

The proportionate change in aggregate imports M_i when a FTA is formed can be calculated, given the change in demand determined in Sections 6.2.3.1 and 6.2.3.2, and the change in the ratio of imports to domestic production r_{MSi} determined in Sections 6.2.2.1 and 6.2.2.2. This in turn allows for the calculation of the proportionate changes in imports from SADC and the ROW individually (M_{Si} and M_{Ri}), using the expressions derived earlier in Section 6.2.1.2.

The magnitude and direction of change of M_i, M_{Si} and M_{Ri} will be considered in Section 6.2.4 below, in the light of the assumptions of the RTMSA.

6.2.3.4 The change in import-competing supply S_{Mi}

An expression for the proportionate change in import-competing supply on formation of

the FTA can be found by substituting Expression (11) for the change in imports back into Expression (10), yielding, after some manipulation:

$$\hat{S}_{Mi} = \hat{D}_i - \hat{r}_{MSi}\theta_{Mi} \qquad \text{(Evans, 1997b) (12).}$$

As with the variation in composite imports, the proportionate change in import-competing supply S_{Mi} can now be calculated, since all its components are known. The magnitude and direction of change of S_{Mi} will also be considered in Section 6.2.4 below, in the light of the model's assumptions.

6.2.4 The magnitude and direction of change of the key variables, given the assumptions of the RTMSA

As noted in Section 6.1, Evans (1996, 1997a,b) does not examine how the structure and assumptions of the RTMSA influence the magnitude and direction of change of the key economic variables when a FTA is formed. The present, final section relating to the import side of the RTMSA attempts to address this by using the model's equations to derive expressions for the proportionate changes in these variables solely in terms of elasticities, shares and the change in the composite import price P_{Mi} when intra-SADC tariffs are removed.

Since the direction of change in the composite import price is unambiguous in the case of a FTA, depending only on the size of the tariff removed and the initial share of imports from SADC, and since the assumed magnitudes of the various elasticities are known, these expressions will clarify the implications of the model's assumptions for the results obtained from the simulations.

6.2.4.1 Domestic demand D_i

Recall that, in the "worst-case" scenario, the expression for the proportionate change in domestic demand is given by $\hat{D}_i = \epsilon^d_i \hat{P}_{Di}$. Further, given the assumption of excess

capacity, $\hat{P}_{Di} = \theta_{Mi}\hat{P}_{Mi}$. The proportionate change in domestic demand can thus be written as:

$$\hat{D}_i = (\epsilon^d_i\theta_{Mi})\ \hat{P}_{Mi} \qquad (13).$$

6.2.4.2 Composite imports M_i

Recall from Expression (11) that the proportionate change in composite imports is given by $\hat{M}_i = \hat{D}_i + \hat{r}_{MSi}(1-\theta_{Mi})$. Further, given the assumption of excess capacity (which implies that $\hat{P}_{SMi} = 0$), the proportionate change in the ratio of composite imports to domestic production $\hat{r}_{MSi} = -\sigma_{Di}\hat{P}_{Mi}$. Thus:

$$\begin{aligned}
\hat{M}_i &= \hat{D}_i + \hat{r}_{MSi}(1-\theta_{Mi}) \\
&= \epsilon^d_i\hat{P}_{Di} - \sigma_{Di}\hat{P}_{Mi}(1-\theta_{Mi}) \\
&= -\sigma_{Di}(1-\theta_{Mi})\ \hat{P}_{Mi} + \epsilon^d_i\hat{P}_{Di} \\
&= -\sigma_{Di}(1-\theta_{Mi})\ \hat{P}_{Mi} + \epsilon^d_i\theta_{Mi}\hat{P}_{Mi} \\
&= (-\sigma_{Di}(1-\theta_{Mi}) + \epsilon^d_i\theta_{Mi})\ \hat{P}_{Mi} \qquad (14).
\end{aligned}$$

The portion $(-\sigma_{Di}(1-\theta_{Mi}))\ \hat{P}_{Mi}$ of Expression (14) depicts the increase in M_i due to the substitution of M_i for S_{Mi} when relative prices change, while the portion $(\epsilon^d_i\theta_{Mi})\ \hat{P}_{Mi}$ reflects the increase in M_i due to the rise in demand for the composite good D_i. Although both effects work in the same direction, their relative importance depends on the relative sizes of the elasticity of substitution between imports and domestic production and the price elasticity of demand for the composite good, as well as on the import share.

For consumer good sectors, $\sigma_{Di} = 2.5$ and $\epsilon^d_i = -1.3$. Thus:

$$\begin{aligned}
\hat{M}_i &= (-2.5(1-\theta_{Mi}) - 1.3\theta_{Mi})\ \hat{P}_{Mi} \\
&= (-2.5 + 2.5\theta_{Mi} - 1.3\theta_{Mi})\ \hat{P}_{Mi} \\
&= (-2.5 + 1.2\theta_{Mi})\ \hat{P}_{Mi}.
\end{aligned}$$

Since the import share must lie between zero and one (i.e. $0 \leq \theta_{Mi} \leq 1$), it is clear that $(-2.5 + 1.2\theta_{Mi}) \leq 0$. Given that the composite import good price P_{Mi} falls when the intra-SADC tariff is removed, composite imports increase by between $-1.3\hat{P}_{Mi}$ and $-2.5\hat{P}_{Mi}$ (or, more generally, by between $\epsilon^d_i\hat{P}_{Mi}$ and $-\sigma_{Di}\hat{P}_{Mi}$).

For intermediate and capital good sectors, $\sigma_{Di} = 0.5$ and $\epsilon^d_i = -0.8$. Thus:

$$\begin{aligned}\hat{M}_i &= (-0.5(1-\theta_{Mi}) - 0.8\theta_{Mi})\,\hat{P}_{Mi} \\ &= (-0.5 + 0.5\theta_{Mi} - 0.8\theta_{Mi})\,\hat{P}_{Mi} \\ &= (-0.5 - 0.3\theta_{Mi})\,\hat{P}_{Mi}.\end{aligned}$$

Since $(0 \leq \theta_{Mi} \leq 1)$, it can be seen that $(-0.5 - 0.3\theta_{Mi}) \leq 0$. Given that the composite import good price P_{Mi} falls when the intra-SADC tariff is removed, composite imports still increase, but by between $-0.5\hat{P}_{Mi}$ and $-0.8\hat{P}_{Mi}$. Note that the increase in M_i is less in these sectors for a given fall in P_{Mi}, since demand is less responsive to price changes (the absolute value of ϵ^d_i is lower) and M_i and S_{Mi} are less substitutable (shown by the lower σ_{Di}).

6.2.4.3 Import-competing supply S_{Mi}

Recall from Expression (12) that the proportionate change in import-competing production is given by $\hat{S}_{Mi} = \hat{D}_i - \hat{f}_{MSi}\theta_{Mi}$. Further, as before, the assumption of excess capacity yields: $\hat{f}_{MSi} = -\sigma_{Di}\hat{P}_{Mi}$. Thus:

$$\begin{aligned}\hat{S}_{Mi} &= \hat{D}_i - \hat{f}_{MSi}\theta_{Mi} \\ &= \epsilon^d_i\hat{P}_{Di} + (\sigma_{Di}\hat{P}_{Mi})\theta_{Mi} \\ &= (\sigma_{Di}\theta_{Mi})\,\hat{P}_{Mi} + \epsilon^d_i\hat{P}_{Di} \\ &= (\sigma_{Di}\theta_{Mi})\,\hat{P}_{Mi} + (\epsilon^d_i\theta_{Mi})\,\hat{P}_{Mi} \\ &= (\sigma_{Di}\theta_{Mi} + \epsilon^d_i\theta_{Mi})\,\hat{P}_{Mi} \qquad (15).\end{aligned}$$

It can be seen from this expression that there are two opposing influences on the direction of change in import-competing production. The first is a substitution effect, whereby the fall in the import price induces a substitution of imports for domestic

production. This is depicted by the term $(\sigma_{Di}\theta_{Mi})\ \hat{P}_{Mi}$ in Expression (15), and is a negative influence. However, Dervis *et al.* (1982: 237) note that the demand for the domestically-produced good is a derived demand, since it enters the CES aggregation function of Section 6.2.2. Therefore, the fall in the import price, which lowers the price of the composite good P_{Di}, induces an increase in demand for the composite good D_i, which implies an increase in demand for the domestic good S_{Mi}. This second effect, termed a "price effect" by Dervis *et al.* (1982: 237), is depicted by the term $(\epsilon^d_i\theta_{Mi})\ \hat{P}_{Mi}$ in Expression (15) (which equals $\epsilon^d_i\hat{P}_{Di}$), and exerts a positive influence on S_{Mi}.

The net effect of a FTA on import-competing production thus depends on whether this price effect outweighs the substitution effect or *vice versa*, which, as is demonstrated below, depends on the relative magnitudes of the price elasticity of demand for the composite good ϵ^d_i and the elasticity of substitution between imports and domestic production σ_{Di} (Dervis *et al.*, 1982: 240).

As before, for consumer good sectors, $\sigma_{Di} = 2.5$ and $\epsilon^d_i = -1.3$. Thus:

$$\begin{aligned}\hat{S}_{Mi} &= (2.5\theta_{Mi} - 1.3\theta_{Mi})\ \hat{P}_{Mi} \\ &= (1.2\theta_{Mi})\ \hat{P}_{Mi}.\end{aligned}$$

Since $(0 \leq \theta_{Mi} \leq 1)$, it is clear that $(1.2\theta_{Mi}) \geq 0$. Given that the composite import good price P_{Mi} falls when a FTA is formed, import-competing production in these sectors will fall by between 0 and $1.2\hat{P}_{Mi}$.

For intermediate and capital good sectors, $\sigma_{Di} = 0.5$ and $\epsilon^d_i = -0.8$. Thus:

$$\begin{aligned}\hat{S}_{Mi} &= (0.5\theta_{Mi} - 0.8\theta_{Mi})\ \hat{P}_{Mi} \\ &= (-0.3\theta_{Mi})\ \hat{P}_{Mi}.\end{aligned}$$

Since $(0 \leq \theta_{Mi} \leq 1)$, it follows that $(-0.3\theta_{Mi}) \leq 0$. Given that the composite import good price P_{Mi} falls, import-competing production in these sectors will *increase* by between 0 and $-0.3\hat{P}_{Mi}$. Note that the change (increase) in S_{Mi} is less in these sectors than the change (fall) in S_{Mi} in the other sectors, since although M_i and S_{Mi} are less substitutable (σ_{Di} is lower), demand is also less responsive to price changes (shown by

the lower absolute value of ϵ^d_i).

It can thus be seen that if the substitution elasticity outweighs (the absolute value of) the demand elasticity, the substitution of imports for domestic production will outweigh any tendency for S_{Mi} to increase in response to the rise in demand for the composite good D_i. The net effect in this case is a fall in import-competing production. This will occur in consumer good sectors in the RTMSA.

In intermediate and capital good sectors, however, the elasticity of substitution between imports and import-competing production (0.5) is less than the absolute value of the price elasticity of demand for the composite good (0.8). Therefore, both composite imports and import-competing production increase in these sectors when the FTA is formed.

Import-competing sectors can thus be divided into import complements and import substitutes, depending on the degree of substitutability between domestic and foreign goods as well as on the sectoral elasticity of demand for the composite good (Dervis *et al.*, 1982: 240).[28] In intermediate and capital good sectors where $\sigma_{Di} < |\epsilon^d_i|$, the formation of a FTA will cause import-competing production to *increase* when composite imports rise, and foreign and domestic goods can be seen as complements or non-competing. For other sectors, where if $\sigma_{Di} > |\epsilon^d_i|$, import-competing production falls when a FTA is formed, and foreign and domestic goods are substitutes.

6.2.4.4 Imports from the rest of the world M_{Ri}

Recall from Expression (5) that the proportionate change in imports from the ROW is given by $\hat{M}_{Ri} = \hat{M}_i - \hat{m}_{SRi}\theta_{MSi}$. Further, the proportionate change in the ratio of imports from SADC to imports from the ROW is $\hat{m}_{SRi} = \sigma_{Mi}(\hat{P}_{MRi} - \hat{P}_{MSi})$. In the FTA case, tariffs are retained on ROW imports, implying that $\hat{P}_{MRi}=0$. Therefore $\hat{m}_{SRi} = -\sigma_{Mi}\hat{P}_{MSi}$. Thus:

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[28] According to Dervis *et al.* (1982: 240), this "reflects the traditional distinction between competitive imports and noncompetitive imports, but...allows for variations in the degree of substitutability rather than the simple and extreme classification that treats imports as either perfect substitutes or perfect complements for domestic production".

$$\begin{aligned}\hat{M}_{Ri} &= \hat{M}_i - \hat{m}_{SRi}\theta_{MSi} \\ &= \hat{M}_i - (-\sigma_{Mi}\hat{P}_{MSi})\theta_{MSi} \\ &= \hat{M}_i + \sigma_{Mi}\theta_{MSi}\hat{P}_{MSi}.\end{aligned}$$

Now, recall that the variation in the price of the composite import good is given by $\hat{P}_{Mi} = \theta_{MSi}\hat{P}_{MSi} + (1-\theta_{MSi})\hat{P}_{MRi}$. Thus, in the FTA case (when $\hat{P}_{MRi}=0$), it follows that $\hat{P}_{Mi} = \theta_{MSi}\hat{P}_{MSi}$. Therefore:

$$\begin{aligned}\hat{M}_{Ri} &= \hat{M}_i + \sigma_{Mi}\theta_{MSi}\hat{P}_{MSi} \\ &= \hat{M}_i + \sigma_{Mi}\hat{P}_{Mi}.\end{aligned}$$

Substituting $\hat{M}_i$ from (14) yields:

$$\begin{aligned}\hat{M}_{Ri} &= (-\sigma_{Di}(1-\theta_{Mi}) + \epsilon^d_i\theta_{Mi})\,\hat{P}_{Mi} + \sigma_{Mi}\hat{P}_{Mi} \\ &= (-\sigma_{Di}(1-\theta_{Mi}) + \epsilon^d_i\theta_{Mi} + \sigma_{Mi})\,\hat{P}_{Mi} \qquad (16).\end{aligned}$$

As in the case of the change in import-competing production, there are opposing influences on the direction of change in imports from the ROW when a FTA is formed. These have important implications for the trade diversion consequences of a FTA.

The demand for imports from the ROW is also a derived demand, since it enters the CES aggregation function in Section 6.2.1. Therefore, although the removal of intra-SADC tariffs will induce a substitution of M_{Si} for M_{Ri}, there is also a "price" effect similar to that in Section 6.2.4.3, whereby the fall in the price of imports from SADC, which lowers the composite import price P_{Mi}, induces an increase in demand for composite imports M_i. This influence tends to *increase* the demand for imports from the ROW.

The terms $(-\sigma_{Di}(1-\theta_{Mi}))\,\hat{P}_{Mi}$ and $(\epsilon^d_i\theta_{Mi})\,\hat{P}_{Mi}$ in Expression (16) exert a positive influence on the direction of change in M_{Ri}. Both derive from the increase in composite imports when a FTA is formed, depicted by Expression (14). The former results from the substitution of M_i for S_{Mi}, while the latter is the price effect referred to above.

The other term in Expression (16), $\sigma_{Mi}\,\hat{P}_{Mi}$, reflects the substitution of M_{Si} for M_{Ri} when intra-SADC tariffs are removed, and thus exerts a negative influence on the direction of

change in M_{Ri}.

Despite these opposing influences, it can be shown that, given the magnitudes of the elasticities which have been assumed, the net effect of the formation of a FTA will be a decrease in imports from the ROW.

As before, for consumer good sectors, $\sigma_{Di} = 2.5$ and $\epsilon^d_i = -1.3$, while the elasticity of substitution between imports from the two sources σ_{Mi} is also assumed to be 2.5. Thus:

$$\begin{aligned}\hat{M}_{Ri} &= (-2.5(1-\theta_{Mi}) - 1.3\theta_{Mi} + 2.5)\,\hat{P}_{Mi} \\ &= (-2.5 + 2.5\theta_{Mi} - 1.3\theta_{Mi} + 2.5)\,\hat{P}_{Mi} \\ &= (1.2\theta_{Mi})\,\hat{P}_{Mi}.\end{aligned}$$

Since $(0 \leq \theta_{Mi} \leq 1)$, it follows that $(1.2\theta_{Mi}) \geq 0$. Given that the composite import good price falls, imports from the ROW will fall by between 0 and $1.2\hat{P}_{Mi}$.

The assumption of equal elasticities of substitution between imports from the two sources and between composite imports and domestic supply produces an anomalous result for these sectors. Since $\sigma_{Di} = \sigma_{Mi} = 2.5$, the expression:

$$\begin{aligned}\hat{M}_{Ri} &= (-\sigma_{Di}(1-\theta_{Mi}) + \epsilon^d_i\theta_{Mi} + \sigma_{Mi})\,\hat{P}_{Mi} \\ &= (-\sigma_{Di} + \sigma_{Di}\theta_{Mi} + \epsilon^d_i\theta_{Mi} + \sigma_{Mi})\,\hat{P}_{Mi}\end{aligned}$$

effectively becomes:

$$\hat{M}_{Ri} = (\sigma_{Di}\theta_{Mi} + \epsilon^d_i\theta_{Mi})\,\hat{P}_{Mi}$$

which is equal to $\hat{S}_{Mi}$, the proportionate change in import-competing production.

For intermediate and capital good sectors, $\sigma_{Di} = 0.5$ and $\epsilon^d_i = -0.8$. However, the elasticity of substitution between imports from the two sources σ_{Mi} is still assumed to be 2.5. Thus:

$$\begin{aligned}\hat{M}_{Ri} &= (-0.5(1-\theta_{Mi}) - 0.8\theta_{Mi} + 2.5)\,\hat{P}_{Mi} \\ &= (-0.5 + 0.5\theta_{Mi} - 0.8\theta_{Mi} + 2.5)\,\hat{P}_{Mi} \\ &= (2 - 0.3\theta_{Mi})\,\hat{P}_{Mi}.\end{aligned}$$

With $(0 \leq \theta_{Mi} \leq 1)$, it can be seen that $(2 - 0.3\theta_{Mi})$ will be positive. As before, imports from the ROW will fall when a FTA is formed, but by between $1.7\hat{P}_{Mi}$ and $2\hat{P}_{Mi}$. This is because composite imports increase by less than in other sectors, due to the lower σ_{Di} and absolute ϵ^{d}_{i}, while the substitution of M_{Si} for M_{Ri} is just as strong. The positive influences on the direction of change in M_{Ri} are therefore weaker, while the negative substitution effect is the same.

Note that for these sectors σ_{Di} is not equal to σ_{Mi}, so the earlier anomaly disappears, and the proportionate change in S_{Mi} will not equal the proportionate change in M_{Ri}. The two variables will, indeed, move in opposite directions.

If M_{Si} and M_{Ri} were allowed to be less substitutable in some sectors, imports from both sources could increase when a FTA was formed (Corado and de Melo, 1986: 158). This question will be considered further in Chapter 7.

6.2.4.5 Imports from SADC M_{Si}

Recall from Expression (6) that the proportionate change in imports from SADC is given by $\hat{M}_{Si} = \hat{M}_{i} + \hat{m}_{SRi}\theta_{MRi}$. Further, as above, in the FTA case, $\hat{m}_{SRi} = -\sigma_{Mi}(\hat{P}_{MSi})$. Thus:

$$\begin{aligned}\hat{M}_{Si} &= \hat{M}_{i} + \hat{m}_{SRi}\theta_{MRi} \\ &= \hat{M}_{i} - \sigma_{Mi}(\hat{P}_{MSi})\theta_{MRi} \\ &= \hat{M}_{i} - \sigma_{Mi}\theta_{MRi}(\hat{P}_{MSi}).\end{aligned}$$

Substituting $\hat{M}_{i}$ from (14) yields:

$$\begin{aligned}\hat{M}_{Si} &= (-\sigma_{Di}(1-\theta_{Mi}) + \epsilon^{d}_{i}\theta_{Mi})\hat{P}_{Mi} - (\sigma_{Mi}\theta_{MRi})\,\hat{P}_{MSi} \\ &= [(-\sigma_{Di}(1-\theta_{Mi}) + \epsilon^{d}_{i}\theta_{Mi})\theta_{MSi}]\hat{P}_{MSi} - [\sigma_{Mi}\theta_{MRi}]\,\hat{P}_{MSi} \\ &= [(-\sigma_{Di}(1-\theta_{Mi}) + \epsilon^{d}_{i}\theta_{Mi})\theta_{MSi} - \sigma_{Mi}\theta_{MRi}]\,\hat{P}_{MSi}\end{aligned}$$

$$= [(-\sigma_{Di}(1-\theta_{Mi}) + \epsilon^{d}{}_{i}\theta_{Mi})\theta_{MSi} - \sigma_{Mi}(1-\theta_{MSi})]\ \hat{P}_{MSi}$$

$$= [-\sigma_{Di}(1-\theta_{Mi})\theta_{MSi} + \epsilon^{d}{}_{i}\theta_{Mi}\theta_{MSi} - \sigma_{Mi}(1-\theta_{MSi})]\ \hat{P}_{MSi} \qquad (17).^{29}$$

The term $[-\sigma_{Di}(1-\theta_{Mi})\theta_{MSi}]\ \hat{P}_{MSi}$ in Expression (17), which equals $[-\sigma_{Di}(1-\theta_{Mi})]\ \hat{P}_{Mi}$, depicts the increase in M_{Si} due to the substitution of M_i for S_{Mi} (see Expression (14)). This reflects trade creation via the production effect. The portion $[\epsilon^{d}{}_{i}\theta_{Mi}\theta_{MSi}]\ \hat{P}_{MSi}$, which equals $[\epsilon^{d}{}_{i}\theta_{Mi}]\ \hat{P}_{Mi}$, depicts the increase in M_{Si} due to the rise in demand for the composite good D_i (see Expression (14)), reflecting trade creation via the consumption effect. In accordance with the discussion in Section 4.2.2, trade creation will be greater, the higher the initial share of imports from the partner θ_{MSi}, the higher the initial tariff (giving a larger fall in P_{MSi}), and the more elastic demand.[30] Trade creation will be enhanced, the higher the degree of substitutability between imports and domestic production (i.e. the higher σ_{Di}).

Finally, the term $[-\sigma_{Mi}(1-\theta_{MSi})]\ \hat{P}_{MSi}$ in Expression (17) shows the increase in M_{Si} due to the substitution of M_{Si} for M_{Ri}. This indicates the trade diversion effect of the FTA, which, plausibly, will be lower if the initial share of imports from SADC (θ_{MSi}) is large. Trade diversion will be higher, the greater the substitutability between imports from SADC and imports from the ROW (σ_{Mi}).

The relative magnitudes assumed for the elasticities of substitution and the elasticity demand therefore have important implications for the trade creation-trade diversion consequences of the FTA. This aspect will be considered further in Chapter 7.

6.2.4.6 Summary

Section 6.2.4 has attempted to use the equations of the RTMSA to clarify the magnitude and direction of change in the key economic variables when a FTA is formed, given the assumed magnitudes of the model's various elasticity parameters. In Section

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[29] Note that, unlike Expressions (13) to (16), this equation is in terms of $\hat{P}_{MSi}$ rather than $\hat{P}_{Mi}$. Of course, P_{MSi} falls unambiguously when intra-SADC tariffs are removed.

[30] In this framework, however, as the discussion in Chapter 7 shows, complete displacement of imports from the ROW by the partner is not a necessary condition for trade creation to occur.

6.2.4.5, specifically, manipulation of the expression for the proportionate change in imports from SADC when intra-SADC tariffs are removed facilitates the distinction between the increase in M_{Si} which can be attributed to trade creation, and that which results from trade diversion. Since the assumed values of the elasticities are known, conclusions may be drawn about the likely trade creation-trade diversion consequences of the FTA in particular sectors. This is discussed further in Chapter 7.

6.3 Changes in customs revenue on formation of the FTA

The customs revenue (CR) earned by a SADC member before the formation of the FTA is simply the sum of the revenue derived from imports from the rest of SADC (M_{Si}) and imports from the ROW (M_{Ri}). This can be written as $t_0 (M_{Si0} + M_{Ri0})$, where t_0 is the initial tariff rate, and M_{Si0} and M_{Ri0} are the initial values of imports from SADC and the ROW respectively.

Once the FTA is formed, CR will no longer be earned on either existing or additional imports from SADC, since the intra-SADC tariff is removed. The new CR is therefore derived only from M_{Ri}, which has itself fallen. The new level of CR will thus be $t_0 (M_{Ri0} + \hat{M}_{Ri})$, where M_{Ri0} is the initial value of imports from the ROW and $\hat{M}_{Ri}$ is the proportionate fall in M_{Ri} when the FTA is formed.

The change in CR is therefore the difference between the new CR and the initial CR:

$$\begin{aligned} \Delta CR &= t_0 (M_{Ri0} + \hat{M}_{Ri}) - t_0 (M_{Si0} + M_{Ri0}) \\ &= t_0 (\hat{M}_{Ri} - M_{Si0}). \end{aligned}$$

The proportionate change in CR is thus:

$$\begin{aligned} \hat{C}R &= [t_0 (\hat{M}_{Ri} - M_{Si0})]/[t_0 (M_{Si0} + M_{Ri0})] \\ &= (\hat{M}_{Ri} - M_{Si0})/(M_{Si0} + M_{Ri0}) \\ &= (\hat{M}_{Ri} - M_{Si0})/M_{i0} \end{aligned}$$

where M_{i0} is the initial total level of imports.

Therefore, the percentage fall in CR will be greater, the higher the initial level of imports

from SADC and the larger the proportionate fall in imports from the ROW.

The loss of customs revenue on initial imports from SADC and displaced ROW imports is not entirely a deadweight loss to the country. Since the price of imports from the SADC source has fallen, part of the loss in customs revenue will be transferred to domestic consumers as increased surplus. This question, which relates to the analysis in Section 4.2.2, but which is not addressed by Evans (1996, 1997b), will be considered further in Chapter 7.

6.4 The export side of the RTMSA

The import side of the RTMSA captures the effects of the removal of the home country's tariffs on imports from SADC on the components of that country's domestic demand (import-competing production, imports from SADC and imports from the ROW), as well as on domestic demand in the aggregate. The export side, on the other hand, considers the impact on the home country's exports to SADC (E_{Si}) of the removal of tariffs by *other* SADC countries.[31]

The RTMSA retains the assumption of excess capacity on the export side, giving perfectly elastic export supply. The expansion of exports as the FTA is formed will consequently have no effect on import-competing production.[32] Evans (1996: 34) states that "...export supply is...considered to be responsive to falling tariffs within the SADC FTA, to improved market access in the...ROW, and to expanding incomes".[33]

Since intra-SADC imports of commodity i are initially equal to intra-SADC exports of commodity i, it follows that the change in the total level of intra-SADC imports of commodity i when a FTA is formed must equal the change in the total level of intra-SADC exports of that commodity.

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[31] The formation of the FTA itself does not alter SADC members' terms of access to ROW markets. Hence exports to the ROW (E_{Ri}) are unaffected in the "worst-case" scenario.

[32] The implications of this assumption are considered in Chapter 7.

[33] The effects of improved market access to the ROW and rising incomes on the level of exports are only relevant in the so-called "growth" scenario.

For each sector, therefore:

$$\Sigma M_{Si}^{k} = \Sigma E_{Si}^{k} \qquad k = 1...8$$

where M_{Si}^{k} is the level of imports from the rest of SADC of commodity i by SADC country k, and E_{Si}^{k} is the level of exports to the rest of SADC of commodity i by SADC country k (Evans, 1997b).

Therefore, when intra-SADC tariffs are removed:

$$\Sigma dM_{Si}^{k} = dM_{Si} = dE_{Si} \qquad \text{(Evans, 1997b).}$$

To calculate an individual country's change in exports to the rest of SADC when a FTA is formed, the change in total intra-SADC exports dE_{Si} is allocated between countries according to their initial market share. Therefore:

$$dE_{Si}^{k} = dE_{Si}\, \theta_{ESi}^{k} \qquad \text{(Evans, 1997b)}$$

where dE_{Si}^{k} is the change in country k's exports of commodity i to the rest of SADC,
dE_{Si} is the change in total intra-SADC exports of commodity i, and
θ_{ESi}^{k} is the *initial* share of country k's exports in total intra-SADC exports of commodity i.

The implications of the structure of the export side of the RTMSA, in particular the use of constant market shares to calculate the impact of the removal of tariffs on a country's exports to SADC, will be considered further in Chapter 7.

6.5 The change in the balance of payments

Given the assumptions of the RTMSA, the formation of a SADC *free trade area* results in an equiproportionate increase in intra-SADC imports and exports from the same base and a fall in imports from the ROW, with no change in exports to the ROW in the "worst-case" scenario. The balance of payments (BOP) position of SADC as a whole

should therefore necessarily improve *vis-à-vis* the ROW.[34]

Recall from Section 6.2.4.2 that, given the RTMSA assumptions, composite imports M_i increase when a FTA is formed. This implies that the absolute increase in intra-SADC imports (M_{Si}) exceeds any absolute fall in imports from the ROW (M_{Ri}). A particular country's BOP will therefore improve as long as the absolute increase in its exports to SADC (E_{Si}) exceeds the absolute increase in total imports (M_i). The change in the BOP can be written as follows:

$$\begin{aligned} dBOP &= M_{i0}\hat{M}_i + E_{Si0}\hat{E}_{Si} \\ &= M_{Si0}\hat{M}_{Si} + M_{Ri0}\hat{M}_{Ri} + E_{Si0}\hat{E}_{Si} \end{aligned}$$

where E_{Si0} is the initial level of exports to SADC, while M_{Si0} and M_{Ri0} are, as before, the initial level of imports from SADC and the ROW respectively.

6.6 The employment effects of the formation of a FTA

The employment effects of the formation of the SADC FTA depend on its impact on domestic industry (import-competing production and exports). The important assumption made here by Evans (1996: 65) is that the output per worker ratio (GO/L) remains constant before and after the formation of the FTA.

The simulation results indicate the percentage changes in import-competing production and exports to SADC which follow the formation of the FTA. It is thus possible to calculate the new gross output, from which the new level of employment can be found, given the assumption that the ratio of output to employment remains constant. As noted in Section 6.1 (Footnote 9), the proportionate change in gross output will equal the proportionate change in employment, but the absolute changes will obviously differ.

Clearly, any decrease in employment due to a fall in import-competing production (S_{Mi}) will be offset to some extent by an increase in employment as a result of higher exports

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[34] This section is really concerned with the effect of a FTA on the balance of *trade*. Further, the model assumes no exchange rate adjustment to a trade surplus or deficit (Evans, 1997a: 4).

to SADC (E_{Si}).[35] However, the percentage increase in E_{Si} may not be sufficient to offset the negative employment effects of a fall in S_{Mi} completely. In the South African textiles sector, for example, the proportionate decrease in S_{Mi} is given by Evans (1996: 41) as 1.3 per cent, while the percentage increase in E_{Si} is 20.4 per cent. Nevertheless, the net effect on employment is still negative (-0.5 per cent), since initial import-competing production is US$1107.2 million while the initial level of exports to SADC is only US$35.0 million.[36]

The method of calculating the employment effects of a FTA clearly depends on the assumption that the ratio of output to employment in a given sector does not change over the period within which the FTA is formed. The feasibility of this assumption would presumably depend on how quickly the FTA was formed, but is probably reasonable for a comparative static simulation in which there is an "instantaneous" removal of tariffs.

6.7 Conclusion

The technical analysis in the present chapter has laid the foundation for a critical assessment in Chapter 7 of the elasticity and other assumptions underlying Evans' simulations. While these have been outlined by Evans (1996: 34), their basis has not been discussed in the study. However, in order to derive inferences for policy from the results of such simulations, it is important to examine the realism of these assumptions in the southern African context.

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[35] For sectors where import-competing production *increases* when the FTA is formed (when imports and domestic production are complementary), the net effect of the formation of the FTA on output and employment can only be positive.

[36] In general, of course, S_{Mi} is much higher in absolute terms than E_{Si}, so a higher percentage change in E_{Si} would be required to offset any negative employment effects of a fall in S_{Mi}. This point is considered further in Chapter 7 in relation to Evans' (1996) own interpretation of the impact of the FTA on domestic industry.

CHAPTER 7

AN ASSESSMENT OF THE REGIONAL TRADE MODEL FOR SOUTHERN AFRICA

7.1 Introduction

Given the interest of policy-makers in the refinement and development of the Regional Trade Model for Southern Africa (RTMSA) in the short term, the aim of this chapter is to provide a critical assessment of the results obtained to date, and of the conclusions drawn from these results regarding the desirability of the formation of a SADC free trade area (FTA). In particular, the discussion will consider the implications of the underlying structure and assumptions of the model, with reference to similar empirical studies conducted for other regional groupings as well as the theoretical analysis in Chapters 4 and 5 above. Such an assessment of the RTMSA is made difficult by the fact that both the model itself and the database used in the simulations are already in the process of being refined and developed. While some of the considerations raised in this chapter are likely to be addressed as this work proceeds, it is nonetheless useful to highlight the areas in which modifications and extensions appear to be most necessary.

Section 7.2 considers the model's estimates of the effects of the FTA on customs revenue, the balance of payments (BOP) and domestic industry in SADC member states. The focus in this section is on the inferences drawn from the results of the RTMSA concerning the desirability of trade integration in the SADC region. Section 7.3 examines the question of the appropriate tariff levels to use in the simulations, in the light of the tariff reductions currently under way as a result of the Uruguay Round of trade negotiations, and given the possibility that the ultimate outcome of the SADC Trade Protocol may be an asymmetrical preference agreement rather than a full-blown FTA.

Section 7.4 considers the underlying structure and assumptions of the RTMSA, drawing on similar empirical studies which make less restrictive assumptions and may therefore provide some insight into the implications of the model's formulation. More specifically,

the discussion will focus on whether the RTMSA assumptions bias the simulation results in any systematic way, so that the effects of the FTA appear to be more or less favourable than they would under alternative assumptions.

Finally, Section 7.5 provides a preliminary analysis of the directions in which the model could usefully be extended to take account of some of the important factors relevant to an assessment of regional trade integration in southern Africa, considered in earlier chapters, but which have not been modelled to date. Section 7.6 concludes.

As noted by Evans (1997a: 3), the simulation results are obviously affected by the quality of the data used, as well as the assumptions made. While there were major data problems in the 1996 simulation which call this set of results into serious question, the database for the model is continually being improved, and the quality of the results of further simulations will be strengthened on this count.[1] It is clearly of fundamental importance to develop an accurate database of disaggregated intra-SADC trade flows and of trade flows between SADC countries and the rest of the world (ROW), as well as appropriate sectoral output and tariff data.[2]

7.2 Simulation results and interpretation

7.2.1 The implications of losses in customs revenue

It was noted in Chapter 6 that Evans (1996: 10) finds that, in the "worst-case" scenario, there is a net loss of customs revenue for SADC as a whole of 8.4 per cent (US$303.8 million) on formation of a SADC FTA, with some severe revenue losses

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1 The main source of the data used by Evans (1996) is IDC (1995b), supplemented by other sources, such as IMF (1995). The trade data used in the 1996 simulation is particularly problematic, firstly because, as noted in Section 2.6.1, IDC (1995b) reports virtually all intra-SADC trade flows which do not involve SACU or Zimbabwe to be zero, and, secondly, because of some serious gaps in the external trade figures of member countries, especially Malawi and Mozambique.

2 In the simulations to date, sectoral GDP figures from SADC member countries have been used for production, after a "rough" adjustment using the South African input/output table. As Evans (1996: 7) notes, gross output figures are required to match with the trade data, and it would obviously be better to use specific country sources for this transformation.

recorded for individual countries.[3] In the 1997 RTMSA simulation, the overall customs revenue loss for the region is 6.0 per cent (US$134.2 million), while the results for individual countries are far less extreme (Evans, 1997a: 11). Two reasons may be suggested for this difference. Firstly, a considerably improved database is used in the second simulation, portraying a more accurate picture of regional versus external trade flows for individual SADC countries. Secondly, a slight overall *increase* in imports from the ROW is reported for a number of countries, with ROW imports falling (marginally) in only one country, Mauritius. This implies that, for most countries, customs revenue is only lost on the initial level of imports from SADC when a FTA is formed, and that this loss is offset in some cases by additional revenue earned on new imports from the ROW.[4]

It was noted in Section 6.3 that the loss of customs revenue predicted by the RTMSA on initial imports from SADC and any displaced imports from the ROW is not entirely a deadweight loss to the country. Since the price of imports from the SADC source has fallen with the removal of intra-SADC tariffs, part of the loss of customs revenue, as the traditional analysis in Chapter 4 shows, will presumably be transferred to domestic consumers as increased surplus. There is an important difference, however, between the two frameworks. In the conventional analysis, considered in Chapter 4, the assumption of perfect substitutability in use between imports and domestic production, and between imports from different sources, not only precludes two-way trade within a particular sector, but also implies the "law of one price" (Dervis *et al.*, 1982: 219). In other words, the domestic price of tradables is determined by world prices, and a particular product will have the same price (adjusted for tariffs) whether it is produced domestically or imported, and irrespective of the source of the imports.

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[3] In the 1996 simulation, Malawi and Mozambique lose 95.0 and 96.1 per cent of their customs revenue respectively. As noted by USAID (1996: 31), this is because, according to Evans' (1996) data, most of their imports come from other SADC countries, which would not be subject to any duty after the formation of the FTA. Interestingly, however, the USAID study does not question the import figures for Malawi and Mozambique, despite the fact that their own trade matrix (USAID, 1996: 66) provides a very different picture of Malawi and Mozambique's imports from SADC relative to their imports from the ROW, as do other sources.

[4] Malawi, Zambia and Zimbabwe, with high initial shares of imports from SADC in total imports, lose 23.9, 28.7 and 32.2 per cent of their customs revenue respectively (Evans, 1997a: 11). Despite a similarly high share of imports from SADC in total imports, Mozambique only loses 5.8 per cent of its customs revenue. This may be due to the offsetting effect of the reported increase in imports from the ROW for this country. The question of the direction of change in ROW imports when the FTA is formed will be considered further in the next and subsequent sections of this chapter.

In these circumstances, as shown in Chapter 4, complete displacement of ROW imports by the partner is a necessary condition for a fall in price, and hence for an increase in consumer surplus to offset the loss of customs revenue. However, when domestic and imported goods, and foreign goods from different sources, are not perfectly substitutable, as in the Armington (1969) formulation adopted by Evans (1996, 1997a,b), then two-way trade within a given sector is possible, and goods from these various sources of supply may have different prices (Dervis *et al.*, 1982: 221). Therefore, in contrast to the analysis in Chapter 4, complete displacement of ROW imports by the partner country is not a necessary condition for a trade creation gain.

It may be argued, then, that since the price of imports from the SADC source falls when a FTA is formed, there will be an increase in consumer surplus to offset the loss in customs revenue on initial imports from the partner, even if imports from the ROW are not entirely displaced. Indeed, if the supply of imports from the rest of SADC is perfectly elastic (as the excess capacity assumption seems to imply), then it appears that the loss of customs revenue on initial imports *from SADC* will be completely offset by the increase in consumer surplus when the price of imports from SADC falls. There will in fact probably be a net gain in consumer surplus due to the additional consumption of the SADC import at the lower price. Although the price of imports from the ROW remains the same in the FTA case, it seems that the loss of customs revenue on any imports from the ROW displaced by the partner will also at least be partially offset by a consumer surplus gain, since the SADC substitute is obtained at a lower price.[5]

In an assessment of the welfare implications of the FTA, thus, it must be borne in mind that the loss of customs revenue predicted by the RTMSA will not all be a deadweight loss. Only that part of initial customs revenue which is not offset by an increase in consumer surplus may be considered a loss, and even then this loss would have to be weighed against any net increase in consumer surplus as a result of trade creation.[6] Further, according to Page (1997: 7), any welfare appraisal should occur in terms of an unchanged fiscal revenue assumption, since tariff revenue may be replaced by value-

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[5] The degree to which any loss of customs revenue on imports from the ROW is offset by an increase in consumer surplus will presumably depend on the strength of the substitution effect, bearing in mind that imports from the two sources are not perfect substitutes.

[6] The interpretation of the results of the RTMSA with respect to trade creation and trade diversion will be considered further in subsequent sections of this chapter.

added or sales taxes, or by income tax:

> "Offsetting consumer gains and tax losses is uncertain and conceptually wrong as the logical assumption is that the government's revenue target is not changed by entering a trade agreement. There will still be a consumer gain (if there is any home production of the traded good) because the tax will have a wider base, and therefore a lower rate".

7.2.2 The effect on the balance of payments

It was shown in Section 6.2.4.4 that there are opposing influences on the direction of change of imports from the ROW when intra-SADC tariffs are removed. Despite this, given the elasticity assumptions of the RTMSA, the formation of a SADC FTA should result in a fall in imports from the ROW (M_{Ri}). There will also be an increase in intra-SADC imports (M_{Si}) matched by an equal proportionate increase in intra-SADC exports (see Section 6.2.4.5 and Section 6.4). In the "worst-case" scenario, there is no change in market access to the ROW when a FTA is formed, and hence no change in exports to the ROW. Since SADC imports from the ROW should fall, given the model's elasticity assumptions, the balance of payments (BOP) position of SADC as a whole *vis-à-vis* the ROW should necessarily improve.

As noted in Chapter 6, in the 1996 simulation, the BOP position of SADC as a whole reportedly improves, as expected, by US$102.5 million on formation of the FTA (Evans, 1996: 9). However, in the 1997 simulation there is a slight worsening of the overall SADC BOP of US$7.6 million (Evans, 1997a: 11), which implies a (small) net *increase* in imports from the ROW. It is difficult to understand this result, since, as the discussion in Section 6.2.4.4 shows, given the magnitudes of the elasticities assumed for the RTMSA, the substitution effect of M_{Si} for M_{Ri} should outweigh any tendency for M_{Ri} to increase in response to the increased demand for aggregate imports M_i or the composite good D_i.

According to Evans (1997a: 13), the RTMSA shows no decline in imports from the ROW mainly because there is no exchange rate adjustment. However, it would seem that any exchange rate adjustment would be a "second round" effect *in response* to the emergence of a surplus or deficit as a result of the FTA. The FTA itself should result in an overall reduction in imports from the ROW, and hence an improvement in the

overall SADC BOP position *vis-à-vis* the ROW. If the elasticity of substitution between imports from the two sources was lower in some sectors, then, as noted in Chapter 6, the substitution of M_{Si} for M_{Ri} could be weaker than the increase in M_{Ri} due to higher demand for aggregate imports M_i or the composite good D_i. Imports from both sources could therefore increase when the FTA is formed. In this case, if there was a net increase in ROW imports for the bloc as a whole, the BOP position of SADC with respect to the ROW would deteriorate.

It was noted in Section 6.5 that the impact of a FTA on the BOP of an individual SADC country will depend on the absolute increase in composite imports (made up of the absolute rise in M_{Si} less any absolute fall in M_{Ri}) versus the absolute increase in exports to SADC for that country. In assessing their likely relative magnitudes, the height of the tariffs which are removed is clearly important, in the first instance. Stern (1979: 39) argues that it may be expected that relatively high-tariff countries would experience a greater stimulus to their imports than their exports when tariffs are removed, and hence to experience a worsening of their trade balances.[7] However, as Stern (1979: 41) notes, the size of tariff changes is not the only determinant of changes in the balance of trade. Other significant factors include the relative importance of trade in the various economies, as well as the initial balance of trade. In the context of regional liberalisation, as opposed to the framework of multilateral liberalisation explored by Stern (1979), a country's initial balance of trade with the rest of the bloc specifically becomes important.

Stern (1979: 42) finds a significant positive correlation, in most cases, between the sign of the initial trade balance and the simulated changes in trade balances across countries for each industry and across industries for each country. In other words, an initial trade deficit is generally worsened by the removal of tariffs and *vice versa*. As Table 2.5 illustrates, all SADC members except SACU have a deficit in their trade with the region, due to the importance of imports from SACU in total intra-SADC imports. Accordingly, the increase in imports from the rest of SADC for an individual country when the FTA is formed will, except in the case of SACU, take place off a higher base than any increase in exports to the rest of SADC. It is, however, not the increase in imports from SADC *per se* which is important here, but rather, as noted earlier, the increase in

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[7] If exchange rate adjustment is allowed, this would be reflected in a depreciation of their currencies.

composite imports (that is, the net effect of the change in imports from both SADC and the ROW).[8]

From the discussion in Section 6.2.4.2, it is apparent that the relative increase in composite imports in different countries when the FTA is formed depends on the height of initial tariffs and the share of imports from SADC in total imports, θ_{MSi} (which together determine the magnitude of the fall in the composite import price P_{Mi}), as well as the share of imports in total domestic use (θ_{Mi}).[9] While some elasticities differ between sectors, all are assumed to be the same across countries.

Countries with high initial tariffs and a large share of imports from SADC in total imports can be expected to experience the largest increase in composite imports, since, as noted in Section 6.2.2.2, this implies the greatest reduction in composite import prices. The percentage changes in composite imports in each country are not shown separately in Evans (1996, 1997a), but can be calculated from the initial import data and the percentage changes in imports from the two sources which are reported. The largest overall percentage increases in composite imports occur in Malawi, Mozambique, Zambia and Zimbabwe, the countries with the highest shares of imports from SADC in total imports and the highest average tariffs.[10]

While, according to Evans (1997a: 11), Malawi, Mozambique and Zambia each experience overall export expansion to the rest of SADC of over 17 per cent (and as much 44.8 per cent in the case of Malawi), these increases take place off too low an export base to prevent the BOP position of these countries from deteriorating when the

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8 As will be seen below, a large proportionate increase in imports from the SADC source translates into only a small proportionate increase in composite imports if the share of imports from SADC in total imports is low, as in the case of SACU.

9 According to the data in Evans (1997a: 11), the share of imports in total domestic use (θ_{Mi}) at the country level is comparatively low (less than 15 per cent in most cases, and exceeding 21 per cent only in Mauritius). However, it is not particularly useful to generalise about the effect of high versus low import shares on the increase in composite imports at the country level, since the effect differs across sectors depending on whether imports are substitutes or complements to domestic production.

10 Despite the caveat in the previous footnote, it is interesting to note that these are also the countries with the lowest shares of composite imports in domestic supply at the country level. As noted in Section 6.2.4.2, the increase in composite imports due to the substitution of imports for domestic production is greater, for a given substitution elasticity, when the import share θ_{Mi} is low.

FTA is formed, especially in the case of Mozambique and Zambia.[11]

In accordance with the observation of Stern (1979: 42) in a multilateral setting, the BOP position of countries with an initial deficit in their SADC trade generally worsens following the removal of intra-SADC tariffs, while that of SACU, with an initial surplus, improves. The exceptions are Mauritius and Tanzania. In the case of Tanzania, an extremely small share of imports from SADC in total imports coupled with the lowest average tariff in the region translates into a negligible percentage increase in composite imports. With relatively low export expansion to SADC off a small base, there is no discernable change in Tanzania's small initial deficit in its regional trade. Mauritius is the only country in which an initial trade deficit improves on formation of the FTA.[12]

A discussion of the BOP implications of the FTA for individual SADC countries raises the question of the use of initial market shares to calculate the impact of the removal of tariffs on a country's exports to the rest of SADC, noted in Section 6.4. This method appears to be rather arbitrary, since factors such as the height of the tariffs removed in particular export markets in different countries and the elasticities of export demand are likely to be important. Further, if the export effects of the FTA are determined on the basis of constant market shares, it is unclear why Zimbabwe experiences one of the lowest overall percentage increases in exports to SADC when it is initially the second largest regional exporter.[13]

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[11] In Zimbabwe, there is a 12 per cent increase in exports to SADC off a comparatively high base (Zimbabwe is the second largest regional exporter after SACU), although this is also insufficient to offset the increase in composite imports when the FTA is formed, and Zimbabwe's balance of payments position also worsens (by US$3.0 million). While Angola experiences a very small percentage increase in composite imports, it experiences a low percentage increase in exports to SADC off an extremely small base (US$2.0 million), and therefore also suffers a worsening of its BOP position.

[12] In the case of Mauritius, a relatively low share of imports from SADC in total imports (despite a comparatively high average tariff compared to SACU and Tanzania) translates into a small increase in composite imports. Export expansion of 30.8 per cent off the third largest regional export base (US$41 million) allows the country's BOP position to improve by US$4.5 million. A far greater trade balance improvement occurs for SACU. As noted above, the high percentage increase in imports from SADC (42.5 per cent) translates into a less than one per cent rise in composite imports, due to the small share of imports from SADC in SACU's total imports and SACU's comparatively low average tariff. The absolute increase in composite imports is more than outweighed by the 19.9 per cent increase in exports to SADC off a large base, so that SACU's BOP position improves by US$24.6 million.

[13] The question of treatment of exports in the RTMSA will be considered further in Section 7.4 below, when implications of the assumption of excess capacity are examined.

The discussion in this sub-section highlights the limitations of using a partial equilibrium approach to assess the macroeconomic implications of the FTA. According to Robson (1987: 20), the use of partial equilibrium analysis requires that a sector must be small enough so that changes affecting it would not impact elsewhere in the economy. He argues that it would be inappropriate to try to determine the consequences for the economy as a whole of the formation of a FTA by simply aggregating the outcomes for each sector that have been determined on the basis of partial equilibrium assumptions.[14] In the light of this, it is perhaps more useful to consider the predicted effects of the FTA at the sectoral level.

7.2.3 The effect on domestic industry

It was noted at the beginning of Chapter 6 that Evans (1996: 12) finds the incidence of adverse sectoral effects on the formation of a SADC FTA to be small.[15] An "adverse sectoral effect" is defined as a decrease in import-competing production of more than two per cent. By this criterion, Malawi and Zimbabwe each have five sectors which are adversely affected and Mozambique three. Table 7.1 shows the sectors affected in this manner, labelled [1].

In considering the impact of a SADC FTA on domestic industry, the definition of an adversely affected sector as one which experiences a fall in import-competing production exceeding two per cent does not, on its own, seem satisfactory. The impact on gross output in a given sector will be the net effect of the change in import-competing production *and* exports resulting from the FTA. The net impact on domestic industry will in turn determine the effect of the FTA on domestic employment. It is therefore not particularly useful to consider the impact of the FTA on import-competing production and exports to SADC separately, as Evans (1996: 10-13) does.

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[14] There is a significant branch of the theoretical literature which adopts a general equilibrium approach to the analysis of customs unions. See, for example, Vanek (1965), Berglas (1979), Collier (1979), and Lloyd (1982).

[15] Since detailed sectoral results for each country are only available in Evans (1996), the 1996 simulation will form the basis of the discussion in this sub-section. Although, as noted earlier, the data problems in this version were severe, the focus of the discussion is rather on the inferences drawn from the results regarding the effect of the FTA on domestic industry.

Table 7.1: Impact of the formation of a FTA on domestic industry and employment in SADC countries ("worst-case" scenario)

Sector	S_{Mi0} US$mn	$\%\Delta S_{Mi}$	ΔS_{Mi} US$mn	E_{Si0} US$mn	$\%\Delta E_{Si}$	ΔE_{Si} US$mn	L_{i0} '000[a]	$\%\Delta L_i$	ΔL_i '000
Malawi									
Leather[1]	2.4	-7.2	-0.173	0.0	23.5	0.000	0.3	-7.2	-0.022
Footwear[1]	22.2	-2.7	-0.599	0.9	3.0	0.027	0.7	-2.5	-0.018
Furniture[1]	12.1	-2.7	-0.327	0.0	8.1	0.000	0.9	-2.6	-0.023
Plastics[1]	40.0	-3.5	-1.400	0.0	18.5	0.000	0.9	-3.5	-0.032
Metals[1]	89.9	-4.0	-3.596	1.7	14.0	0.238	3.1	-3.6	-0.112
Agriculture[2]	2125.2	-0.1	-2.125	41.7	9.4	3.920	695.9	0.1	0.696
Food[2]	808.2	-0.4	-3.233	0.0	10.5	0.000	69.8	-0.4	-0.279
Beverages[2]	138.7	-0.5	-0.694	25.4	14.6	3.708	5.4	1.8	0.097
Tobacco[2]	138.9	0.0	0.000	14.6	21.3	3.110	14.3	2.0	0.286
Textiles[2]	207.8	-1.6	-3.325	0.9	34.4	0.310	17.3	-1.5	-0.260
Paper[3]	31.7	1.8	0.571	0.0	16.0	0.000	0.7	1.8	0.013
Rubber[3]	21.2	2.8	0.594	0.0	13.8	0.000	0.4	2.8	0.011
Machinery[3]	59.7	4.8	2.866	1.9	13.2	0.251	1.0	5.3	0.053
Elec mach[3]	39.9	4.7	1.875	0.1	13.4	0.013	0.2	4.7	0.009
Transport[3]	93.5	6.1	5.704	0.1	12.3	0.012	1.1	6.1	0.067
Mozambique									
Agriculture[1]	52.6	-6.8	-3.577	83.0	9.4	7.802	2.3	2.8	0.064
Plastics[1]	3.7	-15.8	-0.585	0.0	18.2	0.000	0.1	-15.7	-0.016
Metals[1]	84.0	-2.6	-2.184	1.1	14.0	0.154	1.6	-2.3	-0.037
Food[2]	4659.0	-0.4	-18.636	0.0	11.0	0.000	46.5	-0.4	-0.186
Beverages[2]	144.5	-1.9	-2.746	0.8	14.6	0.117	2.3	-1.8	-0.041
Textiles[2]	836.2	-0.8	-6.690	1.7	24.0	0.408	14.4	-0.7	-0.099
Clothing[2]	278.6	-0.7	-1.950	0.1	12.2	0.012	5.1	-0.7	-0.036
Oth NMMP[2]	72.5	-1.1	-0.798	20.9	14.9	3.114	1.7	2.2	0.037
Ind chems[3]	99.9	1.4	1.399	0.2	12.7	0.025	2.7	1.4	0.038
Iron&steel[3]	4.1	2.9	0.119	0.0	0.0	0.000	0.1	2.9	0.003
Machinery[3]	65.2	2.2	1.434	0.3	13.2	0.040	1.3	2.2	0.029
Elec mach[3]	114.1	1.8	2.054	3.2	13.6	0.435	2.3	2.1	0.048
Transport[3]	6.3	5.2	0.328	3.0	12.7	0.381	0.1	4.7	0.005
Oth manuf[3]	13.9	3.9	0.542	0.0	0.0	0.000	0.3	3.9	0.012
South Africa									
Tobacco[1]	402.3	-3.6	-14.483	2.3	15.6	0.359	5.4	-3.3	-0.178
Agriculture[2]	7796.2	-0.1	-7.796	23.4	11.2	2.621	613.8	-0.1	-0.614
Textiles[2]	1107.2	-1.3	-14.394	35.0	20.4	7.140	97.7	-0.5	-0.489
Clothing[2]	1173.2	-0.1	-1.173	4.9	14.3	0.701	124.3	-0.1	-0.124
Leather[2]	144.1	-1.7	-2.450	1.1	18.1	0.199	11.5	-0.9	-0.104
Zambia									
Food[2]	1261.4	-0.2	-2.523	0.0	10.2	0.000	15.6	-0.2	-0.031
Beverages[2]	1799.3	-0.1	-1.799	7.2	14.3	1.030	3.5	0.0	0.000
Textiles[2]	438.4	-0.2	-0.877	0.1	24.4	0.024	5.4	-0.2	-0.011
Clothing[2]	269.2	-0.2	-0.538	0.0	10.9	0.000	7.8	-0.2	-0.016
Furniture[2]	136.7	-0.4	-0.547	0.0	6.2	0.000	1.6	-0.4	-0.006
Plastics[2]	91.9	-0.7	-0.643	0.0	18.6	0.000	0.5	-0.7	-0.004
Metals[2]	558.3	-0.3	-1.675	0.1	14.0	0.014	4.0	-0.3	-0.012

(Continues)

Table 7.1 cont: Impact of the formation of a FTA on domestic industry and employment in SADC countries ("worst-case" scenario)

Sector	S_{Mi0} US$mn	$\%\Delta S_{Mi}$	ΔS_{Mi} US$mn	E_{Si0} US$mn	$\%\Delta E_{Si}$	ΔE_{Si} US$mn	L_{i0} '000[a]	$\%\Delta L_i$	ΔL_i '000
Zimbabwe									
Plastics[1]	145.1	-2.6	-3.773	11.8	7.8	0.920	4.9	-1.8	-0.088
Pottery[1]	4.0	-2.7	-0.108	3.9	3.7	0.144	0.9	0.5	0.005
Glass[1]	15.0	-7.7	-1.155	2.1	7.7	0.162	1.0	-4.2	-0.042
Oth NMMP[1]	98.0	-4.4	-4.312	4.9	6.0	0.294	7.8	-3.8	-0.296
Metals[1]	224.3	-2.6	-5.832	88.9	6.7	5.956	15.3	0.0	0.000
Agriculture[2]	1919.6	-0.2	-3.839	59.1	7.9	4.669	15.9	0.0	0.000
Food[2]	1087.8	-0.5	-5.439	3.2	8.4	0.269	30.3	-0.5	-0.152
Textiles[2]	450.8	-1.9	-8.565	1.9	23.2	0.441	24.9	-1.8	-0.448
Clothing[2]	163.0	-0.4	-0.652	0.3	9.6	0.029	18.2	-0.4	-0.073
Leather[2]	12.6	-1.8	-0.227	2.1	23.3	0.489	1.1	1.5	0.017
Mining[3]	430.0	0.5	2.150	3.5	2.8	0.098	38.0	0.5	0.190
Paper[3]	84.0	2.0	1.680	0.6	6.5	0.039	5.0	2.0	0.100
Ind chem[3]	101.5	3.4	3.451	6.2	1.9	0.118	3.3	3.2	0.106
Oth chem[3]	245.5	1.1	2.701	74.7	5.0	3.735	5.8	1.9	0.110
Rubber[3]	88.8	1.1	0.977	43.0	7.6	3.268	3.6	3.2	0.115
Iron&steel[3]	726.0	0.7	5.082	1.3	4.2	0.055	16.1	0.7	0.113
Non-ferr[3]	19.1	5.3	1.012	1.0	4.5	0.045	1.4	3.1	0.043
Machinery[3]	40.4	2.2	0.889	19.4	6.1	1.183	2.6	3.3	0.086
Elec mach[3]	119.9	1.0	1.199	0.0	7.2	0.000	6.1	1.0	0.061
Transport[3]	179.3	1.0	1.793	7.6	6.5	0.494	7.8	1.2	0.094

Source: Evans (1996: 38-44) for initial levels and percentage changes; own computations from Evans (1996: 38-44) for absolute changes.

Notes: S_{Mi0} is initial import-competing production, E_{Si0} initial exports to SADC, and L_{i0} initial employment; oth NMMP are other non-metallic mineral products.

Mauritius is excluded, as there are no data available for import-competing production in this country in Evans (1996). Angola and Tanzania appear to experience no significant sectoral effects according to the 1996 results, and have therefore also been excluded from the table.

[a] There appears to have been a printing error in the initial sectoral employment levels reported by Evans (1996: 41) for South Africa which, from beverages downwards, are identical to those reported for Zimbabwe. The Zimbabwe figures (and those for the other countries) correspond to the sectoral employment data in IDC (1995b). The employment data for South Africa in Evans (1996: 41) has therefore been replaced in the table above by the data for South Africa in IDC (1995b) to calculate the absolute changes in employment. It appears that the percentage changes in employment reported for South Africa were calculated using the correct data set.

In order to determine which sectors will be most adversely affected by the FTA, it is necessary to look at comparative *absolute* changes in import-competing supply and exports in sectors where import-competing production falls, to ascertain the net impact on gross output. A sector in which the percentage increase in exports to SADC exceeds the percentage fall in import-competing production could obviously still be adversely affected if the export expansion takes place from a relatively small initial base. For this reason, Table 7.1 includes sectors (marked [2]) in which, although import-competing production falls by less than two per cent, the initial size of production is such that there is a relatively large *absolute* reduction. Depending on what happens to exports, such sectors may experience more significant adverse effects on output and employment than sectors in which import-competing production falls by more than two per cent, but off a lower base. For example, in Malawi's textiles sector, import-competing production falls by 1.6 per cent, so that the sector is not considered to be "adversely affected" by the formation of the FTA. However, while exports to SADC expand by 34.4 per cent, the resulting absolute increase in exports to SADC is not large enough to offset the absolute reduction in import-competing production. Gross output therefore contracts, as does employment. Indeed, the decline in the actual level of employment in this sector exceeds that in any of the sectors in Malawi identified by Evans (1996) as adversely affected.

A favourable sectoral effect on the export side is defined by Evans (1996: 11-12) as a greater than five per cent increase in exports to SADC on formation of the FTA. On its own, this is once again not an adequate criterion, as the study acknowledges, since "strong export growth on a low initial amount" translates into a "small absolute benefit" (Evans, 1996: 12). In order to determine which sectors are likely to be most favourably affected by the FTA, it is once again necessary to consider the net impact on gross output (that is, both import-competing production and exports) particularly since, in sectors in which imports and domestic production are complementary, the positive effect on gross output of export expansion to the rest of SADC may be reinforced by an *increase* in import-competing production (see Section 6.2.4.3). Some of the sectors experiencing an increase in both import-competing production and exports to SADC

when the FTA is formed (marked [3]) are included in Table 7.1.[16]

The table shows the initial levels of import-competing production, exports and employment in the chosen sectors, as well as the absolute changes in these variables brought about by the formation of the FTA, in an attempt to clarify the impact of the FTA on domestic industry.[17]

It is apparent from the table that defining an adversely affected sector as one which experiences a greater than two per cent fall in import-competing production is inadequate. For example, in the case of agriculture in Mozambique, although import-competing production falls by 6.8 per cent, the sector experiences a net *expansion* in output and employment once the effect on exports is taken into account. More importantly, it can be seen that the incidence of adverse sectoral effects, in the sense of a contraction in output and employment, is rather more widespread than just the thirteen sectors across three countries identified in the study. In particular, once the net effect on import-competing production and exports is taken into account, there are a number of sectors in each of the countries included in the table which experience a significantly larger contraction in output and employment than the adversely affected sectors identified in the study. In South Africa, for example, according to the criterion used by Evans (1996), there are no identified problem sectors on the import side.[18] However, the absolute contraction in employment in agriculture and textiles (both of which experience a less than two per cent reduction in import-competing production)

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[16] The sectors included are generally those experiencing a greater than one percent expansion in import-competing production when the FTA is formed, although two sectors in Zimbabwe in which import-competing production increases by less than one per cent (mining and iron and steel) have also been included, since the increases occur on a comparatively large initial base.

[17] While Evans (1996: 37-44) reports the initial values of the variables in each sector for each country, and the percentage changes induced by the removal of intra-SADC tariffs, he does not report absolute changes. As noted in Section 6.6, the percentage change in gross output when the FTA is formed will equal the percentage change in employment in a given sector, since it is assumed that the output per worker ratio remains constant. The absolute changes in output and employment will clearly differ, however. The latter are shown in the last column of Table 7.1, while the former can be calculated as the sum of the absolute changes in import-competing production and exports shown in the third and sixth columns of Table 7.1 respectively. Note that for sectors in which there are no initial exports to SADC, the percentage change in import-competing production will equal the percentage change in employment.

[18] Although there was a 3.6 per cent reduction in import-competing production in the tobacco sector in South Africa, tobacco was excluded from the table showing the sectoral effects of the FTA (Evans, 1996: 11).

exceeds the reduction in employment in any other sector in any country included in Table 7.1.

It appears, therefore, that the incidence of adverse sectoral effects on formation of a SADC FTA may be more widespread than the study suggests. For the countries included in Table 7.1, such effects are concentrated in sensitive sectors such as textiles and clothing, as well as in food and agriculture, all of which are sectors with relatively significant shares of both import-competing production and employment in most countries.

In the orthodox analysis of the costs and benefits of regional trade integration, considered in Section 4.2, a reduction in import-competing supply reflects the production effect of trade creation, and is thus considered to be welfare-improving. However, as noted in Section 5.5, while adjustment costs are ignored in the comparative static analysis of customs unions, they should be included in any complete welfare appraisal of the effects of integration. As Behar (1995: 18) notes, prospective partners in a regional union of developing countries are likely to be concerned "by the costs of managing th[e] adjustment more than by some hypothetical change in national income". Further, as the Cooper-Massell analysis in Section 4.3.3 illustrates, the contraction of domestic industry accompanying trade creation may not be considered to be welfare-improving, particularly for a developing country wishing to pursue industrialisation.

Sectors which are favourably affected by the formation of a SADC FTA, in the sense that output and employment expand, are those in which either the expansion of exports to SADC (in absolute terms) outweighs a reduction in import-competing supply, or those in which export expansion is accompanied by an increase in import-competing production when the FTA is formed.[19] For sectors in the first category, the overall impact illustrates the importance of taking into account the effect of the reduction in *partner country* tariffs in an appraisal of the costs and benefits of integration. As noted in Chapters 4 and 5, the benefit to the home country of export expansion when partner tariffs are eliminated is often neglected in the traditional analysis.

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[19] It was noted in Section 6.6 that for sectors in which imports are assumed to be complementary to domestic production the effect of the formation of the FTA on output and employment will be unambiguously positive.

Table 7.1 illustrates the point raised earlier that a greater than five per cent expansion in exports to SADC on formation of a FTA does not translate into a significant benefit when this increase occurs off a very small base. This is the case for most sectors in the table, with the exception of agriculture. As the complete results of Evans (1996: 37-44) show, South Africa is the major beneficiary of export expansion within the region followed (though not closely) by Zimbabwe.[20]

Finally, the industries in which both import-competing production and exports expand on formation of a FTA are intermediate and capital good sectors where imports and domestic production are assumed to be complementary. There are some significant increases in output in these sectors, as Table 7.1 shows, particularly for Zimbabwe (in sectors such as iron and steel and chemical products), although the output expansion generally translates into relatively small absolute increases in employment because the initial level of employment in most of them is comparatively low.[21]

It seems that sectors in which imports from the partner increase and imports from the ROW fall, but import-competing production *increases*, may still be categorised using the conventional trade creation-trade diversion terminology. The fall in imports from the ROW reflects trade diversion, as usual. On the other side, although import-competing production does not contract overall, it seems that there will still be trade creation via the production effect, since there is still a substitution of imports for domestic production (see Expression 15 in Section 6.2.4.3). The substitution effect is rather weak, however, and is outweighed by the tendency for import-competing production

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[20] As noted earlier, if a country's increase in exports in a particular sector on formation of the FTA is simply determined on the basis of initial market share, it is difficult to understand the low percentage increases in exports to SADC in some sectors in Zimbabwe. In Evans (1996: 41, 44), for example, Zimbabwe's initial exports of fabricated metal products to the rest of SADC are reportedly more than double those of SACU, yet the percentage increase in Zimbabwe's exports to the rest of SADC in this sector when the FTA is formed is less than half of that of SACU.

[21] Expansion in import-competing production in these sectors is fairly widespread in Zimbabwe, but almost entirely insignificant in SACU. The results for SACU probably reflect the low share of imports from SADC in total imports in these sectors, which translates into a small reduction in the composite import price, a comparatively small increase in composite imports, and hence an insignificant expansion in import-competing production in sectors where imports and domestic production are complementary. In Zimbabwe, by contrast, the share of imports from SADC in total imports is reported to be comparatively large in many of these sectors (due, presumably, to the importance of imports from South Africa).

to increase in response to the higher demand for the composite good.[22] The elasticity assumptions of the RTMSA which produce this outcome will be considered further in Section 7.4 below.

7.3 Tariff levels

As the discussion in Chapter 6 shows, it is of critical importance that the appropriate tariff levels are used in the RTMSA in order to assess the implications of the formation of a FTA, particularly in view of the time period of at least eight years that will lapse between the ratification of the SADC Trade Protocol and the eventual elimination of import duties.

The tariff levels used for the 1996 simulation were based primarily on the sectoral tariffs reported in IDC (1995b) for the early 1990s, adjusted (halved) in most cases to take account of the difference between the tariff levels recorded in the books and the actual tariffs paid, or "water in the tariff" (Evans, 1996: 7). The accuracy of some of this tariff data is questionable, however, even for SACU.[23] As noted in Chapter 6, the tariffs used in the 1997 simulation of the effects of the FTA are based on the assumption that the Structural Adjustment Programmes (SAPs) undertaken by all SADC countries except Angola have reduced tariff levels to a rough equivalence with 1996 SACU tariffs, except where tariffs are lower than those of SACU.[24] While it is clearly important to use tariff levels which take account of the generalised liberalisation undertaken in most SADC countries since the years to which the IDC (1995b) data refers, any results obtained in the absence of reliable recent tariff data from specific country sources should be treated with caution.

The tariff levels employed in the 1997 simulation apparently differ in another important respect from those used in Evans (1996). As a more recent technical appendix to the

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[22] While both import-competing production and composite imports increase in these sectors, the *ratio* of domestic production to imports always falls in the RTMSA (see Section 6.2.2.1).

[23] Alternative sources of sectoral tariff data for SACU include Holden (1996: 42) and GATT (1993: 181).

[24] In Evans (1997a), the effects of the SAPs themselves were simulated using the original tariff data from IDC (1995b).

model (Evans, 1997b) illustrates, an Armington function is used to aggregate imports from other SADC countries of a given commodity into a particular SADC home country. This allows the model to take account of any differences in tariff levels applied by the home country to imports from other SADC countries before the FTA is formed, and hence to recognise existing tariff concessions between SADC members in terms of the bilateral trade agreements outlined in Chapter 1 and CBI or COMESA tariff preferences. This is an important consideration, since, as the discussion in Chapter 1 shows, the tariff levels which are actually applied between countries already involved in preference schemes in the region may differ quite markedly from those which apply more generally.

Although the 1997 simulation attempts to account for the generalised liberalisation undertaken as part of the SAPs, up to 1996, the tariffs which will apply more generally when intra-SADC import duties are finally eliminated at least eight years after the signing of the August 1996 Trade Protocol will differ considerably (particularly in the case of South Africa) from those which applied in 1996, given commitments made in the Uruguay Round of trade negotiations. It is therefore the tariffs that are going to apply at the *end* of the Uruguay Round implementation period which are important. To the extent that these tariffs are lower than those used in the model, the effects of the FTA will be different.[25]

Grossman (1982: 271-272) notes that the question of whether generalised tariff reductions will erode the benefits of any particular preference scheme depends critically on the degree of substitutability between imports from partner and non-partner sources versus the degree of substitutability between imports and domestic production. Considered from the point of view of a particular SADC exporting country such as Zimbabwe, for example, if the substitutability between imports from Zimbabwe and imports from the ROW into other SADC countries is lower than the substitutability between imports and domestic production in these countries, then trade creation (the replacement of home production by imports from Zimbabwe) is likely to be a more important source of export expansion for Zimbabwe when a FTA is formed than trade

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[25] Evans (1997a: 23-27) introduces the impact of the Uruguay Round into the RTMSA only by simulating the effect on SADC countries of a 6 per cent increase in agricultural prices, predicted by the Food and Agricultural Organisation (FAO). On its own, this clearly does not adequately capture the general implications of the Uruguay Round for a SADC FTA. Indeed, projections of an overall increase in agricultural prices of this magnitude as a result of the Uruguay Round have themselves been called into question (see Bell, 1996: 88-91).

diversion (the replacement of imports from the ROW into these countries by imports from Zimbabwe). The relative magnitudes of the substitution elasticities, in this case, imply that the preference recipient (Zimbabwe) will face greater competition from home-produced goods in other SADC countries than from ROW imports. Grossman (1982: 277) argues that, with this pattern of import competition, concern on the part of preference recipients about the erosion of tariff preferences as a result of generalised liberalisation would be largely unwarranted.

In the RTMSA, the elasticity of substitution between imports from SADC and imports from the ROW (σ_{Mi}) and the elasticity of substitution between imports and domestic production (σ_{Di}) are assumed to be equal in consumer good sectors. However, in intermediate and capital good sectors, imports from the two sources are assumed to be *more* substitutable than imports and domestic production.[26]

It may thus be argued that, in terms of Grossman's (1982) analysis, the effects of a SADC FTA in intermediate and capital good sectors will be felt more through trade diversion than through trade creation, given the comparatively high value assumed in the RTMSA for σ_{Mi} relative to σ_{Di} in these sectors.[27]

In consumer good sectors, on the other hand, the assumption of equal elasticities of substitution between imports from the two sources and between imports and domestic goods produces the result that the proportionate reduction in imports from the ROW equals the proportionate reduction in import-competing supply when the FTA is formed (see Section 6.2.4.4). Since the initial levels of import-competing production in these sectors tend to be much greater than imports from the ROW, the assumption of equal substitution elasticities will generally guarantee trade creation well in excess of trade diversion.[28]

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[26] Recall that, in the first case, $\sigma_{Di} = \sigma_{Mi} = 2.5$, while in the second case σ_{Di} is assumed to be 0.5, but σ_{Mi} remains 2.5.

[27] The question of whether the relative magnitudes of the substitution elasticities assumed in the RTMSA are appropriate in the SADC context is considered further in Section 7.4 below.

[28] This characteristic of the RTMSA is also a feature of the prominent study by Baldwin and Murray (1977), which examines the implications of most-favoured-nation (MFN) tariff reductions on developing country trade benefits under the Generalised System of Preferences (GSP). The Baldwin-Murray model has frequently been criticised for underestimating trade diversion as a result of the assumption of equal substitutability between imports from preferred and non-preferred sources and

Following Grossman's (1982) analysis, thus, it may be argued that in consumer good sectors, in which regional export expansion is likely to take place through trade creation (given the assumptions of the RTMSA), the erosion of tariff preferences as a result of Uruguay Round tariff reductions need not be a cause for concern among regional exporters. On the other hand, in intermediate and capital good sectors, where export expansion is more likely to be seen through trade diversion in the light of the model's assumptions, MFN tariff reductions will stimulate import competition from the ROW for regional exporters in SADC markets.[29]

On a more general level, to the extent that intra-SADC tariffs are lower than the tariffs used in the RTMSA simulations to date, when a FTA is finally formed, the increase in intra-SADC imports will be reduced, whether this increase takes place through trade creation or trade diversion. The expansion of intra-SADC exports will thus be correspondingly lower, so that individual members' exports to SADC receive a smaller stimulus. Improved market access to the ROW, as a result of Uruguay Round tariff reductions elsewhere, may stimulate export expansion to overseas markets, as in the Evans (1996, 1997a) "growth" scenario. However, as noted in Chapter 6, this aspect is largely distinct from the effects of the formation of the FTA as such, and will depend on factors such as export demand in the ROW and the substitutability between exports from SADC countries and competing exports from other countries, which would also face lower trade barriers.

The implications of Uruguay Round tariff reductions for a SADC integration scheme will also depend on whether a full-blown FTA, in which tariffs are completely eliminated, or a preferential trade area (PTA), in which they are simply reduced, ultimately emerges

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between imports and domestic production in the preference-donor country (Pomfret, 1988: 138-139; Sawyer and Sprinkle, 1989: 62).

[29] This discussion also suggests that the pain of adjustment to a SADC FTA in consumer good sectors will be felt more acutely in home good industries in SADC member countries than in export industries in the ROW (Grossman, 1982: 272). As noted in Chapter 5, however, the costs of this adjustment may be eased if there is scope for intra-industry specialisation in these sectors. The question of whether it is preferable for export expansion within the bloc to take place through trade creation rather than trade diversion depends on some of the considerations raised in Chapters 4 and 5, and will be examined further in Section 7.6 below.

in the region.[30] In the case of a PTA, generalised liberalisation will raise the partner country's relative margin of preference for as long as the absolute margin of preference can be maintained (that is, until the tariff on imports from the partner falls to zero). The partner country's relative preference increases because the duty payable on imports from the partner within the PTA becomes a smaller proportion of the normal duty. Whether the increase in the partner country's relative preference in the region would be sufficient to counter the effect of increased competition from exporters outside SADC when external tariffs are lowered is an open question, and would require some assessment of relative levels of international competitiveness.[31]

Finally, while Evans (1996: 7) notes that the halving of the IDC (1995b) tariff estimates in the 1996 RTMSA simulation could be viewed either as a rough attempt to capture the water in the tariff phenomenon, or as a lowering of tariffs by only 50 per cent to reflect a PTA rather than a full-blown FTA, he does not consider the possibility of an *asymmetrical* preference agreement. Such asymmetry could take two forms: firstly, tariffs could be reduced by different proportions in different sectors, and secondly, some countries could make larger concessions to the rest of SADC than others. South Africa, for example, may be persuaded to allow better access to its markets than it obtains in return, either generally, or in particular sectors. The idea of an asymmetrical preferential arrangement among SADC countries has frequently been raised in the literature on southern African trade integration (see Chapter 3), and a simulation of the effects of various possible scenarios could be of considerable use to policy-makers.

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[30] To illustrate this, suppose that the normal rate of duty on a particular product in the home country is 30 per cent. In the case of a FTA, with intra-SADC tariffs of zero, the SADC partner country's absolute margin of preference of 30 per cent will necessarily fall as the home country's external tariffs are lowered (although a relative preference of 100 per cent will remain until external tariffs fall to zero). Consider, on the other hand, the case of a PTA in which the normal rate of duty is initially 30 per cent, but in which the SADC partner country enjoys an absolute margin of preference of 15 per cent. Imports from the partner country are therefore subject to a duty of 15 per cent, and the partner has a relative preference of 50 per cent (see Table 1.1 in Chapter 1). If the normal duty payable on the product is reduced from 30 per cent to 20 per cent, then, given the partner's absolute margin of preference of 15 per cent in the PTA, the duty payable on imports from the partner will fall to 5 per cent, and the partner's *relative* margin of preference will increase from 50 per cent to 75 per cent.

[31] It is uncertain, for example, whether an increase in the relative preference of Mauritius or Zimbabwe in the textiles sector within SADC would enable them to compete with exporters from the Far East in the context of more generalised liberalisation.

7.4 The assumptions of the RTMSA

Evans (1996: 3) notes that economic model users often have to assume "reasonable" values for important model parameters, such as elasticities, in the absence of suitable data which would otherwise allow their formal econometric estimation. Although the magnitudes of the elasticities assumed critically affect the results of the simulation, there is no real basis given for some of the elasticity assumptions of the RTMSA. The purpose of this section, thus, is to consider whether these assumptions are plausible in the light of similar empirical studies, and whether they bias the simulation results in any systematic way.

As noted in Chapter 6, by allowing for imperfect substitutability between alternative sources of supply, and hence product differentiation by country of origin, the Armington formulation adopted by Evans (1996, 1997a) provides a realistic compromise between the two extreme assumptions of perfect substitutability and perfect complementarity between imports from different sources and between imports and domestically-produced goods (Dervis *et al.*, 1982: 221). However, the degree of substitutability would be likely to vary between countries, and, perhaps more importantly, across sectors. Evans (1996, 1997a) appears to assume the same elasticity of substitution between imports from SADC and imports from the ROW (σ_{Mi}) for all sectors in all SADC countries. Although different elasticities of substitution between imports and domestic production (σ_{Di}) are specified for intermediate and capital goods on the one hand (which are assumed to be more complementary) and consumer goods on the other (which are more substitutable), the elasticities are the same for *all* intermediate and capital goods in all countries, and for all consumer goods.[32]

Corado and de Melo (1986) present a similar, but more general, structural *ex ante* model to analyse the effects of a country joining a customs union, and apply it to Portugal's accession to the European Community. Their econometric estimation of the elasticities of substitution in each sector allows for a wider range of values for σ_{Di} and σ_{Mi}, and therefore a more varied pattern of change in the key economic variables than is possible

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[32] The same applies to the price elasticity of composite demand ϵ^d_i. Further, no broad economic category classification has been given by Evans (1996, 1997a) to indicate which ISIC sectors have been grouped into which category, although this may be inferred from the detailed sectoral results in the 1996 study.

in the RTMSA. They recognise, as Evans (1996, 1997a) does, that joining a FTA or customs union involves both the elimination of home tariffs on imports from partner countries and the elimination of tariffs in partner countries facing home exports. However, their model relaxes the assumption that domestic goods are in infinitely elastic supply (which follows from the assumption of excess capacity in the RTMSA), so that adjustments in the domestic price (P_{SMi}) when tariffs change are taken explicitly into account.

The implications of the different assumptions in these two models, as well as those of other empirical studies, are considered in the rest of this section.

7.4.1 Substitutability between imports and domestic production, and the elasticities of supply and demand

It was noted in Chapter 6 that import-competing sectors may be divided into import substitutes or import complements depending on the substitutability between domestic and foreign goods (σ_{Di}) as well as on the sectoral demand elasticity of the composite good (ϵ^d_i). In the RTMSA, σ_{Di} is assumed to be greater than $|\epsilon^d_i|$ in consumer good sectors, so that import-competing production falls when a FTA is formed, and foreign and domestic goods may be seen as substitutes. In intermediate and capital good sectors, on the other hand, σ_{Di} is less than $|\epsilon^d_i|$. Import-competing production therefore increases when a FTA is formed, and foreign and domestic goods are complementary. These effects do not, however, result in a change in the domestic price P_{SMi}, because of the assumption of excess capacity. It may therefore be useful to consider the implications of allowing the domestic price to vary for the predicted changes in some of the key variables, for any given set of demand and substitution elasticities.

The direction of change in the domestic price in import-competing sectors when a FTA or customs union is formed will depend on the relative magnitudes of σ_{Di} and ϵ^d_i. In Corado and de Melo (1986: 158) and Dervis *et al.* (1982: 240), for sectors classified as import substitutes (in which $\sigma_{Di} > |\epsilon^d_i|$), a fall in the import price due to a tariff cut leads to a fall in the domestic price P_{SMi}. For sectors classified as import complements (where $\sigma_{Di} < |\epsilon^d_i|$), a fall in the import price leads to an increase in the domestic price.

This may be explained via the effect of the tariff reduction on import-competing supply. As noted in Section 6.2.4.3, the fall in the import price as a result of the removal of tariffs will reduce import-competing production in sectors classified as import substitutes, because the substitution of imports for domestic production will outweigh the increase in domestic production in response to a higher demand for the composite good. If domestic supply is less than infinitely elastic, the contraction in import-competing supply will lower the domestic price P_{SMi}. Similarly, in sectors classified as import complements, the demand effect outweighs the substitution effect, so that import-competing production expands and the domestic price increases.

The magnitude of the change in the domestic price depends on a number of factors, considered by Dervis *et al.* (1982: 239). Firstly, the higher the elasticity of supply, the smaller the change in the domestic price required to restore equilibrium.[33] Secondly, for sectors where the import share is low, the responsiveness of the domestic price to a change in the import price will be small. Thirdly, the size of the elasticity of demand for exports is also important in determining the responsiveness of domestic prices to changes in the tariff rate, especially when the share of exports in domestic production is large. The higher the export demand elasticity, *ceteris paribus*, the lower the domestic price change resulting from the removal of tariffs.

This third aspect illustrates an interesting contrast between the RTMSA and the formulations of Dervis *et al.* (1982) and Corado and de Melo (1986), and highlights the implications of the assumption of excess capacity for the treatment of exports in the RTMSA. As noted earlier, if imports and domestic production are substitutes, the fall in the import price following the removal of tariffs will reduce import-competing production, and, if supply is less than perfectly elastic, the domestic price P_{SMi} will fall. The fall in the domestic price has a feedback effect on the demand for exports, which will increase as the export price (expressed in foreign currency units) falls (Dervis *et al.*, 1982: 234). The expansion in export demand leads to an inward shift of the supply curve of the domestic product for domestic use. The net effect of the removal of the tariff on the domestic price will be less than it would have been in the absence of a feedback effect via exports. The adjustment in the domestic price will be less, the

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[33] In the RTMSA, thus, since the supply elasticity is infinite, no adjustment in the domestic price is required.

easier the substitution of domestic production from the domestic market to foreign markets (i.e. the higher the export demand elasticity).[34]

In the RTMSA, the assumption of perfectly elastic supply (due to excess capacity) thus implies that there is no feedback effect on the demand for the home country's exports when home country tariffs are eliminated, since there is no change in the domestic price. The basis of a home country's export expansion in the RTMSA thus appears to rest only on the elimination of tariffs in other SADC countries facing home country exports. As noted in Section 6.4, export expansion is determined by allocating the change in total intra-SADC exports (derived from, and equal to, the change in total intra-SADC imports) between countries, according to initial market share. With excess capacity, export expansion may occur without affecting home production for the domestic market.

In view of this, the important question is whether the excess capacity assumption is a reasonable one to apply to all sectors in all SADC countries. Evans (1997a: 4) notes that the assumption of infinite supply elasticities is a particularly restrictive feature of the model, and that for sectors operating close to full capacity, the supply response predicted by the RTMSA will be exaggerated.[35] It should be stressed, thus, that in consumer good sectors, for example, the contraction of domestic industry predicted by the RTMSA when a FTA is formed will be overstated if the relevant supply elasticities are, in fact, less than perfectly elastic. This would in turn tend to exaggerate the extent of trade creation predicted by the model. It would, however, also suggest that the pain of adjustment to the FTA in domestic industries could be less.

The values assumed in the RTMSA for the elasticity of substitution between imports and domestic production (σ_{Di}) and the elasticity of composite demand (ϵ^d_i) may also be briefly considered in the light of other empirical studies. Corado and de Melo (1986: 161-162), for example, obtain econometric estimates of σ_{Di} for 26 sectors in their study

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[34] In the case of sectors in which imports and domestic production are complements, the removal of tariffs will raise the domestic price, since import-competing production increases, and export demand will fall. Once again, however, the net effect of the removal of the tariff on the domestic price will be less.

[35] The assumption of infinite supply elasticities is retained on the export side of the model. The validity of assuming perfectly elastic export supply from developing countries has been questioned by Grossman (1982: 275) and Pomfret (1988: 140).

of Portugal's accession to the European Community. They find, as expected, that σ_{Di} generally exceeds unity in consumer good sectors, but that it is low for most sectors with a relatively high import share, indicating complementarity between imports and domestic production in sectors such as iron and steel, machinery, and non-ferrous metals. This pattern for σ_{Di} broadly agrees with that in the RTMSA, although Corado and de Melo (1986) are able to apply sector-specific estimates to their model.

The assumed magnitudes of σ_{Di} in the RTMSA can also be compared to those employed by Dervis *et al.* (1982: 257-287) in a "stylised" nineteen-sector model of a semi-industrialised country (Turkey), used to explore the effects of changes in trade policy on resource allocation. The important feature of this study is that, as in the RTMSA, a lack of data precluded the econometric estimation of important model parameters, which therefore had to be defined by the model users. In view of this, Dervis *et al.* (1982: 258) argue that it is essential to investigate the sensitivity of the model's results to different assumptions about key parameter values. More particularly, their study examines the sensitivity of their model to systematic variations in some of the key elasticity parameters specified.

Dervis *et al.* (1982: 263-264) choose a range of substitution elasticities for their sensitivity analysis such that a "high" σ_{Di} is three times the size of a "low" one. Differences in the range which σ_{Di} can adopt across sectors roughly reflect the extent of product differentiation in a given sector, due to differences in quality and the degree of product homogeneity.[36] A comparison of the elasticities of substitution between imports and domestic production in the two studies reveals that, in general, for consumer goods, the RTMSA substitution elasticities of 2.5 just exceed the "high" values of 2.25 assumed by Dervis *et al.* (1982: 263). For intermediate and capital goods, the RTMSA values for σ_{Di} (0.5) fall in between the "low" and "high" elasticities in the other study. It thus appears that, in the case of σ_{Di}, the values specified for the RTMSA are of the same general order of magnitude as those in similar empirical studies. Further, while sector-specific estimates are not available, the RTMSA allows for the distinction between sectors which are import substitutes and those that are import complements.

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[36] The highest elasticities of substitution are therefore seen in agriculture and petroleum products (which are assumed to be the most homogeneous) and traditional non-durable consumer goods (which are assumed to be more substitutable in use than other manufactures).

It would nonetheless be useful to conduct sensitivity tests on the RTMSA in order to explore the sensitivity of the model's results to variations in the assumed elasticities. This is particularly important when the relative magnitudes of σ_{Di} and the elasticity of composite demand ϵ^d_i are considered, since their relative size determines whether import-competing production is likely to contract or expand when tariffs are removed. Dervis *et al.* (1982: 272) note that output changes are very sensitive to the specified value of σ_{Di} in their study, since sectors switch from being import substitutes to import complements quite easily when substitution elasticities are lowered. Partial equilibrium estimates of ϵ^d_i in Dervis *et al.* (1982: 263) yield demand elasticities well below those of the RTMSA, which vary not only between broad economic categories, but also within them.[37]

Dervis *et al.* (1982: 239) suggest that it will be difficult to predict when σ_{Di} is likely to be less than $|\epsilon^d_i|$ because, in general, the elasticity of substitution tends to be low for sectors such as intermediates, which at the same time tend to have a low elasticity of demand. Capital goods generally have low substitution elasticities, so the outcome depends on the elasticity of demand, which in turn depends on how responsive aggregate investment is to price changes. In the RTMSA, both σ_{Di} and $|\epsilon^d_i|$ are assumed to be lower in intermediate and capital good sectors than in other sectors, but their relative magnitudes are such that σ_{Di} (0.5) is less than $|\epsilon^d_i|$ (0.8) in the former, while σ_{Di} (2.5) exceeds $|\epsilon^d_i|$ (1.8) in the latter.[38]

7.4.2 Substitutability between imports from partner and non-partner countries

As noted in Section 6.2.4.4, the direction of change in imports from the ROW (M_{Ri}) when intra-SADC tariffs are removed has important implications for the trade diversion consequences of a FTA. Although some of the aggregate country results in the 1997

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[37] The reason for this may be that the expression from which these elasticity estimates are derived takes account of intermediate, consumption and investment demand (Dervis *et al.*, 1982: 265). In the RTMSA, the different components of domestic demand are not considered separately.

[38] It is interesting to note that partial equilibrium estimates of sectoral elasticities of *supply* by Dervis *et al.* (1982: 263), assumed to be infinite in the RTMSA, yield output supply elasticities for Turkey of below 0.81 in all but four manufacturing sectors: textiles (2.12), clothing (1.88), wood products (1.87) and metal products (1.59). Supply elasticities depend on factor shares and substitutability, and are greatest in labour-intensive sectors with high substitution elasticities between capital and labour (Dervis *et al.*, 1982: 264-265).

RTMSA simulation show a slight increase in M_{Ri}, the analysis of Section 6.2.4.4 illustrates that, given the magnitudes of the elasticities that have been assumed in the model, the formation of a FTA should result in a fall in M_{Ri}.[39] This essentially follows from the assumption of a relatively high elasticity of substitution between imports from SADC and imports from the ROW (σ_{Mi}) of 2.5 in all sectors.

The likely pattern of trade creation and trade diversion in the different sectors, given the assumptions of the RTMSA, may be summarised as follows. In consumer good sectors, the removal of intra-SADC tariffs should result in an increase in imports from SADC (M_{Si}), a fall in import-competing production (S_{Mi}), and a fall in imports from the ROW (M_{Ri}) (see Section 6.2.4). Given the assumption of equal substitutability between imports from the two sources and imports and domestic production ($\sigma_{Mi} = \sigma_{Di} = 2.5$), it follows that, for sectors in which the initial level of import-competing production exceeds imports from the ROW, trade creation will outweigh trade diversion. According to the data in Evans (1996: 37-44), initial S_{Mi} outweighs M_{Ri} in most consumer good sectors.

In intermediate and capital good sectors, imports are complements to domestic production ($\sigma_{Di} < |\epsilon^d_i|$), so that import-competing production increases when a FTA is formed. These sectors still exhibit trade creation, however, since there is still some substitution of imports for domestic production, although this effect is weak ($\sigma_{Di} = 0.5$). However, the substitution effect between M_{Si} and M_{Ri} is as strong as before ($\sigma_{Mi} = 2.5$), so that, in these sectors, trade diversion is likely to outweigh trade creation.

In Corado and de Melo (1986), trade creation is accompanied by trade diversion in most sectors (as in the RTMSA), conforming to the traditional "expected" pattern of response (Truman, 1975: 6). However, Corado and de Melo (1986) obtain econometric estimates for the elasticity of substitution between imports from different sources (σ_{Mi}), so that these elasticities vary across sectors, unlike in the RTMSA. More particularly, they find that, in some sectors, σ_{Mi} is quite low.[40] In these cases, imports from the partner and

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[39] In the 1996 simulation, M_{Ri} falls in most sectors, or shows no change, but never increases (Evans, 1996: 37-44).

[40] Lower values of σ_{Mi} are found for chemical products, non-electrical machinery, paper and printing, other non-metallic mineral products, and other food products.

non-partner are complementary, and imports from *both* sources may increase when a FTA is formed. This results in a pattern of "double trade creation" (internal and external), rather than trade creation accompanied by trade diversion (Corado and de Melo, 1986: 160). However, as argued above, despite the aggregate country results of Evans (1997a: 11), the value of σ_{Mi} assumed across sectors in the RTMSA (2.5) is too high to allow imports from the two sources to be classified as complements. A pattern of double trade creation should therefore not be possible in this model, given the magnitudes of the elasticities that have been assumed.[41]

7.4.3 The relative magnitudes of the elasticities of substitution

The discussion in the previous sub-section raises the question of whether, in the SADC context, one should expect greater substitutability between imports and domestic production, or between imports from partners and non-partners. In the RTMSA, as noted earlier, σ_{Di} is assumed to equal σ_{Mi} in consumer good sectors, whereas imports from the two sources are far more substitutable than imports and domestic production ($\sigma_{Mi} > \sigma_{Di}$) in intermediate and capital good sectors. Corado and de Melo (1986: 162) suggest that it may be expected, in general, that the elasticity of substitution between imports from the partner and non-partner countries σ_{Mi} would be greater than the elasticity of substitution between imports and domestic production σ_{Di}, however this question appears to be controversial.

In his study of import competition from developed and developing countries in the US domestic market, Grossman (1982) finds that for sectors with a high import share, in which the share of imports from developing countries in total US imports is significant, imports from both developed countries and developing countries are relatively close substitutes for domestic US production, but quite imperfect substitutes for each other. This implies σ_{Mi} less than σ_{Di}, in contrast to Corado and de Melo (1986) and the RTMSA. A detailed examination of the goods within each product group, by ranking them

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[41] Double trade creation may occur when a FTA is formed if a country's external tariffs against the ROW are simultaneously lowered. While this is a plausible scenario, given tariff cuts being implemented in terms of Uruguay Round commitments, the RTMSA does not model the *simultaneous* reduction of external tariffs in the FTA simulations. Note that if a customs union rather than a FTA is formed, double trade creation may occur in countries or sectors in which external tariffs are *lowered* to meet the union's common external tariff wall.

according to quality or technological sophistication, suggests an explanation for Grossman's (1982) results. The goods imported by the US from developed countries are found to be largely distinct from those imported from developing countries, with the former being more "up-market" and the latter more "down-market". In each case, it was found that home firms produce both types of good.[42] This implies substitutability between each import source and domestic production, but non-substitutability between different sources of imports.[43]

The findings of Grossman (1982) do not support the assumption of *equal* substitutability between imports and domestic production and imports from different sources, made generally by Baldwin and Murray (1977), and for consumer good sectors by Evans (1996, 1997a). However, they do support the conclusion of Baldwin and Murray (1977), implicit in Evans (1996, 1997a) for consumer good sectors, that the effect of tariff preferences for developing countries will be seen more through trade creation (replacement of domestic industry) than trade diversion (replacement of imports from the ROW).

Other studies, however, suggest that it is more likely for the elasticity of substitution between imports and domestic production (σ_{Di}) to be smaller than that between competing imports (σ_{Mi}) (Ahmad, 1978; Verdoorn and Schwartz, 1972). This pattern of substitution possibilities, also found to be most common by Corado and de Melo (1986), and which is characteristic of intermediate and capital good sectors in the RTMSA, suggests that the effects of tariff preferences will be seen more through trade diversion than trade creation.

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[42] An illustrative example is the leather industry. Leather from cattlehide may be heavy (for making shoe soles or machine belting) or light (for shoe uppers, clothing or other high-quality leather products). Calf or kip leather is also light. Imports from developed countries consist mostly of finer cattlehide leather, and calf and kip leather, whereas imports from developing countries are predominantly cattlehide leather. Domestic leather tanneries produce both types of leather. The two types of imported leather therefore tend to be complements rather than substitutes (e.g. shoe uppers and shoe soles), and domestic industry faces competition from both types of imports (Grossman, 1982: 278).

[43] Grossman (1982: 280) argues that these findings are consistent with the product cycle theories of Vernon (1966) and Hufbauer (1970), which suggest that imports from developing and developed countries will be poor substitutes for one another. The US domestic industry, on the other hand, produces the entire spectrum of products, perhaps continuing to compete with developing country producers with the aid of protection (even after product cycle considerations would suggest otherwise).

In the southern African context, the discussion in this sub-section highlights the difficulties of assuming the same magnitudes for these elasticities in all countries, given the highly unequal levels of development among SADC members. From South Africa's point of view, for example, it is probably unrealistic to expect a high degree of substitutability between imports from the ROW and imports from the rest of SADC. On the other hand, in the case of SADC countries whose imports from the region come largely from South Africa, it may be more plausible to assume a greater substitutability between imports from South Africa and the ROW than between imports and domestic production, at least in some sectors. A detailed analysis of the imports of SADC member countries from the region and the ROW, as well as an examination of the degree and type of differentiation within product categories along the lines of Grossman (1982), would be required before any conclusion could be drawn.

7.5 Refining and extending the RTMSA

It was noted in Section 7.1 that any assessment of the RTMSA is complicated by the fact that the model is in the process of being developed to take account of a variety of aspects which have not been included to date. Nevertheless, an attempt will be made in this final section to highlight some of the directions in which the model could usefully be extended in the light of the analysis in earlier chapters.

As acknowledged by Evans (1996: 5), the RTMSA is a partial equilibrium model, and therefore does not include income generation and investment. It does not incorporate capital and does not consider income distribution effects. While the analysis is comparative static, and is thus unable to take account of the potential dynamic effects of the formation of a SADC FTA, the discussion in Section 5.4 suggests that these effects are inadequately defined and not readily quantifiable. Further, the impact of the removal of non-tariff barriers (NTBs) has not been included for data reasons (Evans, 1996: 6-7; Evans, 1997a: 3). Given the widespread perception that NTBs constitute a major constraint on intra-regional trade (ADB, 1993b: 24; Maasdorp and Whiteside, 1993: 18-19), the implication of their elimination or reduction calls for some

consideration.[44]

The focus in this section, however, will be on issues relating to the analysis in Chapters 4 and 5, particularly the trade creation-trade diversion consequences of a SADC FTA, and the question of the potential benefits of economies of scale and intra-industry specialisation.

The discussion in the previous sections of this chapter, as well as in Section 6.2.4, suggests that the RTMSA could be used to estimate trade creation and trade diversion at the sector level in each country. As noted in Section 5.2, it is also important to calculate the benefits to each country of export expansion to its partners. Whether this represents trade creation or trade diversion from the partner's point of view is irrelevant to the exporting country's gain. This gain is derived from the opportunity of exporting on more favourable terms than would otherwise be possible, and is equivalent to the income loss that would have been incurred if the product had been sold domestically or to the ROW (Robson, 1987: 249). The method of calculation of export expansion in the RTMSA is questionable, however, and should be modified to account for the tariff benefits obtained by a particular country in each export market.

Despite allowing for product differentiation by country of origin, the RTMSA is based on the assumption of constant returns to scale, and therefore disregards the implications of scale economies in production. Work is apparently under way at present to incorporate scale into the model. This would require some identification of sectors in which economies of scale are likely to be important, and, for these sectors, an estimation of the cost reduction effect identified in Section 5.2, taking account not only the effect of market enlargement, but also any predicted increase in demand as a result of the FTA itself.[45]

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[44] In Brown *et al.*'s (1992) empirical study of NAFTA, NTBs are incorporated by finding the *ad valorem* tariff rate that will maintain imports covered by NTBs in a particular product category at a pre-determined level. The *ad valorem* tariff rate in this product category is then an average of the NTB tariff-equivalent rate and the nominal tariff rate, with the NTB tariff-equivalent weighted using the NTB coverage ratio (Brown *et al.*, 1992: 16).

[45] Owen (1983), for example, has calculated the scale-related cost reductions resulting from intra-European Community trade creation, although his approach has been criticised for failing to establish a causal link to trade liberalisation (Pomfret, 1988: 133). As noted in Section 5.2, Pearson and Ingram (1980) use individual firm data to estimate the cost reduction benefits from economies of scale in a customs union among developing countries in their study of the welfare effects of

In Brown *et al.*'s (1992: 15-16) empirical study of NAFTA, sectors are classified as perfectly competitive or monopolistically competitive depending on the degree of scale economies in production.[46] Products in both types of industry are characterised by some degree of product differentiation: in perfectly competitive sectors, products are differentiated by country of origin, as in the RTMSA, while in monopolistically competitive sectors they are differentiated by firm. This allows for consideration of the gains from intra-industry specialisation and trade, discussed in Section 5.3, including the benefits of increased variety for consumers and, in the case of monopolistically competitive sectors, the exploitation of economies of scale.[47]

Since the RTMSA does not currently model imperfect competition, it is not possible at this stage to investigate the benefits of intra-industry specialisation resulting from the exploitation of scale economies *per se*. However, the RTMSA could, in principle, be used in its present form to consider the extent of intra-industry versus inter-industry specialisation on formation of a FTA, from which inferences could be drawn about possible gains from increased consumer variety and the likely costs of adjustment to the FTA.

The detailed simulation results of Evans (1996: 37-44) report the percentage changes in imports from SADC and exports to SADC in each three-digit ISIC category for each country. If trade, output and employment data were available at a more disaggregated level (at least at the four-digit ISIC level) then, for a given SADC country, the presence of both increased exports to and imports from the rest of the region within a particular sector would suggest some degree of intra-industry expansion. Further, instead of treating a country's imports from SADC in a given sector as a single aggregate which is substitutable with imports from the ROW, each source of SADC supply could be considered separately (Evans, 1997b). This would facilitate the simulation of *bilateral*

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integration between Ghana and the Ivory Coast.

[46] All manufacturing sectors, as well as mining, are characterised by monopolistic competition, while agriculture is designated as perfectly competitive.

[47] The simulation results of Brown *et al.* (1992: 24-26) show the percentage change in industry output and the percentage change in the number of firms in each monopolistically competitive sector. The difference between these two yields the percentage change in *firm* output. It is found that firm output increases in all sectors in the US and Canada, and in most sectors in Mexico. This suggests widespread benefits from economies of scale in NAFTA (Brown *et al.*, 1992: 28-29).

trade changes in each sector, as in Brown *et al.* (1992), so that the pattern of inter-sectoral versus intra-sectoral specialisation between each pair of SADC countries could be investigated.[48] More specifically, to determine the pattern of specialisation within the bloc fully, it seems that cognisance would have to be taken of substitutability between different SADC sources of supply, as well as the actual tariff benefits obtained in each SADC export market for a particular exporting country.[49]

In their analysis of NAFTA, Brown *et al.* (1992: 27) find that both the US and Canada increase imports from each other in most sectors, suggesting a marked expansion of intra-industry trade. On the other hand, although Mexican imports from its two partners increase in all categories, its exports are strongly concentrated in a small range of sectors, suggesting a far greater degree of inter-sectoral specialisation for Mexico when the FTA is formed.[50] The implication is that the benefits of liberalisation between Canada and the US arise mostly from increased product variety rather than inter-sectoral specialisation (Brown *et al.*, 1992: 27). As the analysis of Section 5.3 suggests, the costs of adjustment to the FTA are therefore likely to be easier for these countries.

What inferences can be drawn from this for SADC? It was suggested at the end of Chapter 5 that if both factor endowments and *per capita* income levels are more similar among southern African countries (or among a subset of southern African countries) than between these countries and their trading partners in the rest of the world, then regional liberalisation could provide benefits from intra-industry specialisation which may not be readily attainable through multilateral liberalisation.

To examine this further, the current extent of intra-industry trade between SADC members in relation to the levels of intra-industry trade between SADC countries and their external trading partners may be considered, particularly since the bulk of intra-regional trade takes place in manufactures where intra-industry trade tends to be more prevalent. As noted in Chapter 2, the most complete sets of disaggregated bilateral

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[48] In Brown *et al.* (1992), each of the NAFTA members is modelled individually.

[49] As noted earlier, the current treatment of exports in the RTMSA does not recognise this latter aspect (see Evans, 1996: 13).

[50] The US, for example, reduces its imports from Mexico in a wide range of industrial products. A fall in imports from a particular partner country cannot be captured in the RTMSA since, as noted above, imports from the bloc are considered as a single aggregate.

trade flows between SADC members are those involving SACU or Zimbabwe (IDC, 1996; Zimtrade, 1996). Since South Africa and Zimbabwe have the most similar industrial structures in the region (see Section 2.5), it may be of particular interest to consider the prevailing levels of intra-industry trade between them.

Using four-digit ISIC data, unadjusted Grubel-Lloyd (1975) indices of intra-industry trade have been calculated for SACU and Zimbabwe, and for SACU and the ROW. The results for selected sectors are shown in Table A-8. The discussion of these indices is somewhat tentative for the following reasons. Firstly, it is problematic to compare intra-industry trade ratios between SACU and Zimbabwe with those between SACU and the ROW, because of the significantly larger *relative* trade imbalance in manufactures between SACU and Zimbabwe, shown by the Grubel-Lloyd indices for manufacturing as a whole (Table A-8). Secondly, the problems of using an unadjusted index to measure intra-industry trade are well documented. The index should be preferably be adjusted to account for categorical aggregation and, it is sometimes argued, for overall trade imbalance.[51] Thirdly, the index itself does not reflect the significance of trade in a particular sector. For example, it is of little consequence that intra-industry trade in pottery between SACU and Zimbabwe is 95 per cent if the absolute trade flows in this sector are extremely small.

Nevertheless, the results suggest that intra-industry trade between SACU and Zimbabwe exceeds intra-industry trade between SACU and the ROW in a number of sectors in which SACU-Zimbabwe bilateral trade is important (cf. Table A-8 and Table 2.13). There is significant intra-industry trade with Zimbabwe relative to the ROW in some foodstuffs and textiles sub-sectors. More interesting, perhaps, are the levels of intra-industry trade in sectors with significant bilateral trade flows such as iron and steel, non-ferrous metals, some metal products and machinery sub-sectors, as well as transport equipment. There is noticeably little intra-industry trade with Zimbabwe in chemical products, except for medicinal and pharmaceutical preparations.

According to Greenaway (1991: 166), intra-industry trade is more likely to be recorded in capital-intensive than labour-intensive product lines. In this regard, the factor

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[51] A detailed analysis of issues relating to the measurement of intra-industry trade is beyond the scope of this study. For further discussion, see Simson (1987: 76-81), Parr (1994: 397-399) and Greenaway and Milner (1983).

intensity of a SADC country's trade with the rest of the region may be compared to the factor intensity of its trade with the ROW. Data on factor intensities at the required level of disaggregation were only obtainable for South Africa. Retaining the focus on SACU and Zimbabwe, and following the methodology outlined in Bell and Cattaneo (1997: 5-6), weighted average labour coefficients of SACU's manufactured trade with Zimbabwe and the ROW have been calculated, and are shown in Table 7.2.[52]

Table 7.2: Weighted average labour coefficients of SACU's manufactured exports, imports and gross output, 1993

	SACU-ROW	SACU-Zimbabwe
Total export labour requirements[1]	220593.21	7876.05
Total import labour requirements[2]	281981.63	3941.48
Total value of exports (R million)	36270.35	1694.52
Total value of imports (R million)	51142.07	486.47
Weighted average labour coefficients[3]		
Exports	6.08	4.65
Imports	5.51	8.10
Gross output	5.42	5.42
Labour coefficient ratios (%)		
Exports/Imports	110.00	57.37
Exports/Gross output	111.93	85.78
Imports/Gross output	101.75	149.52

Source: Own computations from IDC (1995a, 1996).

Notes: [1] Total amount of labour required to produce exports.
[2] Total amount of labour required to produce imports domestically.
[3] Labour coefficients indicate the number of workers per million rands of exports, imports, and gross output, respectively.

The results indicate that SACU's manufactured exports to the ROW are more labour-intensive than its manufactured imports from the ROW.[53] SACU's exports to Zimbabwe, on the other hand, are significantly less labour-intensive than SACU's imports from Zimbabwe. The contrast is reflected in the export/import labour

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[52] Employment/gross output ratios in each three-digit ISIC sector are multiplied by the exports in that sector to obtain the amount of labour required to produce the sector's exports. Similarly, employment/gross output ratios are multiplied by imports in a sector to determine the labour required to produce the sector's imports domestically. The weighted average labour coefficient for exports is obtained by dividing the sum of individual sector export labour requirements by the total value of exports; the labour coefficient for imports is calculated in the same manner.

[53] This result differs from that obtained by Bell and Cattaneo (1997: 7) for *South Africa's* manufactured exports, which are found to be *less* labour-intensive than manufactured imports in 1993. The difference reflects the relative labour-intensity of Botswana, Lesotho, Namibia and Swaziland's exports compared to South Africa's.

coefficient ratios of 110 per cent and 57 per cent for trade with the ROW and Zimbabwe respectively. Further, SACU's exports to Zimbabwe are notably less labour-intensive than its exports to the ROW (in fact, they are even less labour-intensive than its imports from the ROW), while imports from Zimbabwe are strikingly more labour-intensive than imports from the ROW.[54]

Given the importance of trade between SACU and Zimbabwe in total intra-SADC trade, these results suggest that SACU's (effectively South Africa's) comparative advantage in the region lies in more capital-intensive manufacturing sectors, while Zimbabwe's regional comparative advantage is concentrated in labour-intensive sectors. It is perhaps likely, therefore, that despite their relative similarity of industrial structure in the southern African context, the adjustment to free trade between South Africa and Zimbabwe would primarily take the form of inter-sectoral resource reallocation, as between Mexico and its partners in NAFTA. There could, however, be intra-industry specialisation of some significance in particular manufacturing sectors.

Balassa's (1979: 258) suggestion, that there may be greater scope for intra-industry expansion in a regional union among countries which are at lower but more equal levels of development, may apply to a subset of SADC countries. Further research is necessary into the factor intensity of production and trade in the region, the extent and type of product differentiation, and the prospects for exploiting economies of scale in a regional market before any conclusions can be drawn. Greenaway (1991: 167) notes, however, that as industrialisation proceeds and *per capita* income increases, intra-industry trade will become more important in the trade of developing countries. Integration in the SADC region could thus be aimed at stimulating intra-industry rather than inter-industry trade expansion.

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[54] Ideally, for a fuller picture, the factor intensity of Zimbabwe's trade with South Africa/SACU should also be compared to the factor intensity of *Zimbabwe's* trade with the ROW. At present, however, direction of trade data for Zimbabwe by ISIC category, required to match the production and employment data, are not available. A conversion of the Zimtrade (1996) data from SITC to ISIC is in progress.

7.6 Conclusion

This chapter has attempted to provide a critical assessment of the RTMSA, the model underlying the only serious study to date which provides quantitative estimates at the sub-sectoral level of the impact of a SADC FTA on the individual members of SADC.

The results of Evans (1997a) suggest that the formation of a SADC FTA will result primarily in trade creation, with little or no trade diversion. However, the discussion in this chapter illustrates that, in consumer good sectors, the excess capacity assumption and the assumption of equal elasticities of substitution between imports from SADC and the ROW and between imports and domestic production in the RTMSA tend to exaggerate the likely trade creation effects of a SADC FTA. Further, as Section 6.2.4.4 shows, the absence of any reduction in imports from the ROW at the country level in the 1997 simulation, except in the case of Mauritius, and the marginal increase in ROW imports for some members appear to be anomalous results, given the magnitudes of the assumed elasticities in the RTMSA. In contrast to the 1996 simulation, the results of Evans (1997a: 11) reflect little or no trade diversion when a FTA is formed. Taken together, these factors appear to make the FTA look more favourable from the point of view of orthodox static customs union theory, which assesses the welfare implications of integration on the basis of the balance between trade creation and trade diversion, than would perhaps be expected.

The inferences drawn by Evans (1996, 1997a) from the simulation results of the RTMSA are, firstly, that the formation of a SADC FTA will, on balance, be trade creating, and therefore beneficial to SADC member countries. Secondly, the gains from export expansion will be significant and widespread, while the costs of adjustment will be concentrated in only a few adversely affected sectors and in countries experiencing a marked reduction in government revenue. The analysis in this chapter suggests, however, that the incidence of adverse sectoral effects on formation of a FTA may be more widespread than Evans (1996) has argued.

In terms of the Cooper-Massell analysis in Section 4.3.3, it may indeed be preferable for trade expansion within the bloc to take place through trade diversion rather than trade creation, if the latter is reflected by the contraction of domestic industry in some SADC

member states. According to the ADB (1993b: 29, 37), for example, it would be more desirable for South Africa's increased penetration of the regional market to take place via the replacement of imports from the ROW (that is, through trade diversion) than via the displacement of other regional exporters or of domestic production for the domestic market in these countries, to avoid serious negative consequences for existing regional industry. In this view, assessing the desirability of a SADC FTA simply in terms of the conventional criterion that trade creation should outweigh trade diversion would seem inadequate.

On the other hand, the possible benefits of a SADC FTA may be understated in the RTMSA, to the extent that the model is currently unable to estimate the potential benefits from the exploitation of economies of scale and intra-industry specialisation in a regional market. A major obstacle to the use of the RTMSA in its present form to distinguish the role of factor endowments and product variety in determining the pattern of trade and specialisation which may follow the formation of a SADC FTA appears to be the treatment of a particular country's imports from SADC and exports to SADC in a given sector as a single aggregate. This aspect, together with the method of calculation of a country's export expansion in a given sector, seems to mask the likely pattern of specialisation between individual countries within the bloc. An extension of the model to allow the estimation of bilateral trade changes in each sector would clarify the possible inter-sectoral and intra-sectoral patterns of specialisation resulting from the removal of intra-SADC tariffs.

CHAPTER 8

CONCLUSION

As shown in Chapter 2, the proposed formation of a SADC free trade area (FTA) provides an extreme example of an attempt at regional trade integration among partner countries differing greatly in *per capita* income, economic size and stage of development, which together comprise a relatively small trading bloc. The essential question with which this study has been concerned is whether, despite these inequalities, it is possible that a FTA among SADC members could be mutually beneficial to South Africa and its partners.

Other features of SADC, noted in Chapter 2, which raise crucial questions about the feasibility of successful trade integration in southern Africa are that the industrial structures of member countries are by and large complementary to one another, and that the existing degree of trade integration, measured by the intra-regional trade ratio, is comparatively low.

These issues are raised implicitly in the existing literature on regional integration in southern Africa. However, the survey of recent studies in Chapter 3 illustrates that there are wide differences of opinion on the economic desirability and feasibility of a southern African FTA. It is not clear in many of these studies how these diverse views and conclusions were derived, and whether they are consistent with the theory. The present study has attempted to address some of the key questions relating to the problem of economic integration among unequal partners, with reference to the theoretical literature and empirical studies of such experience elsewhere in the world, and hence in effect to assess the current state of the debate on trade integration in the SADC region.

Orthodox customs union theory evaluates the merits of regional integration on the basis of the balance between trade creation, which is considered to be welfare-improving, and trade diversion, which is seen as welfare-reducing. In terms of this analysis, trade integration is likely to be beneficial the more competitive the partner countries are, in

the sense that the range of goods produced under protection is similar, and, for any specified overlap, the greater the differences in the unit costs of similar protected industries in different parts of the union. A greater degree of overlap implies that there is more scope for trade creation.

Using this framework, Holden (1996: 61) concludes that the smaller members of SADC would lose from a southern African FTA and that South Africa would gain at their expense. However, as shown in Chapter 4, this conclusion follows from the assumption that the home country's supply of a single homogeneous good is initially entirely provided by imports and that, on formation of the FTA, the partner country is unable to displace imports from the ROW entirely. In this case, the FTA results only in trade diversion and, given the large trade surplus that South Africa has with the region, trade diversion to that country will predominate, resulting in a redistribution of income from the smaller SADC countries to South Africa.

On the other hand, if the partner country is able to displace ROW imports completely, the discussion in Chapter 4 shows that trade creation gains via the consumption effect are possible, even if there is perfect complementarity of structure. Once domestic production is allowed for, implying at least some degree of competitiveness between partners, further gains from trade creation, via the production effect, will result if complete displacement occurs.

The traditional trade creation-trade diversion analysis therefore does not enable one to say *a priori* that a FTA among the members of SADC could not be mutually beneficial to all the prospective partner countries, despite the existing degree of inequality between South Africa and the smaller countries, and the complementarity of their production structures. The outcome depends on whether home country imports from the ROW are completely displaced by the partner, which in turn depends on empirical questions such as the magnitudes of the demand and supply elasticities and the height of the initial tariffs.

Holden's (1996) conclusions about the likely trade diversion consequences of a SADC FTA contrast most strikingly with those of Evans (1996, 1997a), who finds that a FTA in the region will result primarily in trade creation with little or no trade diversion. These

findings are based on a very different analytical approach involving the use of a static partial equilibrium simulation model, the Regional Trade Model for Southern Africa (RTMSA). The diverse conclusions in the two studies may be explained in part by a critical difference in their underlying approaches regarding the conditions necessary for a trade creation gain on integration. The assumption of perfect substitutability between goods from different sources of supply in the traditional framework implies that complete displacement of ROW imports by the partner is a necessary condition for a fall in price, and hence for a trade creation gain via the production or consumption effect. However, as shown in Chapter 7, once the restrictive assumption that goods from different sources of supply are perfect substitutes is relaxed, complete displacement of imports from the ROW is not a necessary condition for trade creation to occur. This is because the Armington (1969) formulation adopted by Evans (1996, 1997a), in which domestic and imported goods, and foreign goods from different sources, are imperfect substitutes, allows for two-way trade within a given sector and for goods from different sources of supply to have different prices.

However, as argued in Chapter 7, the Evans (1996, 1997a) result that a SADC FTA will be primarily trade-creating may be questioned on several counts. Firstly, the assumption of excess capacity, which is questionably applied to all sectors in all SADC countries, together with the assumption of equal elasticities of substitution between different sources of supply in the case of consumer good sectors, appears to exaggerate the likely trade creation benefits of the FTA. Further, the pattern of double trade creation found by Evans (1997a) for some countries appears to be inconsistent with the structure of the model, given the magnitudes of the elasticities which have been assumed. In particular, it is unclear why imports from the ROW do not fall, given the elasticity of substitution between imports from SADC and imports from the ROW of 2.5, which is too high for imports from the two sources to be classified as complements. The discussion in Section 6.2.4.4 shows that the substitution of imports from SADC for imports from the ROW will outweigh any tendency for ROW imports to increase in response to an expansion in demand, in any sector, given the elasticity assumptions of the RTMSA. One would thus expect the simulation results to show some trade diversion on formation of a SADC FTA.

These factors highlight the point raised by Page (1997: 8) that the problem with both

theoretical speculation and empirical analysis of the likely effects of trade integration is the wide range of possible assumptions about elasticities which may be made.

The studies of Holden (1996) and Evans (1996, 1997a) appear to judge the desirability of a southern African FTA on the basis of the orthodox view that a trade-creating integration arrangement will be welfare-improving, while a trade-diverting one will be welfare-reducing. The limitations of assessing the merits of regional integration in the SADC region solely on the basis of the balance between trade creation and trade diversion do not emerge clearly in the southern African literature. While studies such as the ADB (1993b: 29, 37) suggest that it would be more desirable for export expansion within the region to take place via the replacement of imports from the ROW, rather than at the expense of domestic industry in the member states or existing regional exporters, this question is not addressed formally or systematically with reference to the theoretical literature on integration among developing countries.

There is a theoretical basis for such a view, however, as the Cooper-Massell (1965b) analysis considered in Section 4.3.3 illustrates. Integration may be seen as a means of achieving the objectives of protection, such as industrialisation and the saving of scarce foreign exchange, at a lower cost than would be possible under non-preferential tariff policy. Further, such benefits may be more readily attainable when the economic structures of the prospective partner countries are complementary rather than competitive. In this framework, it may be argued that trade diversion will be preferable to trade creation for the preference-granting country, since it does not entail a sacrifice in domestic industrial production.[1]

The advantages of a protected regional market over non-preferential tariff policy, as a means of achieving industrialisation more efficiently, may be enhanced in the imperfectly competitive context where production is subject to increasing returns to scale. The question of potential benefits from economies of scale has not been incorporated systematically into the debate on trade integration in the SADC region. The comparative static analysis of Holden (1996: 55-56), for example, focuses only on

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[1] The aspect of import substitution to save foreign exchange has been emphasised by Bhambri (1962), Mikesell (1963) and Linder (1967), while Andic *et al.* (1971) extend the Cooper-Massell industrialisation approach to incorporate Linder's (1967) analysis of the foreign exchange benefits of producing for a protected regional market.

the case where imports from the prospective partner country are produced subject to rising costs, and therefore does not consider internal economies of scale as a potential source of benefit from southern African trade integration. Although Holmes and Evans (1997: 54-64) make a preliminary investigation into the potential for scale economies in the SADC region, the Evans RTMSA does not yet model increasing returns.

Studies such as Nordas (1996) and Holmes and Evans (1997: 62-64) suggest that scale may be important in some manufacturing sectors in the region. If this is so, then the essential question for the purposes of this study is whether the enlarged market in a regional union among countries of unequal size and levels of development will, in sectors where scale economies are important, mainly benefit producers in the larger countries. As the discussion in Section 5.2 suggests, it once again cannot be concluded *a priori* that this will be the case. Indeed, smaller countries may be the major beneficiaries of access to a larger market, because of the higher excess cost they incur of operating at below optimal scale.

The limitation of Corden's (1972) extension of the orthodox trade creation-trade diversion framework to allow for economies of scale, considered in Section 5.2, is that by retaining the traditional focus on homogeneous goods it only allows for resource reallocation effects of the inter-industry kind on integration. While inter-sectoral resource reallocation may be the predominant outcome of a regional union among countries at unequal levels of development, it seems unnecessarily restrictive to adopt a framework that precludes the possibility of the simultaneous expansion of a country's exports and imports within a particular sector, which would allow for some degree of *intra*-sectoral specialisation on union. Indeed, a major feature of the growing literature on the effects of trade in an imperfectly competitive setting is the recognition of product differentiation. Further, while the current extent of intra-industry trade within a group of developing countries such as SADC may not be very significant, the evidence suggests that such trade will become increasingly important as industrialisation proceeds and *per capita* income increases.

The question of the possible benefits of intra-industry specialisation and trade in the SADC region is poorly researched at present. Of the more formal theoretical and empirical analyses of southern African trade integration considered in Chapter 3, only

Evans (1996, 1997a) explicitly considers product differentiation and two-way trade within a given sector. However, as noted in Chapter 7, the RTMSA is based on the assumption of constant returns to scale, and therefore disregards the implications of scale economies in production. In its present form, thus, the model would be unable to investigate the benefits of intra-industry specialisation resulting from the exploitation of economies of scale *per se*. However, it could in principle be used to consider the extent of intra-industry versus inter-industry resource reallocation following the formation of a SADC FTA, from which inferences could be drawn about possible gains from increased consumer variety and the likely costs of adjustment to the FTA. The main obstacles to the use of the RTMSA, to distinguish fully between the role of factor endowments and product variety in determining the pattern of trade and specialisation which may follow the formation of a SADC FTA, appear to be the treatment of a particular country's imports from SADC and exports to SADC as a single aggregate, and the method of calculation of a country's export expansion to the rest of SADC when a FTA is formed.

The discussion in Section 5.3 suggests that the gains from integration may be higher and the costs of adjustment less when the ensuing trade expansion is of the intra-industry rather than the inter-industry type. Indeed, Behar (1991: 550) argues that, in the case of Brazil and Argentina, integration should specifically be aimed at stimulating intra-industry rather than inter-industry trade. A preliminary empirical analysis in Section 7.5 suggests that there may be gains from intra-industry specialisation in some sectors in the SADC region, although the pattern of specialisation following the formation of a FTA may primarily involve an inter-sectoral reallocation of resources, even between the two countries with the most similar and developed industrial structures in the region, South Africa and Zimbabwe.

Mayer and Thomas (1997: 349) argue that the strictly quantitative methodology used in impact studies such as those of Evans (1996, 1997a) should be avoided in assessing the likely effects of a SADC FTA. Rather, key industries should be identified and qualitative assessments of their potential to survive and expand in a regional market should be undertaken. Page (1997: 23), on the other hand, stresses that while a calculation of the potential gains and losses for industries, sectors of the population, and individual countries can only be uncertain, this type of analysis is nonetheless essential

to provide an indication of where difficulties may arise and intervention may be needed to limit adverse effects.

The discussion in the present study suggests that, at a minimum, the framework for such an analysis should allow for product differentiation, and hence two-way trade within a sector, as well as the modelling of imperfect competition. Like the empirical analysis of Brown *et al.* (1992), it should be able to distinguish the relative degree of inter-sectoral and intra-sectoral resource reallocation at a bilateral level which is likely to follow the formation of a SADC FTA. From this, inferences could be drawn about the likely distributional effects of the FTA and the costs of adjustment in different sectors and countries. As the discussion in Chapter 7 illustrates, such an analysis should preferably attempt the econometric estimation of sectoral elasticities of substitution, demand and supply, although the data requirements for such an exercise would be enormous.

Any consideration of the potential dynamic effects of a SADC FTA will be even more difficult. As noted in Section 5.4, the dynamic effects of integration refer to the ways in which integration may affect the growth rates of member countries. While it is generally argued that they are likely to be more important than the static resource reallocation effects of integration (Robson, 1987: 32-33), dynamic effects have been less extensively analysed and are not readily quantifiable. One effect which has been defined as dynamic, namely polarisation, has, however, been a prominent theme in the debate about the likely effects of trade integration in the SADC region.

According to Robson (1987: 74-75), the supposed importance of polarisation effects forms an important part of the case that is often made for a regional industrial policy in an economic union among countries at unequal levels of development. In this regard, the SADC Trade Protocol has been criticised by Mayer and Thomas (1997: 346-349) for failing to provide for differential treatment for "least-developed" member countries, for failing to consider the question of investment adequately, for making insufficient provisions to foster equitable industrial development in the region, and for including no compensatory mechanisms. As noted by Page (1997: 18), however, the Protocol suggests an industrialisation strategy (Article 4) and makes explicit reference to infant industry protection (Article 21). Further, Article 3 allows for additional time to be

granted for the elimination of tariff and non-tariff barriers to trade on application (SADC, 1996: 4).

The analysis of Holden (1996: 54-62), considered in Section 5.4, suggests that polarisation in the southern African region as a result of a regional FTA incorporating South Africa is not inevitable. Indeed, the analysis of Krugman (1991: 96-97) shows that the degree of integration is important if polarisation is to be avoided. A partial reduction of tariff and non-tariff barriers which reduces transport costs to only an intermediate level may induce polarisation, since transport costs are low enough to make concentration of production to reap economies of scale worthwhile, yet still high enough to make market access outweigh production cost as a determinant of location. On the other hand, a complete removal of trade barriers may lower transport costs to the extent that production will take place in the lower-wage peripheral country, in which case polarisation may be avoided. This view has implications for any envisaged asymmetry of preference in the SADC region, which would itself have been intended to counter polarisation.

If, as seems likely, it is perceived that a SADC FTA will result in the polarisation of development towards the more advanced countries in the region, then South Africa (and perhaps Zimbabwe) may face demands for compensation from the smaller countries in the region. As the discussion in Chapter 3 illustrates, it is implicitly assumed in a number of recent studies that South Africa will be able to, and indeed ought to, provide such compensation. The ADB (1993a) envisages a regional industrial policy and a system of asymmetrical tariff cuts, as well as capital flows from South Africa to the rest of the region.[2] While fiscal compensation is acknowledged by the ADB (1993a: 303) to be an unsuitable compensatory mechanism, Davies *et al.* (1993) go further to suggest resource transfers from South Africa to the rest of the region.[3] Cassim and

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[2] Robson (1987: 205) notes that regional industrial policy involving agreed specialisation among members of a union, despite its merits, is fraught with problems. It is difficult in practice to reach agreement on the allocation of industry, particularly in groupings among countries at unequal levels of development.

[3] The view of the ADB (1993a) is supported in the general literature by Vaitsos (1978: 749), who argues that "fiscal compensation...has proven in various cases to be one of the least appropriate and politically most unacceptable instruments". For further discussion of the relative merits of fiscal compensation and regional industrial policy, see Robson (1987: 201-208) and Foroutan (1993: 258-260). As noted in Chapter 3, the ADB (1993a: 319-321) argues that intensified sectoral co-ordination in power, water, transport and communications, for example, should proceed immediately

Zarenda (1995: 23), on the other hand, give more careful consideration to South Africa's ability to transfer wealth to the rest of SADC, yet still benefit on balance, despite their view of the likely need for policies to promote equity and balance in a regional FTA.

Page (1997: 19) argues that for regional groupings in which the gains from trade are likely to be uncertain, small, and unevenly distributed, it is the other objectives of the group which must hold it together. These objectives need to be defined by SADC, and may include regional security and greater negotiating power in a world of trading blocs; for South Africa, a commitment to the poorer countries of the region; and for the rest of SADC, a wish to have a voice in the activities of a major trading partner and regional power. It is therefore difficult to assess SADC without knowing whether it is "a temporary alliance of countries with common economic interests, a step to greater multilateral liberalisation, or a step to fuller SADC integration" (Page, 1997: 22).

One of the stated objectives of the SADC Trade Protocol is "to enhance the economic development, diversification and industrialisation of the Region" (SADC, 1996: 3), which suggests that, in accordance with the analysis of Section 4.3.3 and Chapter 5, it is the advantages of a larger protected regional market which are being sought by the members of SADC. However, as McCarthy (1994: 179) notes, there has been a shift away from economic integration as a means of achieving import-substituting industrialisation to a more outward-oriented focus, where integration schemes are intended to facilitate their participants' insertion into the global economy.[4] This approach appears to be linked to the World Bank (1991) view, considered in Chapter 3, of regional integration as a means of promoting multilateral liberalisation, rather than for any specific developmental benefits which it may bring in itself. Indeed, McCarthy (1994: 179) argues that, with the current emphasis on outward-oriented trade strategies and a rapid continuation of the generalised trade liberalisation of the 1980s, the rationale for integration from a South African perspective would not be the creation of a protected regional market, but rather the creation of economic space that will

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in the southern African region. The smaller countries would benefit from the sale of their resources to South Africa, which would offset the need for compensation. See also Mayer and Thomas (1997: 350-351).

[4] MERCOSUR, for example, has been described as an instrument to facilitate "the competitive insertion of the member countries into the international economy" (Pena, 1992, cited in McCarthy, 1994: 184).

facilitate the country's integration into the world economy.

The context of generalised liberalisation, whether a result of Structural Adjustment Programmes or Uruguay Round Commitments, will, as Mayer and Thomas (1997: 333) note, restrict the ability of the members of SADC to provide a meaningful regional preference. This will in turn reduce the effects, both beneficial and adverse, of a southern African FTA. Further, the proposed FTA between South Africa and the European Union, considered in Chapter 1, and the possibility of reciprocity of trade preferences in a re-negotiated Lomé Convention, may constrain the ability of the smaller members of SADC to use trade integration to achieve industrial development and diversification.

These factors highlight the point that, for any economic analysis of the costs and benefits of integration, it is not the answers based on present circumstances that are needed, but rather the expected answers when a SADC FTA comes into effect, at least eight years hence. As Page (1997: 11) notes, the structure of production and demand will alter as development proceeds, and will change rapidly for countries which are developing rapidly. The context of generalised liberalisation and the importance of future arrangements with the European Union will need to be carefully considered in any such assessment.

Neither the theoretical analysis of trade integration among unequal partners, nor the present results of empirical studies on SADC, enable one to say, *a priori*, that the formation of a SADC free trade area could not be beneficial to South Africa and its smaller partners. Since the outcome is ultimately an empirical question, and all the information necessary to make an adequate assessment is not currently available, the SADC Trade Protocol has been signed without any definite knowledge of its likely effects.

APPENDIX 1

THE SACU REVENUE-SHARING FORMULA

All customs, excise and sales duties (but not general sales tax) as well as import surcharges collected in the five countries, are pooled at the South African Reserve Bank. A formula provides the basis for calculating the amount due to each of the BLNS countries. There are three stages in this calculation. First, the basic amount due to each country, let us say Swaziland, in any financial year is given by the equation:

$$R = \frac{A+B+C}{D+E+F+G}(H) \qquad (1)$$

where

R = the amount payable to Swaziland;
A = c.i.f. value (including all duties)[1] at border of imports into Swaziland from all sources;
B = value of excisable and sales duty goods produced and consumed in Swaziland;
C = excise and sales duties paid on B;
D = c.i.f. value at border of imports into the common customs area from the rest of the world;
E = customs and sales duties paid on D;
F = value of excisable and sales duty goods produced and consumed in the customs union;
G = excise and sales duties paid on F; and
H = total revenue pool of customs, excise and sales duties.

The formula thus seeks to divide the common revenue pool among the partners in proportion to their annual imports and their production and consumption of dutiable goods. But, a compensation factor was added, so that the formula may be rewritten as:

$$R_c = \frac{A+B+C}{D+E+F+G}(H)(1.42) \qquad (2)$$

where 1.42 = compensation factor.

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[1] Note that the numerator consists of three and the denominator of four items. Article 14 of the Agreement contained an apparent anomaly in that, whilst it specifically provided for customs and sales duties paid on imports (D) in the denominator, it did not do so in the numerator. The reason for this is that, at the time, BLS imports were almost totally from or through South Africa and hence the duties were included in the c.i.f. price and it was not considered necessary to include a separate item for them. However, the understanding was that the c.i.f. price in (A) would be interpreted to include all duties on imports from all sources. This interpretation was ratified at the first meeting of the Customs Union Commission in 1970 and again in 1975, and formed the basis of calculations. It was only explicitly written into the formula at the 1976 meeting of the Technical Liaison Committee.

The compensated rate of revenue received by Swaziland is then:

$$\frac{R_c}{A+B+C}$$

In 1976 the formula was amended in order to provide BLS with a stabilised rate of revenue of about 20 per cent. This may be written as:

$$R_s = \frac{R_c}{A+B+C} \qquad (3)$$

subject to the constraints

$$0.23 \geq \frac{R_c}{A+B+C} \geq 0.17$$

To clarify further: the amount due to Swaziland is calculated as per equation (2). Then, if the compensated rate of revenue

$$\frac{R_c}{A+B+C} \neq 0.20$$

one-half of the difference between the compensated rate and 20 per cent is either added to or subtracted from 20 per cent subject to the constraints that the stabilised rate may not be less than 17 per cent or greater than 23 per cent.

Source: **Summary of Maasdorp and Whiteside (1993: 52).**

Table A-1: Some comparative characteristics of southern African and other regional groupings, 1995

	GNP per capita (US$)			GDP (US$ mn)			Share of agriculture in GDP			Share of manufacturing in GDP[1]		
	Min	Max	Range	Min	Max	Range	Min	Max	Range	Min	Max	Range
SADC	80	3 380	42:1	1 029	136 035	132:1	5	58	12:1	3	34	11.3:1
SACU	770	3 160	4:1	1 029	136 035	132:1	5	14	3:1	4	34	8.5:1
PTA/COMESA	80	6 620	83:1	248	9 095	37:1	3	58	19:1	3	34	11.3:1
NAFTA	3 320	26 980	8:1	250 038	6 952 020	28:1	2	8	4:1	17	20	1.2:1
MERCOSUR	1 690	8 030	5:1	7 743	668 085	89:1	6	24	4:1	16	24	1.5:1

Source: World Bank (1995a: 167; 1995b: 217-218, 241, 636-639; 1997a: 214-215, 236-237, 248; 1997b: 134-136, 150-152).

Note: [1] 1993 for NAFTA.

Table A-2a: Sector-specific average annual percentage real growth rates in the SADC countries

	Agriculture			Industry			Manufacturing			Services		
	1970-80	1980-90	1990-95	1970-80	1980-90	1990-95	1970-80[a]	1980-90[b]	1990-95	1970-80	1980-90	1990-95
Angola	-10.2	0.5	-1.8	-3.9	6.4	0.9	-12.0	-11.1	-11.1	-10.9	2.2	-10.8
Botswana[1]	8.3	2.2	0.7	17.6	11.4	1.4	22.9	8.8	2.2	14.8	11.0	7.7
Lesotho	0.2	2.6	-3.4	27.8	7.2	12.3	18.0	13.5	9.1	13.6	5.2	6.1
Malawi	4.4	2.0	1.7	6.3	2.9	0.4	6.7	3.6	-0.2	7.1	3.4	-1.0
Mauritius	-3.3	2.9	-1.4	10.4	10.3	5.6	7.1	11.1	5.2	10.9	5.4	6.4
Mozambique	-1.8	1.6	2.4	-5.6	-9.8	-2.4	-5.8	-3.5	-	-3.0	-0.1	15.0
Namibia	-	1.8	6.8	-	-1.1	2.9	2.5	5.3	8.4	-	2.7	4.6
South Africa	3.2	3.0	-0.3	2.7	-1.1	-0.1	4.7	-0.1	-0.2	3.7	3.1	0.9
Swaziland[2]	2.1	1.4	-2.1	2.7	12.8	3.9	4.5	11.3	3.9	3.2	1.0	-2.2
Tanzania	0.7	4.9	4.1	2.6	3.4	8.4	3.7	1.1	3.6	9.0	1.6	1.7
Zambia[1]	2.1	3.6	-0.5	1.5	1.0	-1.2	2.4	4.0	-1.0	1.2	0.1	0.7
Zimbabwe	0.6	2.4	1.6	1.1	3.6	-3.6	2.8	2.9	-5.6	2.5	2.9	1.7

Source: World Bank (1995a: 164-165, 1995b: 636-637, 1997b: 130-132); ADB (1993b: 253).

Notes: Industry comprises value-added in mining, manufacturing, construction, electricity, water and gas.

[1] GDP components at purchaser values.
[2] Own computations from World Bank (1995b: 636-637) for the periods 1973-80, 1980-90 and 1990-93.
[a] Malawi from World Bank (1982: 112); 1965-80 for Namibia from ADB (1993b: 253).
[b] 1980-89 for Mozambique from ADB (1993b: 253).

Table A-2b: Sector-specific average annual percentage real growth rates: international comparisons

	Agriculture			Industry			Manufacturing			Services		
	1970-80	1980-90	1990-95	1970-80	1980-90	1990-95[a]	1970-80	1980-90	1990-95	1970-80	1980-90	1990-95[a]
Sub-Saharan Africa	1.7	1.9	1.5	3.8	0.6	0.2	4.3	1.7	0.0	4.9	2.5	1.5
Brazil	4.2	2.8	0.7	9.4	2.0	1.7	9.0	1.6	1.7	7.8	3.5	3.6
Argentina	2.5	0.9	0.5	1.9	-0.9	5.9	1.3	-0.5	-	2.9	0.0	6.4
Paraguay[1]	6.2	3.6	1.4	11.2	-0.3	1.9	7.9	2.1	1.2	8.6	3.4	4.1
Uruguay[1]	0.8	0.0	4.5	4.1	-0.2	0.1	-	0.4	-1.6	3.0	0.9	6.2
Mexico[1]	3.2	0.6	0.4	7.2	1.0	0.5	7.0	1.4	0.7	6.3	1.1	1.5
Thailand[1]	4.4	4.0	3.1	9.7	9.9	10.8	10.5	9.5	11.6	7.0	7.3	7.8
Malaysia[1]	5.0	3.8	2.6	8.7	7.2	11.0	11.7	8.9	13.2	9.1	4.2	8.6
Indonesia[1]	4.1	3.4	2.9	9.6	6.9	10.1	14.0	12.6	11.2	7.7	7.0	7.4
Turkey	3.4	1.3	0.9	6.6	7.8	4.2	6.1	7.9	4.7	6.3	4.4	3.3
Low-income	2.0	3.6	3.1	6.3	7.7	11.6	7.3	8.5	12.7	5.5	6.9	6.4
..excl. China & India	-	2.6	1.9	5.3	2.9	-0.7	-	-	-	6.5	2.8	2.1
Upper-middle-income	3.2	2.4	1.8	6.1	0.7	2.6	6.6	1.2	2.7	6.3	2.0	3.4

Source: World Bank (1995a: 164-165; 1996: 208-209; 1997b: 130-132).

Notes: [1] GDP components at purchaser values.
[a] 1990-94 for low-income countries excluding China and India.

Table A-3: The manufacturing sector in southern Africa: some comparative indicators

	MVA (US$mn) 1994[a]	MVA/GDP (%)		
		1970[b]	1980	1995[c]
Angola[1]	234	-	3.0	3.0
Botswana	160	6.0	4.0	4.0
Lesotho	122	4.0	7.0	18.0
Malawi	215	13.1	12.0	18.0
Mauritius	694	14.0	15.0	23.0
Mozambique	44	-	9.0	4.0
Namibia	234	-	5.0	9.0
South Africa	25 298	24.0	23.0	24.0
Swaziland	289	-	17.6	34.0
Tanzania	242	10.0	11.0	8.0
Zambia	1 026	10.0	18.0	30.0
Zimbabwe	1 477	21.0	25.0	30.0
SADC excl. South Africa	4 737	14.0	12.8	15.3
Total SADC	30 035	21.7	19.0	19.7
International comparisons				
Sub-Saharan Africa	40 925	13.0	12.0	15.0
Brazil	108 886	29.0	33.0	24.0
Argentina	56 500	32.0	29.0	20.0
Paraguay	1 230	17.0	16.0	16.0
Uruguay	2 998	-	26.0	18.0
Mexico	74 233	22.0	22.0	19.0
Thailand	40 791	16.0	22.0	29.0
Malaysia	22 387	12.0	21.0	33.0
Indonesia	41 186	10.0	13.0	24.0
Turkey	24 076	17.0	14.0	21.0
Low-income	294 045	19.0	21.0	27.0
Upper-middle-income	345 007	25.0	20.0	18.0

Source: World Bank (1995a: 164-167, 1995b: 636-639, 1996: 210-211, 1997b: 130-136, 150-152); ADB (1993b: 253); Jenkins *et al.* (1996: 45).

Notes: [1] These figures appear to exclude Angola's petro-chemicals industry.
[a] 1989 for Mozambique; 1993 for Swaziland.
[b] 1975 for Malawi, from World Bank (1978).
[c] 1989 for Mozambique; 1993 for Swaziland and Zimbabwe; 1994 for SADC totals.

Table A-4: Total merchandise trade (US$mn) and trade/GDP ratios (%) of the SADC countries, with international comparisons, 1995

	Exports	Imports	Export/ GDP	Import/ GDP	Trade/ GDP	Man.exports/ Tot.exports
Angola	3508	1748	94.3	47.0	141.2	-
Botswana	2130	1907	49.3	44.2	93.5	-
Lesotho[1]	143	821	16.1	92.7	108.8	-
Malawi[1]	325	491	25.0	37.7	62.7	6.0
Mauritius	1537	1959	39.2	50.0	89.2	67.0
Mozambique	169	784	11.5	53.4	64.9	20.0
Namibia	1353	1196	44.6	39.4	84.0	-
South Africa[2]	27860	30555	20.5	22.5	42.9	74.0
Swaziland[3]	626	838	60.3	80.7	141.0	-
Tanzania	639	1619	17.7	44.9	62.7	-
Zambia	781	1258	19.2	30.9	50.1	9.0
Zimbabwe[1]	1885	2241	37.8	44.9	82.8	37.0
SADC excl. SA	13096	14862	40.5	45.9	86.4	-
Total SADC	40956	45417	24.3	27.0	51.3	-
International comparisons						
SSA incl. SA	72847	77574	24.5	26.1	50.7	-
Brazil	46506	53783	6.8	7.8	14.6	60.0
Argentina	20967	20122	7.5	7.2	14.6	32.0
Paraguay[1]	817	2370	10.4	30.3	40.7	17.0
Uruguay	2106	2867	11.8	16.1	27.9	43.0
Mexico	79543	72500	31.8	29.0	60.8	75.0
South Korea	125058	135119	27.5	29.7	57.1	93.0
Thailand	56459	70776	33.8	42.4	76.2	73.0
Malaysia	74037	77751	86.8	91.1	177.9	65.0
Indonesia	45417	40918	22.9	20.7	43.6	53.0
Turkey	21600	35710	13.1	21.7	34.8	72.0
Portugal	22621	32339	22.1	31.6	53.7	78.0
Low-income	245456	251806	18.2	18.6	36.8	-
excl. China & India	64769	86058	20.4	27.2	47.6	-
Upper-middle-income	372898	379450	18.8	19.1	38.0	-

Source: World Bank (1995b: 27, 75-79; 1996: 210-211, 216-217; 1997a: 236-237, 242-243).

Notes: [1] **1994 figures.**
[2] **Including net gold exports.**
[3] **1993 figures for exports and GDP, 1992 figure for imports.**

Table A-5: Percentage shares of SACU's manufactured exports to each region/country

Region/Country	1988	1989	1990	1991	1992	1993	1994	1995
Australia and New Zealand	0.94	1.04	1.07	0.89	1.03	1.36	1.54	2.38
Caribbean	0.14	0.13	0.16	0.10	0.21	0.25	0.63	0.21
Central America	0.06	0.13	0.15	0.16	0.14	0.10	0.11	0.06
China	0.14	0.17	0.24	0.28	1.16	1.05	0.64	0.83
East Asia excl. Japan	12.56	13.63	16.11	16.36	13.51	12.42	13.22	12.22
Eastern Europe	0.11	0.09	0.26	0.41	0.73	0.56	0.65	0.74
Japan	7.50	8.31	7.08	6.66	5.01	4.14	3.85	5.37
MERCOSUR	1.11	1.02	0.85	1.34	1.28	1.57	1.91	1.90
Middle East	4.88	5.69	5.76	4.84	4.76	4.12	2.94	2.93
North Africa	0.37	0.37	0.40	0.44	0.19	0.17	0.15	0.21
NAFTA	9.56	9.79	8.45	7.12	8.84	9.40	10.10	10.14
Oceania excl. ANZ	0.01	0.37	0.27	0.14	0.03	0.03	0.02	0.02
S.America excl. MERCOSUR	1.40	1.42	1.50	1.25	1.03	0.82	0.71	0.65
South Asia	0.54	0.62	0.72	0.72	0.66	0.67	1.70	1.70
Sub-Sah. Africa excl. SADC	2.43	3.02	3.69	2.87	2.93	3.24	4.67	4.68
Western Europe	49.35	43.38	41.11	42.32	44.95	46.72	43.67	40.56
SADC	8.90	10.82	12.18	14.11	13.54	13.39	13.48	15.39
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total manuf. exports (US$mn)	7820	7805	8247	9404	11361	11645	11496	16307

Source: Own computations from IDC (1996).

Note: ANZ: Australia and New Zealand.

Table A-6: Percentage shares of SACU's manufactured imports from each region/ country

Region/Country	1988	1989	1990	1991	1992	1993	1994	1995
Australia and New Zealand	0.94	1.17	1.05	1.09	1.15	1.41	1.62	1.89
Caribbean	0.20	0.22	0.23	0.23	0.15	0.16	0.12	0.08
Central America	0.03	0.05	0.03	0.03	0.02	0.04	0.02	0.04
China	0.69	0.69	0.89	1.13	1.48	1.90	1.81	2.04
East Asia excl. Japan	9.41	9.43	9.76	11.52	11.14	11.58	11.03	10.66
Eastern Europe	0.39	0.30	0.30	0.40	0.83	0.94	1.46	1.24
Japan	15.55	13.84	11.74	12.54	12.94	14.50	11.08	11.40
MERCOSUR	1.52	1.81	1.59	1.43	1.52	1.36	1.75	1.80
Middle East	1.25	1.37	1.01	0.97	1.02	1.36	1.27	1.10
North Africa	0.02	0.01	0.02	0.01	0.02	0.02	0.03	0.04
NAFTA	13.50	14.32	13.84	16.35	14.73	14.30	13.85	13.62
Oceania excl. ANZ	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.01
S.America excl. MERCOSUR	0.15	0.61	0.50	0.53	0.41	0.19	0.46	0.52
South Asia	0.30	0.29	0.36	0.38	0.42	0.50	0.79	0.99
Sub-Sah. Africa excl. SADC	0.16	0.24	0.21	0.19	0.19	0.67	0.68	0.54
Western Europe	54.98	54.73	57.50	52.37	52.41	49.77	52.59	52.81
SADC	0.92	0.90	0.97	0.81	1.56	1.30	1.43	1.22
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total manuf. imports (US$mn)	14784	14459	14259	14776	15244	15694	19225	23968

Source: Own computations from IDC (1996).

Note: ANZ: Australia and New Zealand.

Table A-7: Percentage share of SACU's manufactured imports from various regions/countries in 1995 (per ISIC sector)

Sector	ANZ	CHI	EAS	EE	JAP	ME	NAFTA	SADC	SAM	SAS	SSA	WE	Other	Total	
														%	US$m
Food	7.30	2.69	20.86	0.71	0.05	0.97	12.61	4.68	22.41	2.05	1.82	23.19	0.66	100.00	1226
Beverages	0.14	0.00	0.04	0.18	0.02	0.38	6.23	2.43	0.46	0.12	0.04	86.25	3.70	100.00	148
Tobacco products	0.00	0.03	0.00	0.00	0.67	0.15	81.79	1.45	0.00	0.01	0.00	15.51	0.38	100.00	12
Textiles	0.85	6.50	38.86	0.62	1.85	2.67	5.97	5.38	0.49	7.62	0.19	28.81	0.18	100.00	803
Clothing	0.41	23.90	20.16	0.35	0.44	2.02	5.10	9.79	0.10	17.70	0.07	19.80	0.14	100.00	87
Leather products	9.68	10.19	18.29	0.17	0.24	0.08	2.88	6.28	6.04	24.37	0.09	21.52	0.16	100.00	138
Footwear	0.18	35.90	35.04	0.11	0.04	0.12	4.17	6.63	1.10	3.07	0.16	13.27	0.20	100.00	178
Wood	0.21	1.10	34.56	0.73	0.36	0.64	19.35	13.46	5.03	0.23	2.31	21.83	0.20	100.00	196
Furniture	0.61	6.29	21.36	2.18	0.01	1.35	3.98	34.52	0.03	1.79	0.07	27.70	0.12	100.00	29
Paper	0.34	0.17	2.19	14.04	1.03	1.16	22.29	0.89	4.94	0.29	0.02	52.61	0.02	100.00	549
Printing/publishing	1.43	1.35	8.64	0.11	0.98	0.54	25.34	0.64	0.03	0.31	0.04	60.52	0.05	100.00	186
Chemicals	4.11	1.31	6.07	0.94	3.67	1.54	15.53	0.27	2.72	0.67	0.17	62.64	0.36	100.00	3691
Rubber	0.59	0.53	15.12	0.36	21.49	0.59	10.35	1.70	1.26	1.01	0.03	46.94	0.03	100.00	274
Plastic	1.08	3.03	15.02	0.37	6.69	2.89	14.62	0.35	0.27	1.25	0.02	54.28	0.14	100.00	310
Pottery, etc	0.32	27.78	18.01	3.46	6.52	0.09	2.95	0.27	0.36	4.45	0.01	34.88	0.91	100.00	40
Glass	0.23	3.19	17.54	5.06	2.52	2.57	9.03	0.96	1.45	2.31	0.16	54.95	0.03	100.00	107
Other non-metallic	0.32	1.31	3.07	1.09	6.14	1.18	9.59	3.53	5.14	0.93	0.04	67.55	0.10	100.00	223
Iron and steel	0.53	0.85	4.15	3.22	11.28	0.54	5.42	4.60	3.49	1.57	0.06	64.27	0.01	100.00	337
Non-ferrous	14.69	1.87	3.12	2.95	0.77	0.83	5.53	4.63	0.98	0.36	2.04	62.23	0.03	100.00	368
Metal products	0.83	4.17	17.01	0.60	4.96	1.67	10.61	2.49	1.58	1.56	0.03	54.24	0.25	100.00	739
Machinery	0.82	1.10	11.51	1.21	7.51	0.91	16.71	0.19	0.79	0.22	0.04	58.92	0.07	100.00	5244
Electrical machinery	1.03	1.85	14.70	1.15	7.37	1.18	12.58	0.35	0.51	0.27	0.03	58.92	0.06	100.00	3022
Transport equipment	0.58	0.24	2.33	0.41	36.75	0.55	11.41	0.22	0.58	0.14	0.02	46.75	0.02	100.00	4437
Scientific equipment etc	1.11	1.85	6.71	1.16	12.77	1.16	22.07	0.20	0.15	0.19	0.09	52.42	0.11	100.00	995
Other manufactures	1.16	5.95	10.50	0.53	3.53	1.39	6.53	1.19	0.20	1.34	12.77	54.80	0.11	100.00	628
Manufactured imports	1.89	2.04	10.66	1.24	11.40	1.10	13.62	1.22	2.32	0.99	0.54	52.81	0.17	100.00	23968

Source: Own computations from IDC (1996).

Notes: ANZ: Australia and New Zealand; CHI: China; EAS: East Asia excluding Japan and China; EE: Eastern Europe; JAP: Japan; ME: Middle East; NAFTA: North American Free Trade Area; SAM: South America including MERCOSUR; SAS: South Asia; SSA: Sub-Saharan Africa excluding SADC; WE: Western Europe.

Table A-8: Indices of intra-industry trade between SACU and Zimbabwe and SACU and the rest of the world for selected sectors, 1994 (percentage)

Sector	SACU-ROW	SACU-Zim
Meat processing	42.72	92.32
Dairy products	83.21	26.27
Fruit and vegetable canning	13.30	72.58
Vegetable and animal oils and fats	30.33	10.96
Grain mill products	51.97	72.41
Confectionary	70.52	74.99
Food products nec	59.52	57.55
Prepared animal feed	59.93	68.87
Soft drinks and carbonated waters	11.91	39.66
Spinning and weaving of textiles	62.70	65.45
Made-up textile goods	48.29	17.10
Knitting mills	54.47	75.62
Clothing	93.42	37.53
Sawmills	78.46	27.68
Wooden containers	87.61	71.42
Wood and cork products nec	71.36	51.94
Wooden furniture and fixtures	30.57	26.75
Pulp, paper and paperboard	46.36	13.89
Paper containers	11.43	57.20
Industrial chemicals	88.22	4.50
Fertilizers and pesticides	88.67	7.22
Synthetic resins and plastic materials	37.06	2.90
Paints, varnishes and lacquers	56.41	29.17
Medicinal and pharmaceutical preparations	10.58	46.54
Other chemical products	26.36	10.02
Miscellaneous products of petroleum and coal	51.90	85.90
Tyres and tubes	60.93	32.88
Other rubber products	18.23	26.23
Other plastic products	36.89	13.42
Other non-metallic mineral products	98.00	58.81
Iron and steel basic industries	21.33	31.64
Non-ferrous metal basic industries	39.66	42.45
Cutlery, hand tools and general hardware	39.97	18.36
Furniture and fixtures of metal	54.25	83.80
Structural metal products	27.84	85.25
Other fabricated metal products	72.25	88.56
Engines and turbines	22.75	17.93
Agricultural machinery	17.97	82.47
Special industrial machinery	21.23	12.57
Office and accounting machinery	8.35	18.83
Other non-electrical machinery	29.48	7.76
Electrical industrial machinery	16.36	10.47
Radio, television and communication equipment	11.68	27.36
Electrical appliances and housewares	15.67	29.97
Other electrical apparatus	27.97	53.69
Railroad equipment	48.18	37.73
Motor vehicles	22.82	15.66
Motorcycles	23.26	60.78
Transport equipment nec	12.19	37.10
Total manufacturing	74.41	49.25

Source: Own computations from IDC (1996).

Note: The unadjusted Grubel-Lloyd index is given by $B_i = ((X_i + M_i) - |X_i - M_i|)/(X_i + M_i) \times 100$.

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