

**Intra- versus Inter-Industry Specialisation,
Labour Market Adjustment and Poverty:
Implications for Regional Integration
in Southern Africa**

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ABSTRACT

Although there is little doubt that increasing trade enhances overall welfare, the literature provides strong theoretical arguments and empirical evidence that there may be important adverse effects for particular groups and countries. It is useful to divide these into two categories. Firstly, there are the long run distributional consequences of trade, such as those highlighted by the Stolper-Samuelson theorem. Secondly, to the extent that the adjustment to equilibrium is not smooth, there are important dislocations associated with the movement of factors between industries in the transition period.

These adverse effects are important, both because of their welfare implications, and because the affected groups or countries will constitute a source of political resistance to trade. Offsetting this picture, however, is the important view that such effects, both in terms of the long-run distributional consequences and the dislocations during adjustment, are likely to be less if liberalisation leads to intra-industry rather than inter-industry specialisation.

However, the literature also identifies compelling reasons why new trade is less likely to be of the intra-industry variety when one or more of the trading partners are developing countries, particularly when the partners are at unequal levels of development. With developing countries, the increased burden of adjustment this implies may be critical, because the high transactions costs associated with their poorly-developed markets mean that the dislocations are likely to be long-lasting if not permanent.

This paper begins by surveying the long-run distributional consequences of trade from alternative theoretical perspectives. The focus of the paper, however, is on the so-called “smooth adjustment hypothesis”, that is, the idea that transitional adjustment is easier (harder) to the extent that new trade is intra- (inter-) industry in nature. The paper uses recently developed empirical techniques that allow for the categorisation of *changes* in trade into intra- and inter-industry components to facilitate an assessment of the degree of dislocation that the changes in trade bring about. Although the analysis is preliminary in nature, the results confirm that a very small proportion of new trade between 1994 and 2000 within SADC was intra-industry. Not only were changes in trade predominantly inter-industry in nature (implying large dislocations), the evidence suggests that SADC trade in manufactures is becoming increasingly dominated by South Africa.

This gloomy picture, with its implications for the polarisation of industry towards South Africa and probable political resistance to trade liberalisation and to SADC regional integration more generally, is offset by consideration of an embryonic literature which suggests that there may be scope for actively *targeting* intra-industry specialisation, so that a smooth adjustment may be engineered. Also encouraging is the suggestion that increasing intra-industry trade may go hand-in-hand with appropriate regional integration arrangements. Appropriate regional arrangements (in particular, policies that serve to enhance regional transportation infrastructure and complementary sectoral policies) can enhance intra-industry trade. In turn, intra-industry trade can reduce resistance to regional integration.

INTRODUCTION

Trade liberalisation affects poverty primarily through its impact on economic growth and on income distribution. There is much controversy in the trade-growth-poverty literature at present, with dispute over both the link between open trade policies and growth, and that between economic growth and poverty reduction (see, for example, Edwards, 1998; Frankel and Romer, 1999; Rodriguez and Rodrik, 1999; Dollar, 2001; Dollar and Kraay, 2001a,b; Lübker *et al.*, 2000; Dagdeviran, H. *et al.*, 2000). The focus of this paper, however, is on the other connective strand: the link between trade and poverty via the impact of trade on the distribution of income.

There have not been many attempts to clarify the poverty connection systematically. Winters (2000: 44-45) view of a household as a basic production-consumption unit in the economy provides a useful starting point. The real income of the household may increase as a result of a rise in the price of something the household sells (labour, goods, services) or a fall in the price of something the household consumes (goods, services). The effect of trade reform on the poor then depends both on induced price effects (depending in turn on which tariffs are reduced and how much of a price change is passed through to the poor) as well as on how the poor earn and spend their incomes. It also depends importantly on whether markets exist at all, since trade reform can both create and destroy markets (Nordström, 2000: 5). A further critical channel of influence is via the impact of trade reform on government revenue, and hence on government's ability to finance programmes for the poor (Bannister and Thugge, 2001).

The purpose of this paper is, firstly, to attempt to provide a clear picture of the possible impact of trade liberalisation on poverty from a theoretical perspective, with a special focus on the trade - income distribution link. It considers what both orthodox and new trade theory have to say about the long-run distributional effects of trade, and attempts to outline the poverty implications of the alternative theoretical approaches.

Secondly, the paper considers the view that the transitional costs of adjustment to trade liberalisation are likely to be less if tariff reductions lead to intra-industry rather than inter-industry specialisation. It then examines whether regional integration could facilitate intra-industry trade expansion, particularly among developing countries, in order to ameliorate the potential for adverse poverty outcomes as a result of liberalisation.

The paper suggests a research agenda to investigate intra-industry specialisation and the pattern of labour market adjustment following trade liberalisation in the SADC region. As a starting point, it examines the extent of intra- and inter-industry specialisation following recent liberalisation in the southern African region.

In the light of the study's empirical results, the paper seeks to identify the important policy questions in the southern African context. The key issue in this regard is how regional liberalisation within the framework of the SADC free trade area agreement could be harnessed to assist poverty reduction in the region.

1 TRADE, INCOME DISTRIBUTION AND POVERTY

1.1 Trade and Income Distribution: A Review of the Literature

1.1.1 Trends in Income Distribution

Most studies of the potential impact of greater openness on income distribution have had an American or European focus. It is now generally accepted that there has been an ongoing trend towards increased skilled-to-unskilled wage inequality across a broad group of industrial countries in the last two decades, but particularly in the US and the UK.¹ The rising inequality is clearly implicated in the resurgence of America's poverty problem, although Cline (1997: 8-11) points to the importance of changing social patterns as well as economic factors in this regard.²

Less research has been done on trends in inequality in developing countries, although there are indications that wage inequality has fallen in some developing countries (specifically, in East Asia), but risen in others (particularly in Latin America) (Wood, 1997, 2000). Cornia and Court (2001: 8-9) report rising *income* inequality, measured by Gini coefficients, from already high levels, in most of Latin America and parts of Africa, and a sharp increase in inequality in recent years in China.

The concurrence of increasing wage inequality with greater openness to trade has led many to argue in favour of a strong association between the two. In response, a vast literature has emerged (again predominantly with a developed country focus) debating the primary causes of the rising inequality.³ The main factors in this debate appear to be the relative importance of trade, skill-biased technological change, immigration, and trade-plus-technology elements such as defensive innovation (Wood, 1995: 67) and outsourcing (Feenstra and Hanson, 1996). The predictions of trade theory regarding the factor market outcomes of increased openness are considered in the next two sections,

¹ The focus in the literature has tended to be on wage inequality. According to Cline (1997: 14-15), this is due in part to the stylised fact that there has been little change in the distribution of income between wages (overall) and capital in the last two decades in the US. By contrast, Cornia and Court (2001: 11) report a sharp rise in capital's share in total income as an important component of overall increases in inequality, particularly (but not only) in developing countries.

² Cline (1997: 8) argues that there has been a shift in the composition of the population towards social categories with higher poverty incidence (especially families with female heads of household and individuals living alone), rather than a general deterioration within each category.

³ A comprehensive survey is Cline (1997). See also Slaughter (1999), the Summer 1995 and Spring 1997 issues of the *Journal of Economic Perspectives*, Volume 108 (1998) of the *Economic Journal*, and Volume 50 (2000) of the *Journal of International Economics*. An extremely useful survey of the literature on developing countries is Sen (2001).

and a brief overview of the essential features of the debate over the causes of existing trends in income distribution follows in Section 1.1.4, with a developing country focus.

1.1.2 The Predictions of Orthodox Trade Theory

Classical Ricardian trade theory abstracted from the question of the internal distributional consequences of international trade by employing a labour theory of value, in which labour was the only factor of production and all units of labour were homogeneous. The neoclassical Heckscher-Ohlin trade theory extended the framework of analysis to two factors of production (capital and labour), asserting that a country would have a comparative advantage in goods whose production was relatively intensive in the factor with which that country was relatively well-endowed. The Stolper-Samuelson and factor-price equalisation theorems subsequently addressed the issue of the distributional consequences of trade in the Heckscher-Ohlin framework (Stolper and Samuelson, 1941; Samuelson, 1948, 1949).

Based on a highly restrictive set of neoclassical assumptions, the Stolper-Samuelson theorem predicts that the opening of trade will cause an increase in the real income of a country's abundant factor and a reduction in the real income of the scarce factor. The logic of the argument is as follows. Trade induces relative price changes in the economy such that the relative price of the export good increases while that of the import-substitute decreases. This leads to an expansion of production in the export sector and a contraction in the import-substitute sector. There is thus an increase in the demand for factors used intensively in export production, raising their nominal return, and a reduction in the demand for factors used intensively in the domestic production of import-substitute goods, lowering their nominal return.

To assess real income changes, however, these changes in nominal income need to be compared to the relative product price changes induced by trade. Under perfect competition, the *average* prices of the factors employed in the export sector, for example, will increase by the same amount as the price of the export good. Since the abundant factor is not the only factor employed in this sector, the rise in its nominal relative factor price means that its nominal price must also rise relative to this average, and hence relative to the price of the export good. The abundant factor's real income therefore increases in terms of the export good. This is known as the magnification effect, whereby the price of a factor changes relatively more than the price of the good intensive in that factor. The abundant factor's real income must therefore rise unambiguously (i.e. in terms of both goods) with the opening of trade, since the relative price of the import-competing good falls with trade (Cline, 1997: 37-38; Appleyard and Field, 2001: 93; 128-129).⁴

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An analogous argument can be used to show that the price of the scarce factor falls by more than the price of the import-competing good. With the price of the export good rising, it follows that the real income of the scarce factor decreases unambiguously with trade.

Using an extended Heckscher-Ohlin framework in which labour is divided into skilled and unskilled categories, the Heckscher-Ohlin theorem would suggest that unskilled labour abundant countries will tend to export unskilled labour intensive goods, while skilled labour abundant countries will export skilled labour intensive goods. The distributional implication is thus that the opening of trade (or the liberalisation of trade) will raise the real incomes of skilled relative to unskilled workers in skilled labour abundant countries like the US, and will also raise the real incomes of unskilled relative to skilled workers in unskilled labour abundant (developing) countries. Traditional theory therefore suggests that there will be increasing skilled-to-unskilled wage inequality in developed countries but decreasing inequality in developing countries as trade liberalisation proceeds.

Where developed country trade barriers are already low, changes in relative world supplies of skilled and unskilled labour (say through population growth or the expansion of basic education in developing countries which increases the supply of unskilled manufacturing workers) could induce Stolper-Samuelson effects similar to the removal of protection, via the expansion of developing country exports (Wood, 1995: 59; Cline, 1997: 45).

The restrictive assumptions upon which the Stolper-Samuelson prediction rests led many trade economists to question its use as a theoretical justification for concerns about the implications of import competition from developing countries for unskilled wages in developed countries.⁵ Others argued that the basic idea of the theorem was not overturned by the relaxation of certain assumptions (it appears to survive higher dimensionality, for example, as long as the number of factors is not less than the number of goods) (Cline, 1997: 43-44).

A seemingly important response in the 1970s to what was seen as a key restrictive assumption of Stolper-Samuelson, that of perfect factor mobility across sectors domestically, was provided by the specific factors model (Jones, 1971; Samuelson, 1971). With sector-specific capital and mobile labour, the model shows that not all units of a factor have the same interest in the opening or restriction of international trade. In particular, the real income of capital specific to the expanding export sector increases, while that of capital specific to the contracting import-competing sector declines. Increased demand for the mobile factor labour will raise its nominal return, but the real wage falls in terms of the export good and increases in terms of the import-substitute

⁵ Indeed, Cline (1997: 43) reports that Stolper and Samuelson's original article was rejected for publication in the *American Economic Review*. While the editors acknowledged that it was "a brilliant theoretical performance," they judged that it did not "have anything to say about any of the real situations with which the theory of international trade has to concern itself" (Deardorff and Stern, 1993, cited in Cline, 1997: 43). There was also evidently concern that the article could be construed as advocating protectionism!

good.⁶ The effect on the real income of the mobile factor labour thus depends on labour's consumption patterns.

Williamson and Milner (1991: 109-110) point out that when the mobility of labour is also constrained, the nominal wage will rise in the export sector and fall in the import-competing sector. Further, any resistance to falling wages in the import-competing sector will result in unemployment.

The conclusions of the specific factors model have greater intuitive appeal than Stolper-Samuelson, especially in their ability to explain why factors of production in a given industry (such as the steel industry in the US) may unite in lobbying for protection. The important lesson is that the internal distributional effects of the opening of trade will be far more complex than the Stolper-Samuelson theorem suggests.

1.1.3 New Trade Theory and Income Distribution

The distributional implications of the new trade theories based on product differentiation and economies of scale have been less widely explored than those of orthodox trade theory. However, the models of Krugman (1981, 1982) attempt to provide a theoretical foundation for the widely held view that the distributional consequences of intra-industry resource reallocation are less severe than those of the inter-industry resource reallocation predicted by traditional trade theory.

The family of newer trade models that has emerged since Heckscher-Ohlin is exemplified well by Krugman (1979). Krugman's (1979) model rests on two features which sharply distinguish this class of model from traditional trade theory: economies of scale and monopolistic competition (with the latter, of course, implying product differentiation). The existence of product differentiation is assumed to be accompanied by a demand for variety. The presence of economies of scale makes it unprofitable for domestic producers to manufacture all the possible varieties of a product. The opening of trade provides access to foreign varieties and encourages specialisation in certain varieties to exploit economies of scale. The result is two-way trade in differentiated products (intra-industry

⁶ The expanding export sector increases its demand for capital, but the supply of sector-specific capital is fixed, so its nominal return increases. The use of more of the mobile factor labour with a fixed supply of sector-specific capital raises the marginal physical product of that capital, and hence its real return as well as its nominal return. Use of more labour also lowers the marginal physical product (MPP) of labour in the expanding sector, and hence labour's real wage in terms of the export good. There is a reduced demand for capital specific to the contracting import-competing sector, and hence a fall in its nominal return. The use of less labour in the import-competing sector lowers the MPP of the sector-specific capital and hence its real return. The MPP of the remaining labour increases, raising labour's real wage in terms of the import-substitute good.

trade). Foreign trade is likely to raise welfare both by increasing choice and reducing costs (because of economies of scale).⁷

With its primary focus on how product differentiation and economies of scale can generate two-way trade within a sector, Krugman's (1979) model assumes that there is only one factor of production (labour). In doing so, it is implicit that all units of the single factor gain from trade in real terms. This is not only reflected by an increase in real wages, but also by an *extra* gain from trade (not attainable in the traditional framework) due to an increase in the variety of products available to consumers.⁸

However, in two later papers, Krugman (1981, 1982) addresses the possible distributional consequences of intra-industry trade expansion using a specific factors-type framework adapted to the monopolistically competitive context. For example, Krugman's (1981) model assumes there to be two industries in each country, each producing a large number of differentiated products with industry-specific labour. Further, each country has different endowments of this sector-specific labour. 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.⁹

With the opening of trade there will be two effects. Firstly, there will be a conventional distribution effect which will harm the specific factor in the sector with an overall comparative disadvantage (i.e. the sector in which the specific factor is the economy's relatively scarce factor), and benefit the specific factor in the sector with an overall comparative advantage (the sector in which the specific factor is the relatively abundant factor).¹⁰ Secondly, since different countries produce products which are imperfect substitutes in consumption, there will be an increase in the variety of products available,

⁷ Note that, in addition to intra-industry trade, a sector may also have some net trade, the basis for which could be comparative advantage. The Heckscher-Ohlin theorem could thus explain that part of trade which is net trade, even though there may be substantial intra-industry trade.

⁸ As is common in these models, the consumer's utility function is formulated in such a way that there is a *love of variety* (i.e. utility can increase as a result of a rise in the number of varieties available to the individual consumer as well as via increased consumption of any given variety).

⁹ See Krugman (1982: 203-204). Stronger comparative advantage will indicate greater dissimilarity in relative factor endowments and *vice versa*.

¹⁰ In terms of the model's structure, the sector-specific labour's real wage will remain unchanged in terms of the products of its *own* industry, but will rise or fall in terms of the products of the other industry depending on whether it is the abundant or the scarce factor overall (Krugman, 1981: 969).

which will benefit everyone. Both effects benefit the abundant factor, which will therefore gain unambiguously. Krugman (1981: 969-970) shows that if products are sufficiently differentiated then the gains from the larger market outweigh the distribution loss for the scarce factor, and *both* productive factors gain from trade. He further demonstrates that if countries have sufficiently similar factor endowments (i.e. if comparative advantage is weak) then the gains from intra-industry specialisation will outweigh the distributional effect, and both factors will gain from trade. He concludes that if either scale economies are unimportant or countries have very dissimilar factor endowments, then the scarce factor will tend to lose from trade (Krugman, 1981: 971).

The above analysis suggests that 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.¹¹

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:

$$r_i = MR \times MPP_i = P(1 - 1/\hat{\alpha}) \times MPP_i$$

where r_i is the return to factor i , MR is the firm's marginal revenue, MPP_i is the marginal physical product of factor i , and $\hat{\alpha} > 0$ 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. Thus, in the case of increasing returns, as firms move down their average cost curves, the

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Krugman (1982: 198) concedes that his models depend on a number of special assumptions about utility and production functions, which are necessary to model a monopolistically competitive market structure. He argues that, in models of intra-industry trade, it is therefore necessary to be satisfied with illustrating propositions rather than proving them (Krugman, 1982: 198). While their generality is not firmly established, the results are nevertheless intuitively appealing.

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).¹²

The view that the adjustment to trade liberalisation is likely to be easier when trade expansion is intra-industry in nature has two aspects to it. The first, considered in the present sub-section, is that the long run distributional effects of trade will be less dramatic than in the case of inter-industry specialisation. The second, relating to the short run ease of adjustment and considered in more detail in Section 2.1, is 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".

1.1.4 Causes of Rising Inequality

As shown in Section 1.1.2, traditional theory suggests that there will be increasing skilled-to-unskilled wage inequality in developed countries but decreasing inequality in developing countries as trade liberalisation proceeds. It was noted in Section 1.1.1 that increasing income inequality has indeed been observed across a broad range of industrial countries, particularly the US and the UK. The rising inequality has been ascribed to a fall in the relative demand for unskilled workers in these economies since the 1980s. However, the debate over the relative importance of trade versus other factors such as technology, immigration and foreign direct investment has generated a huge volume of research (see Footnote 3).

Most studies find that while increased trade is a factor, it only accounts for a small proportion of the rise in inequality (Freeman, 1995). It is argued that since the rise in the relative demand for skilled labour has not just been confined to traded goods sectors, the nature of technological change has been important. Specifically, skill-biased technological change (SBTC) has occurred. Lawrence and Slaughter (1993) argue that, if Stolper-Samuelson effects were at work in the US, one would expect to see falling relative prices of unskilled labour-intensive products, and sectors economising on the use of skilled labour as its relative wage increases, whereas the opposite has been observed. By contrast, Wood (1995: 72-73) asserts that the evidence on price changes of less-skill-intensive products is mixed and inconclusive, and cannot therefore be used to settle the dispute about the importance of trade.

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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.

In the case of the US, supply-side and institutional factors have been raised as contributing influences on rising wage inequality. These include changes in the relative endowments of skilled and unskilled labour (due, for example, to immigration), declining union power, and decreases in real minimum wages (Appleyard and Field, 2001: 153).

The response of Wood (1995) to the debate about trade versus SBTC is that more attention needs to be given to the interplay between trade and technology factors. For example, developed country firms commonly react to low-wage import competition by adopting new technology that is unskilled-labour-saving. Although such defensive innovation¹³ has enabled some firms to deal with the import competition, it has reduced their demand for unskilled labour (Wood, 1995: 67). The argument is that the fall in demand for unskilled labour should be attributed to trade rather than technology in these instances.

Feenstra and Hanson (1996) have suggested that outsourcing¹⁴ by US firms has been an important contributor to the fall in demand for unskilled labour. The idea is that firms respond to import competition by shifting non-skill-intensive component and intermediate-input production abroad, resulting in downward pressure on unskilled wages in the US. The interplay between trade and technology factors becomes important again, since outsourcing can be a response to technological change (i.e. facilitated by improvements in communications, and the use of computers for inventory and monitoring purposes, for example), and trade will in turn respond to the outsourcing (Appleyard and Field, 2001: 153).

Cline (1997: 90-91) questions the exclusive focus on the traditional Stolper-Samuelson framework of many studies considering the importance of trade in explaining trends in income inequality. Since the bulk of industrialised countries' trade is intra-industry rather than Heckscher-Ohlin, the use of this theoretical framework seems shortsighted. However, the bias doubtless flows from the presumption that *North-South* trade in manufactures is largely inter-industry in nature, and that it is this aspect of trade that is most relevant for downward pressure on unskilled wages in the North. It seems unnecessarily restrictive, nonetheless, to ignore alternative theoretical approaches, as many studies do. As noted in Section 1.1.2, the specific factors model, in particular, could provide more realistic insights into patterns of income distribution than Stolper-Samuelson.¹³

In recent years there have been a growing number of studies on the determinants of trends in income distribution in developing countries. Such studies are of particular importance because of concerns about the poverty impact of globalisation. The Stolper-Samuelson prediction, of course, is that international trade will *reduce* wage inequality in unskilled labour-abundant countries. However, Wood (1997, 2000) and Robbins (1996) point to the evidence that wage inequality has fallen in some developing countries

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For example, Cline (1997: 91) refers to a study in which Sachs and Shatz (1995) use the specific factors model to consider how trade may have affected wages without a reduction in the relative prices of unskilled labour-intensive goods.

(specifically, in East Asia), but risen in others (particularly in Latin America). A common explanation along Heckscher-Ohlin-Samuelson lines is that Latin America is in fact natural resource-abundant rather than unskilled labour-abundant (Sen, 2001: 22; Leamer *et al.*, 1999; Beyer *et al.*, 1999: 121-122; Wood, 1997, 46-47).

Using a multi-cone Heckscher-Ohlin framework, Leamer *et al.* (1999) contrast the development paths of natural resource-abundant and resource-scarce economies. They argue that the special development path of natural resource-rich countries involves a shift from the primitive extraction of natural resources towards capital-intensive extraction and permanent agriculture. Capital accumulation then encourages a shift to more capital-intensive ways of using the natural resources (such as pulp manufacturing, paper and agribusiness). Finally, with substantial capital accumulation, sophisticated and capital-intensive manufactures such as machinery and chemicals are produced (Leamer *et al.*, 1999: 19-21). Such a development path avoids the stage of labour-intensive manufacturing and the intense competition with unskilled labour-abundant countries (such as those in Asia) that this would entail. However, resource requirements in the early stages of the process may mean that the natural resource-rich economy is not prepared for the human capital requirements at later stages, stalling or disrupting the development process. Further, income inequality is likely to increase in the early stages and remain high until (or unless) the very late stages are reached (Leamer *et al.*, 1999: 21-22).

Wood's (1997: 48-52) explanation of rising wage inequality in Latin America since the mid-1980s compared to narrowing wage inequality in East Asia in the 1960s and 1970s focuses more on differences between the 1960s-1970s and the 1980s-1990s than on differences between Latin America and East Asia as such. A major distinction between the two periods was the entry of large low-income exporters, such as China, into world markets. Middle-income countries which previously had a comparative advantage in low skill-intensive goods found this comparative advantage eroded. Although they were unskilled labour-abundant relative to developed countries, their ratio of unskilled to skilled labour was below the developing country average. The effect of trade liberalisation on relative wages in a middle-income country would thus have changed over time. With import competition from both high- and low-wage countries in the 1980s, middle-income countries could experience increasing wage inequality (such as that experienced in Latin America) depending on the skill intensity of the sectors being liberalised.

Another explanation of unfavourable unskilled wage and / or employment movements following liberalisation in developing countries is that trade increases the own-price elasticity of demand for labour (Rodrik, 1997: 16-27). Sen (2001: 10-11) notes that there are two ways in which this may occur. Firstly, increased product market competitiveness as a result of trade will increase the elasticity of product demand and hence the elasticity of demand for labour, since the latter is a derived demand. Secondly, trade can increase the elasticity of substitution between labour and other factors. Rodrik's (1997: 17-25) inferences are that workers will have to bear a greater part of the cost of improved labour standards and benefits, that wage and employment responses to labour demand shocks

will be more volatile and that labour will lose bargaining power to capital over the distribution of any excess profit earned by firms.

Rodrik's (1997: 16-27) argument has been questioned on two grounds. Firstly, the assertion that trade will increase the own-price elasticity of labour demand has been challenged by Panagariya (2000), who finds no evidence of a link between openness and the economy-wide labour demand elasticity. Sen (2001: 11-12) argues, however, that this criticism is misguided, as Rodrik's (1997: 16-27) theory clearly applies to the individual firm's demand for labour, not the national demand for labour. Secondly, Rodrik's inference that the result of any increase in the elasticity of labour demand will necessarily be adverse for the wages and employment of unskilled workers may be questioned. Sen (2001: 12) argues that there is no clear theoretical link on which to base such an inference, and that higher product demand elasticities may facilitate the expansion of production and increased labour demand.

Other explanations for rising wage inequality and/or falling unskilled-labour employment in the South include skill-biased technological change, outsourcing and emigration. As Jenkins and Sen (2002: 4) note, technological change will tend to reduce the demand for unskilled labour and increase inequality in the South, particularly where globalisation has been accompanied by increased technology inflows from the North (see, also, Wood, 1997: 53-54 and Pissarides, 1997). Secondly, Feenstra and Hanson (1996) argue that outsourcing can reduce the relative demand for unskilled labour in *both* the North and South. This could occur if North specialised in relatively skilled-labour intensive inputs and South in inputs that are unskilled-labour intensive *relative to the North, but not from the South's perspective*. This would increase the relative demand for skilled labour in both countries, increasing wage inequality in North and South (Sen, 2001: 14). Finally, emigration of skilled labour from developing countries may increase skilled-unskilled wage inequality by reducing the relative supply of (usually already scarce) skilled labour. It may also adversely affect the employment prospects of less-skilled labour in the developing country to the extent that skilled and unskilled workers are complementary factors in the production process (Sen, 2001: 16).

Despite the recent expansion in the number of studies on the impact of liberalisation on labour market outcomes in developing countries, Jenkins and Sen (2002:7) note that most research has been focused on the middle-income countries of Latin America and East Asia. There are very few studies on the low-income countries of Africa, and East and South Asia. Country-specific studies on southern Africa are rare, but existing studies find mixed evidence with respect to wage and employment adjustments, with no clear evidence in favour of trade or technology effects (see, for example, Milner and Wright, 1998, on Mauritius, and Abdi and Edwards, 2001, on South Africa).

1.2 Poverty Implications of Alternative Theoretical Approaches

As Winters (2000: 52) argues, the Stolper-Samuelson result regarding the impact of trade on the long-run distribution of income, while of direct relevance to the link between trade

and poverty, is not sufficient to analyse this link. Firstly, a given household's income is only indirectly linked to factor returns in general, depending *inter alia* on the household's ownership of the various factors. Households may own several factors of production, so the final impact of trade on household income distribution is not straightforward.¹⁴ The effect on poverty will depend on whether the poor are strongly represented in the type of labour for which demand has risen with trade (eg unskilled as opposed to skilled labour), as well as on the location of the wage rate relative to the poverty line. Secondly, the restrictive assumptions upon which Stolper-Samuelson rests necessitate further analysis. Of particular concern here are the standard trade theory assumptions of inelastic factor supplies, internal labour mobility, homogeneous goods, constant returns to scale and smooth substitution between factors. The possible absence of some markets before or after price changes and the existence of non-traded goods are also important factors neglected by orthodox trade theory.

The discussion which follows on the limitations of the Stolper-Samuelson assumptions for analysing the poverty impact of trade reform will assume that poor households primarily have their labour to sell, as opposed to other factors of production (Winters, 2000: 53), and will hence focus on the wage and employment effects of liberalisation, particularly for the unskilled.

The Stolper-Samuelson result broadly suggests that since developing countries are labour abundant relative to developed countries, the liberalisation of trade will raise developing country wages generally. However, as Winters (2000: 53) notes, even if greater openness raises the real wages of unskilled workers, it is not necessarily the case that the *least-skilled* workers (who are most likely to be poor) are those used intensively in the production of tradables in developing countries. For example, the wages of workers who have completed primary education may increase with the opening of trade, while those of illiterate workers may in fact fall.¹⁵

As shown in Section 1.1.2, once the assumption of perfect factor mobility between sectors within a country is relaxed, the Stolper-Samuelson prediction about the impact of trade on the real wage in labour abundant countries no longer holds. Within a specific factors-type framework, sector-specific labour in the expanding export sector would gain from the opening of trade, while sector-specific labour in the contracting import-competing sector would lose in real terms. Poor households dependent on the earnings of sector-specific labour in industries which contract will therefore suffer. Further, as noted in Section 1.1.2, any resistance to falling wages in the import-competing sector will result in unemployment. The latter has serious implications for households close to the poverty

¹⁴ See Lloyd (2000) for a generalisation of Stolper-Samuelson to households which have diversified ownership of factors.

¹⁵ Leamer *et al.* (1999: 11), for example, demonstrate Latin America's increasing relative abundance in primary educated as opposed to uneducated workers between 1970 and 1990. It is thus conceivable that the wages of primary educated relative to uneducated workers may have risen as a consequence. See, also, McKay *et al.* (1999: 10-11).

line, as the loss of a wage-earning job could easily be responsible for that household's descent into poverty.

In the specific factors framework, the effect of the opening of trade on the real wage of labour that is mobile between sectors is ambiguous (see Section 1.1.2). The real wage falls in terms of the export good (whose price has risen with trade), but rises in terms of the import-substitute good, so that the net effect on the real income of mobile labour depends on consumption patterns. Where the labour in question is owned by poorer households and where it is food prices that have risen with trade, the impact on household poverty could be severe, as by far the largest proportion of the income of the poor is spent on food.¹⁶

Taken together, the potential for adverse poverty outcomes for labour-abundant countries seems to be greater in the more realistic specific factors-type context than in a Stolper-Samuelson world. This highlights the shortcomings of the restrictive neoclassical assumptions on which Stolper-Samuelson is based for the analysis of the poverty implications of trade reform.

In contrast to both the Stolper-Samuelson theorem and the original specific factors model, the new trade theory considered in Section 1.1.3 relaxes two further neoclassical assumptions: those of homogeneous products and constant returns to scale. The distributional implications of intra-industry trade based on product differentiation and economies of scale were examined in Section 1.1.3 with reference to Krugman (1981). The Krugman model shows that it is possible for all factors of production to gain from trade, provided that the gain from intra-industry specialisation in a larger market outweighs the distribution loss for the specific factor in the sector with an overall comparative disadvantage.¹⁷ However, to the extent that this outcome is dependent on the existence of consumers' taste for diversity, it may be of limited applicability to the poor. Greater demand for diversity is usually associated with higher *per capita* income levels (Havrylyshyn and Civan, 1983: 119). In the absence of a sufficient offsetting gain, Krugman's (1981: 971) model predicts that specific labour in the sector with an overall comparative disadvantage will lose from trade. As in the case of the traditional specific factors model, poor households dependent on the earnings of sector-specific labour in these industries will suffer.

The intra-industry trade story, however, has perhaps more promising implications in the case of job loss. If intra-industry specialisation follows trade liberalisation, the prospect for re-employment within the same industry improves. This is likely to be easier than

¹⁶ The impact of trade reform on the prices of the goods that the poor buy is identified by Winters (2000) as a critical channel through which trade affects poverty, as is the factor market impact of trade reform on which this section is focused. Far less systematic research has been done on the former than on the latter, however. Exceptions in the South African context are Mukhopadhyay (2002) and Case (1998).

¹⁷ Recall that this will occur if products are sufficiently differentiated within the industry and/or if neither country has too strong a comparative advantage.

switching jobs between industries, and may therefore reduce the possibility of already poor households descending into poverty as a result of the loss of a wage-earning job. A more detailed consideration of this aspect follows in Section 2.1.

Finally, the approach of traditional trade theory is based on a fixed (inelastic) supply of factors, so that a rise in factor demand increases the factor's wage. McCulloch *et al.* (2001: 78) contrast this with the "development" approach, which assumes that labour is in perfectly elastic supply. In this case the adjustment to a change in price will take place through employment changes. The formal sector can draw unlimited amounts of labour out of the informal or subsistence sector at the subsistence wage. This will have little impact on poverty if the subsistence wage and the formal sector wage are at the same level. If, however, the transfer of labour to the formal sector succeeds in reducing the supply of labour to the subsistence sector (or reducing overcrowding, for example), then the subsistence "wage" would increase, and poverty could be alleviated (Winters, 2000: 54). When, as is more common, the formal sector wage exceeds the subsistence wage, workers transferring to the formal sector experience a direct wage increase which may alleviate poverty.

The discussion above suggests that the poverty implications of trade reform are far too complex to be analysed with reference to the Stolper-Samuelson theorem alone. Practical assessments of the likely effects of trade shocks on poverty need to take account of both the alternative trade approaches and the development approach. In reality both wage and employment adjustments will occur, and it becomes important to know something about the elasticity of labour supply in estimating the impact.

2 MANAGING THE ADJUSTMENT: IS THERE A ROLE FOR REGIONAL INTEGRATION?

2.1 The Labour Market Implications of Intra- versus Inter-Sectoral Adjustment

...[A] matter of concern for MERCOSUR countries is the extent of the inter-industry adjustment which would follow the abolition of reciprocal tariffs. Indeed, policy makers are concerned by the costs of managing this adjustment more than by some hypothetical change in national income (Behar, 1995: 18).

In Section 1.1.3, it was suggested that the costs of adjustment to trade liberalisation are likely to be less if tariff reductions lead to intra-industry rather than inter-industry specialisation.¹⁸ It was noted that there are two aspects to this view. The first is reflected

¹⁸ This perspective was first raised by Balassa (1966). It has been referred to directly or indirectly by many authors (often in the context of economic integration), including Balassa (1979: 267); Willmore (1979: 201); Caves (1981: 204); Krugman (1981, 1982); Greenaway (1982: 52); Greenaway and Hine (1991: 604-610); Behar (1991: 532-533); Hamilton and Kniest (1991); Greenaway *et al.* (1994); Menon and Dixon (1996); Dixon and Menon (1997); and Brühlhart (1994, 1999, 2001).

in the Krugman (1981) argument that the real income of all productive factors could rise when trade expansion is intra-industry, so that the long-run distributional consequences of trade are less important. The second element is a strong presumption that the reallocation of factors to different lines of work will be easier than in the inter-industry case. 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 could be less disruptive with intra-industry specialisation. More recent writers on the subject, such as Brülhart (1999, 2001), have referred to this second aspect as the "smooth adjustment hypothesis". Brülhart (1999: 37-38) stresses the importance of distinguishing carefully between the transitional adjustment costs that the smooth adjustment hypothesis is concerned with and the long run distributional effects of trade liberalisation that models such as Krugman (1981, 1982) consider.

Since the second perspective on the relative merits of intra-industry adjustment (the smooth adjustment hypothesis) seems to be fast gaining status as a stylised fact, it is worth considering the theoretical arguments for a link between lower adjustment costs and intra-industry trade more carefully.

Provided that an industry is suitably defined,¹⁹ products within each industry will be closer substitutes than products in different industries. The factors of production required to produce these similar products *within* an industry are likely to be more similar than those required to manufacture products in different industries. Factors of production are therefore likely to be more mobile between the production of goods within an industry than between the production of goods in different industries. Brülhart (2001: 52) and Lovely and Nelson (2001: 65) report that the latter aspect is strongly supported by empirical work in labour economics.²⁰ The reasoning is that workers accumulate human capital that is sector-specific (transferable between firms within the industry but not between industries). If, with liberalisation, labour is forced to move between industries to the expanding exportables sector, workers lose the value of their investment (Lovely and Nelson, 2001: 65). With intra-industry adjustment, by contrast, although firms may go out of business, such high costs of transfer are not incurred. Elliot and Lindley (2001: 2) argue that differences in labour requirements such as sector specific human capital, worker endowments, the cost of relocating resources and the retraining of labour, job related natural abilities and spatial aspects of labour reallocation are likely to be smaller the more similar the firms...in any given grouping.

¹⁹ As anyone who has done work on intra-industry trade is aware, a key issue is whether the definition used is too aggregated (resulting in spurious intra-industry trade) or too disaggregated (defining intra-industry trade out of existence) (see Greenaway and Milner, 1983; Menon and Dixon, 1996: 13-14).

²⁰ Studies providing evidence that it is costlier for workers to move between industries rather than switching jobs within industries include Fallick (1993), Neal (1995) and Kletzer (1996) for the US, as well as Greenaway *et al.* (1999) and Elliot and Lindley (2001) for the UK.

There are a number of important qualifications to the smooth adjustment hypothesis that are likely to be of particular relevance in any study involving developing country trade or trade between countries at unequal levels of development. First, as Greenaway and Hine (1991: 606) note, the simultaneous expansion of exports and imports in a given industry may also be accompanied by alterations in both product and factor mixes. This is particularly the case with specialisation in vertically-differentiated products.²¹ Vertical product differentiation reflects differences in product quality in the varieties produced within an industry. The attributes of the varieties traded will tend to reflect the factor endowments of the countries concerned, so that, for example, less developed countries may export lower-quality varieties (requiring mainly unskilled labour) to more developed countries, in return for higher-quality varieties (Balassa, 1979: 261).²² It has been argued that such vertical intra-industry trade is just Heckscher-Ohlin trade in disguise,²³ which would imply little relief regarding adjustment costs and the longer-run distributional (factor-price) consequences of trade. However, this would depend on the extent to which factor requirements differed in the production of the vertically-differentiated products.²⁴

A second qualification is that measured intra-industry trade may be reflecting trade in parts and components, or the import of intermediate goods to be processed (reflecting comparative advantage at a certain stage of production) and then exported as manufactured goods (Greenaway and Hine, 1991: 606; Rodas-Martini, 1998: 339). Factor requirements may differ significantly in these processes. To the extent that they do, the smooth adjustment associated with intra-industry specialisation may not be forthcoming.²⁵

²¹ See Falvey (1981) and Falvey and Kierzkowski (1987).

²² The idea is that the pattern of income distribution in developed and developing countries could be such that a demand for low quality varieties is generated by low-income groups in developed countries, and a demand for higher quality varieties is generated by high-income groups in developing countries, resulting in intra-industry trade in vertically-differentiated products (Tharakan and Kerstens, 1995: 89). Such trade is therefore associated with *unequal* levels of income.

²³ See the discussion in Rodas-Martini (1998: 339).

²⁴ The Krugman models considered in Section 1.1.3 are based on *horizontal* product differentiation, which reflects slight differences in product characteristics in the varieties produced within an industry. In this case, varieties are assumed to be produced with fairly similar factor requirements. Intra-industry trade in horizontally-differentiated products tends to be associated with *similar* levels of per capita income.

²⁵ It should be clarified that final goods may be horizontally- or vertically-differentiated. Both types of product differentiation, however, give rise to *horizontal specialisation* (reductions in product variety) (Kierzkowski, 1984: 2-3). By contrast, *vertical specialisation*, described in this paragraph, refers to the production of parts, components and accessories for assembly in different countries (Balassa, 1979: 259-260). Both vertical specialisation and horizontal specialisation in vertically-differentiated products have been accused of being *phony* intra-industry specialisation.

Brühlhart (1999: 37-40) points to the weak theoretical and empirical foundations of the smooth adjustment hypothesis, despite its widespread acceptance in the literature. The hypothesis has not been formalised in a rigorous model and empirical testing has been frustrated by data limitations. Nonetheless, its intuitive appeal has made the development of an appropriate model linking intra-industry trade changes to labour market adjustment and empirical tests on more sophisticated data fruitful areas for further research.

2.2 The Prospects for Intra-industry Specialisation in a Regional Arrangement between Developing Countries and Countries at Unequal Levels of Development

It is fairly evident that adjustment to reciprocal liberalisation will be easier than adjustment to unilateral liberalisation. It has also been argued that adjustment will to some extent be easier on the labour market side - and hence the potential for adverse poverty outcomes ameliorated - when the trade expansion accompanying liberalisation is intra-industry in nature. An important question then is whether regional integration can facilitate such trade expansion. More specifically, is there any reason to suppose that the potential for intra-industry specialisation may be higher in a regional rather than a 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 analysis of the link between the two is poorly developed.

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. For example, if the potential partner countries in a regional arrangement 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 will provide an important basis for the expansion of intra-industry trade, as observed in the European Community. Further, if access to a larger market through integration allows producers to lengthen production runs and effectively "exchange" scale economies, 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.

Early empirical evidence on the relationship between economic integration and intra-industry specialisation has been surveyed by Greenaway (1989: 34-36). A number of documentary studies have considered trends in intra-industry trade over time, particularly in relation to European integration (such as Balassa, 1966) and 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 was 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 was found to be greater than average in electrical machinery and equipment, non-electrical machinery, and chemicals, sectors in which there were a large number of complementarity agreements.

Intra-industry specialisation within the Central American Common Market (CACM) was also found to be higher than between the CACM countries and other developing or developed countries, and was greatest in textiles and clothing, fabricated metal products, and miscellaneous manufactured goods, followed by paper and paper products (Balassa, 1979: 254).

A more recent study on the CACM, however, concludes that the optimism regarding the prospects for increased intra-industry specialisation shown in these earlier studies was misplaced (Rodas-Martini, 1998: 342). The study finds generally low levels of intra-industry trade in regional CACM trade, but fails to compare IIT in intra-regional trade and IIT in extra-regional trade with developed and other developing countries. It also does not attempt to consider changes in intra- versus inter-industry regional trade patterns over time.

With respect to the former LAFTA region, Behar (1991: 531) finds that the renewal of Latin American integration efforts in the mid-1980s was accompanied by a specific focus on the promotion of intra-industry specialisation, because of the belief amongst policy-makers in the lower costs of adjustment involved. His research suggests great potential for increasing intra-industry trade in consumer goods between Argentina and Brazil, but the analysis is *ex ante*, and does not therefore enable an assessment of changing patterns

of intra- versus inter-sectoral specialisation following a change in the pattern of protection.²⁶

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

Although the prospects for increased intra-industry specialisation are likely to be greater among countries with high and similar levels of *per capita* income (since such income patterns encourage horizontal product differentiation and demand for diversity), Balassa (1979: 258) argues that countries with relatively low but similar *per capita* income levels have much to gain from intra-industry trade in the context of regional integration, 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.

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 arrangement among unequal partners.

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. 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.

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More recent studies which attempt to address this question will be considered in Section 2.3. Mention should be made at this point, however, of a study by Menon and Dixon (1996) which considers both the question of whether intra-industry trade increases following integration and that of whether intra-industry trade is more important in intra-versus extra-regional trade growth, with reference to the Australia-New Zealand Closer Economic Relations Trading Agreement.

2.3 Measuring the Adjustment: An Agenda and some Preliminary Results

The ultimate aim of this project is to investigate intra-industry specialisation and the pattern of labour market adjustment following trade liberalisation in the SADC region. The first line of empirical research involves consideration of how changes in protection have related to changes in intra-industry trade between the countries of the region. The second line will explore the link between inter- and intra-industry specialisation and factor-market adjustment in an attempt to evaluate the claim that intra-industry specialisation is associated with lower adjustment costs. This paper has made a start on the first line of research only: the extent of intra- and inter-industry specialisation following recent liberalisation in the southern African region.

Since implementation of the SADC FTA only began in September 2000, and then only among a sub-set of SADC countries and at varying speeds of implementation both in terms of products and countries,²⁷ it is too early to assess the effects of the FTA as such on the degree of intra-sectoral specialisation within the region. However, trade barriers in the region have fallen in the 1990s, especially since 1994, and in some cases significantly, due to structural adjustment programmes, Uruguay Round commitments, COMESA tariff cuts and other bilateral trade agreements. A prominent political barrier to regional trade was removed with the election of a democratic government in South Africa in 1994, and certain other non-tariff barriers to trade have eased. For these reasons, a preliminary investigation covering the period 1994 to 2000 may be useful in considering the prospects for increased intra-industry specialisation in intra-regional trade following the formation of the FTA.²⁸

For any given SADC country, the presence of both increased exports to and imports from the rest of the region within a particular sector (at an appropriate level of disaggregation) would suggest some degree of intra-industry expansion. Specifically, it would be useful to examine the bilateral trade changes in each sector, so that the pattern of inter-sectoral versus intra-sectoral specialisation between each pair of SADC countries can be investigated (Cattaneo, 2000: 30). Trade data in constant prices at the 4-digit SIC level have at this stage only been obtained for SACU's trade with Mauritius, Malawi, Mozambique, Tanzania, Zambia and Zimbabwe.²⁹ Future research will extend the study

²⁷ There are differential rates of liberalisation for capital, intermediate and sensitive goods, and SACU will liberalise faster than other developing and least-developed member countries (see Mutambara, 2001: 20-21).

²⁸ The period was chosen in an attempt to capture the end of apartheid rule, the effect of a number of structural adjustment programmes, and the Uruguay Round implementation period. 2000 rather than 2001 was taken as the end of the period since the latter is likely to be an outlier for a number of reasons, particularly the situation in Zimbabwe (although 1999 would have perhaps been a better choice as period end in this regard), September 11, and the fall of the Rand towards the end of the year. The results of this preliminary investigation will not capture any effects from the first year of implementation of the SADC FTA as a consequence.

²⁹ I am very grateful to TIPS for providing the data.

to bilateral trade between all SADC countries as well as major trading partners in the rest of the world and to other periods. The focus is on the manufacturing sector since the bulk of intra-regional trade takes place in manufactures where intra-industry trade tends to be more prevalent.

2.3.1 *Marginal Intra-Industry Trade*

As noted above, the initial task is to ascertain whether changes in the pattern of protection have been associated with *changes* in the degree of intra-industry trade (Hamilton and Kniest, 1991: 357). The first problem is to derive an appropriate way of assessing changes in intra-industry trade. One of the most common measures of intra-industry trade is the unadjusted Grubel-Lloyd (1975) index.³⁰ Existing studies of intra-industry trade in the region (Musonda, 1997, for COMESA and, in particular, Visser, 2001, for SADC) make inferences about growth in intra-industry trade by comparing these indices for different time periods.

However, simply comparing intra-industry trade indices in different time periods is conceptually incorrect. For example, if there is some IIT between two countries, then an equiproportionate increase in the exports of each country will raise the *amount* of IIT but not the *proportion* of IIT (Caves, 1981: 213). Further, an increase in *inter*-industry trade flows could show up as an increase in the Grubel-Lloyd IIT index if the increased inter-industry trade reduces the trade imbalance in the sector in question (Hamilton and Kniest, 1991: 360). For example, if a sector's exports increase but imports are unchanged, then the *additional* trade is not intra-industry in nature. However, the Grubel-Lloyd index will *rise* if imports initially exceeded exports in that sector. For these reasons, a different measure - the index of *marginal* intra-industry trade - which measures the degree of IIT in *new* trade, has emerged (Hamilton and Kniest, 1991; Brühlhart, 1994, 1999; Greenaway *et al.*, 1994; Parr, 2000). This kind of measure is particularly relevant if the intention is ultimately to attempt an assessment of the smooth adjustment hypothesis.

The original marginal intra-industry trade (MIIT) index proposed by Hamilton and Kniest (1991: 360-361), which calculates the *proportion* of the increase in imports or exports which is matched, has been shown to have a number of drawbacks, and some debate has ensued over an appropriate measure.³¹ Greenaway and Torstensson (1997: 253-254) note the main shortcomings of the Hamilton-Kniest measure, given by dX/dM if $dM > dX > 0$, and dM/dX if $dX > dM > 0$.³² First, MIIT is undefined if the change in imports or the change in exports is negative. Secondly, the measure is unscaled (also a well-known shortcoming of the Grubel-Lloyd index itself): it makes no reference to the actual amount of new trade, nor to the initial level of trade or production in the sector in question. A

³⁰ The unadjusted Grubel-Lloyd index is given by $B_i = (1 - (|X_i - M_i| / (X_i + M_i))) \times 100$.

³¹ See, for example, Brühlhart (1994); Greenaway *et al.* (1994); and Menon and Dixon (1997).

³² The index is one if all additional trade is matched and zero if there is no matching at all.

third criticism, namely that the changes in trade were measured in nominal rather than real terms in Hamilton and Kniest's (1991) exercise, would apply to any (M)IIT index.

Greenaway *et al.* (1994) and Brülhart (1994) have developed a series of alternative MIIT measures which attempt to deal with some of the scaling problems, and which are always defined. This paper will use Brülhart's (1994) AB measure, because it allows one to distinguish the *type* of intra- or inter-industry trade adjustment that is taking place.³³ The measure is as follows:

$$\text{MIIT} = (dX_i - dM_i) / (|dX_i| + |dM_i|)$$

and takes on a value from -1 to 1.

If MIIT is equal to 0 then all *new* trade is intra-industry (matched) trade ($dX_i = dM_i$). If MIIT is between 0 and -1, then new trade is increasingly inter-industry (unmatched), and the country has specialised *out of* that industry ($dX_i < dM_i$). If MIIT is between 0 and 1, then new trade is again increasingly inter-industry (unmatched), but the country has specialised *into* that industry ($dX_i > dM_i$) (Parr, 2000: 302). The index is useful for studies of individual sectors because its sign indicates the direction of any specialisation (i.e. into or out of the sector), while its size indicates the extent to which new trade is matched or unmatched relative to the total change in trade. An MIIT value of -1, for example, implies that all additional trade is unmatched, and the country is specialising out of that particular sector.

In this study, MIIT was calculated for each 4-digit SIC manufacturing sector for SACU's trade with each SADC country for which data was obtained for the period 1994 to 2000. The results are reported in full in the Appendix tables, together with unadjusted Grubel-Lloyd (GL) indices of intra-industry trade for 2000.³⁴

Although any divergence of MIIT from zero reflects some inter-industry specialisation, in order to summarise the results it is necessary to choose a critical value of MIIT as a dividing line between significant intra-industry changes and marked inter-industry specialisation into or out of an industry. This study will follow Parr (2000: 302-303) and choose critical values of MIIT of +/- 0.65 such that for MIIT from -1 to -0.65, there has

³³ This MIIT measure has also been used by Parr (2000) in a study of patterns of specialisation in South Africa's manufacturing trade for the period 1993-98, although there is no indication of whether the data used is in current or constant prices.

³⁴ A number of common criticisms of any MIIT measure can be overcome by accompanying the results by as much explicit information as possible, such as actual trade figures (or the share of each sector in total trade), and the actual size and direction of dX and dM to assist in interpreting the index accurately. With respect to the Grubel-Lloyd indices, the problems of using an unadjusted index to measure intra-industry trade are well-documented. The index should preferably be adjusted to account for categorical aggregation and, it is sometimes argued, for overall trade imbalance, although there is little agreement on the latter (see Greenaway and Milner, 1983).

been specialisation *out of* that industry; for MIIT from -0.65 to 0.65, significant *intra-industry* changes have taken place; and for MIIT from 0.65 to 1, there has been specialisation *into* that industry.³⁵

Before discussing the results, however, it is important to consider a qualification to the use of a measure of marginal *intra*-industry trade as the most appropriate index in analyses relating to the costs of adjustment. Menon and Dixon (1997: 164) argue that the focus should be on the measure of new *inter*-industry or unmatched trade, which is usually just treated as a residual. They suggest a measure of unmatched changes in trade (UMCIT), and assert that this measure is more appropriate for studies concerned with adjustment costs. Unlike MIIT, UMCIT is able to indicate the *amount* of trade change requiring inter-industry factor movements:

$$\text{UMCIT} = |dX - dM|^{36}$$

Although Menon and Dixon (1997: 166-168) find either a weak or unexpected correlation between their measure of unmatched trade and Brülhart's (1994) measures of MIIT,³⁷ it seems likely that useful information can be gleaned from using both MIIT and UMCIT to analyse changing trade flows.³⁸

2.3.2 Empirical Results

SACU's trade in manufactures increased strongly between 1994 and 2000. This is reflected by the line "Trade growth" in Table 1, which shows large increases in $dX+dM$

³⁵ Parr (2000: 302-303) chooses the critical values on the basis of the weighted average of IIT across all industries (measured using the standard Grubel-Lloyd index). This was 35% for South Africa in 1998. With an MIIT of 1 corresponding to a Grubel-Lloyd index of 0, the critical values of MIIT become +/- 0.65.

³⁶ As an example, suppose that $dX = 1$, $dM = 2$, so that $dTT = 3$ (where $TT = \text{total trade}$). MIIT (measured by Brülhart's AB@measure) = -0.33 (suggesting a fair degree of new intra-industry trade), while UMCIT = 1 (suggesting that the factors required for one unit of output must leave the industry to accommodate the excess of import growth over export growth) (Menon and Dixon, 1997: 165-166). If $dX = -0.5$ and $dM = 0.5$, then $dTT = 0$, MIIT = -1 (suggesting a high degree of inter-industry adjustment), but UMCIT is still just 1.

³⁷ In the case of the measure of MIIT used in this study (Brülhart's AB@measure), one would expect a positive correlation between UMCIT and MIIT. We did find a positive correlation, but it was generally very weak.

³⁸ It is important to note a further qualification by Lovely and Nelson (2001: 71-72) that the MIIT measure looks at a given sector without considering overall equilibrium adjustments (i.e. it essentially provides a *partial equilibrium* perspective). They argue that the link between MIIT and inter-sectoral adjustment is not likely to be as straightforward in a general equilibrium context, a consideration which requires further research.

relative to total trade in relation to all of the countries and groupings reported in Table 1. Trade has grown more strongly with SADC (with the exception of Zimbabwe) than with the rest of the world. It has also grown much more strongly than manufacturing GDP in the SADC region (Hess, 2002: 3). These trends suggest that, whatever the state of formal trade liberalisation, considerable opening (at least as reflected in manufacturing trade flows) has occurred within SADC in this period. The trends reported below therefore seem at least partially to result from increased openness to trade, and the results should have some relevance for the further opening envisaged by the phasing in of the SADC FTA.

Table 1: Summary of Changes in SACU's Trade with SADC and the Rest of the World, 1994-2000 (Constant 1995 Rmns)

	Mauritius	Malawi	Mozambique	Tanzania	Zambia	Zimbabwe	SADC	ROW
1) Total trade 2000 (X+M)	1 186.80	1 185.02	3 051.47	780.42	2 851.25	3 429.06	12 428.70	177 541.13
2) dM	12.39	-7.27	160.71	-2.74	44.56	-307.67	-100.03	11 766.28
3) dX	406.22	391.28	1063.62	451.13	1 756.62	441.56	4 510.42	30 927.23
4) dX+dM	418.61	384.01	1224.33	448.39	1 801.18	133.89	4 410.39	42 693.51
Trade growth [(4)/(1)]	35%	32%	40%	57%	63%	4%	35%	24%
Change in the trade balance dX-dM	393.83	398.55	902.91	453.87	1712.06	749.23	4 610.45	19 160.95

As the paper has suggested, there are various factors that will determine the size of adjustment costs to a more open trade regime. Firstly, to the extent that increasing openness creates greater polarisation, the adjustment costs, both in terms of potential unemployment and political resistance, will be high. A picture of likely increasing polarisation is suggested by the worsening manufacturing trade imbalances of all the SADC countries with SACU (Table 1, bottom row). In SACU's total manufactured trade with Mauritius, Mozambique and Zambia, both imports and exports have grown, but export growth has dominated significantly, especially with Zambia and Mozambique. SACU's imports from Malawi, Tanzania and Zimbabwe have fallen, while exports have grown. In the case of Zimbabwe, the fall in imports is very large, so that there is a significant deterioration in Zimbabwe's trade balance with SACU. The large changes in manufacturing trade imbalances with Zambia, Mozambique and Zimbabwe have adverse implications for polarisation.

The second and third factors determining the extent of adjustment costs are associated with inter-industry specialisation. Firstly, inter-industry specialisation implies that factors will move into comparative advantage sectors. To the extent that factor mobility is restricted (see Section 2.1), this will create dislocation costs, at least in the short run. Secondly, even to the extent that factors are mobile within countries, neoclassical trade theory predicts that as countries move towards their comparative advantages, factor prices are likely to adjust, with distributional and hence political implications. For example, although between 1994 and 2000 the increase in SACU's exports to the rest of the world was much greater than its increase to SADC countries (R31 billion compared to R4.5 billion),³⁹ greater openness to trade with low wage SADC countries may entail real

³⁹

A priori, the extent to which SACU's trade with the rest of the world will entail moving towards more unskilled-labour intensive production is unclear. On the one hand,

wage falls in South Africa, which may be resisted by organised labour. Factor mobility problems will interact with this, so that internal distributional effects and hence resistance may be exacerbated.

To the extent that trade expansion is intra-industry, these adjustment costs may be reduced. The picture given by the aggregate figures in Table 1 is not encouraging, suggesting that polarisation rather than increasing intra- or inter-industry trade is the dominant story. Indeed, it is telling that, in SACU's trade with the rest of SADC as a whole, dM is negative. However, as shown above, aggregated trade statistics may provide very misleading indicators of underlying trade patterns. For example, of the SADC countries, Mozambique has one of the worst deteriorations in trade balance with SACU. However, the disaggregated picture (Table 2 and Appendix A) shows that despite SACU's manufacturing imports from Mozambique barely increasing *as a whole*, SACU and Mozambique had the largest number of significant (in terms of total trade) 4-digit sectors in which intra-industry trade rose.

Aggregation biases arise even if we use sectorally disaggregated data for SACU's trade with SADC as a whole. For example, in Table 2, Meat products (SIC 3011) shows up as the fourth most important marginal intra-industry trade sector for SACU-SADC trade. However, it appears in none of the lists for individual SADC countries' increased intra-industry trade with SACU. What has happened is that SACU has had a significant *unmatched* increase in imports from Zimbabwe, and a significant *unmatched* increase in exports to the other SADC countries (see Tables A3-A8). Even to the (questionable) extent that this implies smooth transition in SACU, it does not do so for SACU's trading partners.⁴⁰

SACU's most important trading partners are developed countries (Cassim *et al.*, 2002: 96-7; 106-112). On the other, significant new trade is likely to be with highly labour abundant emerging economies. Further, even to the extent that SACU continues to trade with rich countries, there are signs that it may be following a development path dictated by its resource riches, in the manner described by Leamer *et al.* (1999) (see Section 1.1.4 above).

⁴⁰ Similar instances arise in SIC 3563 (Bearings, Gears, Gearing and Driving Elements) and SIC 3951 (Recycling of Metal Waste and Scrap n.e.c.). In the former case, the same story occurs of an unmatched import increase from Zimbabwe offsetting dominating export increases (although in this case not always totally unmatched) to the other SADC countries. In the latter case, the story is of largely unmatched import increases from the SADC countries, with the exception being the offsetting unmatched export increase to Zimbabwe.

Table 2: Major Sectors with Increasing Intra-Industry Trade^a, in Descending Order of Importance^b

Mauritius	Malawi	Mozambique	Zambia	Zimbabwe	SADC ^c
Other Electrical Equipment n.e.c.	Machinery for Textile, Apparel and Leather Production	Machinery for Mining, Quarrying and Construction	Basic Precious and Non-ferrous Metals	Basic Chemicals, Except Fertilizers and Nitrogen Compounds	Machinery for Mining, Quarrying and Construction
Fertilizers and Nitrogen Compounds	Other Textiles n.e.c.	Lifting and Handling Equipment	Insulated Wire and Cable	Glass and Glass Products	Wearing Apparel, Except Fur Apparel
Medical and Surgical Equipment and Orthopaedic Appliances		Rubber Tyres and Tubes; Retreading and Rebuilding of Rubber Tyres	Bodies (Coachwork) for Motor Vehicles; Trailers and Semitrailers	Veneer Sheets; Plywood, Laminboard, Particle Board and Other Panels and Boards	Lifting and Handling Equipment
Other Special Purpose Machinery		Wearing Apparel, Except Fur Apparel		Machinery for Food, Beverage and Tobacco Processing	Meat products
Jewellery and Related Articles		Machine Tools			Machine Tools
Electricity Distribution and Control Apparatus		Knitted and Crocheted Fabrics and Articles			Bearings, Gears, Gearing and Driving Elements
Non-structural Non-refractory Ceramic-ware		Ovens, Furnaces and Furnace Burners			Medical and Surgical Equipment and Orthopaedic Appliances
					Recycling of Metal Waste and Scrap n.e.c.

- Note: a) Increasing intra-industry trade is defined as i) MIIT lying between -0.65 and 0.65 , ii) provided that dX and dM are positive. Condition ii) ensures that sectors with matched *decreases* in trade are excluded. Matched decreases in trade over the period 1994-2000 are particularly important in SACU's trade with Zimbabwe. See also Note c) in Table 3.
- b) $X+M$ in 2000 is the measure used for "importance". Sectors with less than 25% of average $X+M$ for that country were omitted, as were sectors with matched decreases in trade (declining exports *and* imports).
- c) Tanzania did not have any significant MIIT sectors.

Before we consider the effects of the type of trade growth (intra- versus inter-industry) on the possible smoothness of adjustment, it is worth making a few comments about the MIIT sectors in Table 2. As was noted in Section 2.1, to the extent that increasing trade reflects vertical product differentiation in consumption (based on product quality) or vertical specialisation (trade in intermediates etc), it may actually represent disguised inter-industry specialisation, even when it shows up as MIIT. The lists in Table 2 do seem to be dominated by numerous intermediate production sectors. Further research on the factor intensities of production in some of these sectors would be useful, although the data limitations for such work are likely to be severe.

Table 3: Analysis of Changes in SACU's Trade (4-digit SIC) with SADC and the Rest of the World (Data in Constant 1995 Rmns)

	Mauritius	Malawi	Mozambique	Tanzania	Zambia	Zimbabwe	SADC	ROW
1. Sectors SACU is specialising into ("unmatched" export changes: MIIT > 0.65)								
X+M	963	929	2658	649	2644	2109	10920	67764
UMCIT	492	496	1340	542	1805	1239	4991	33797
Importance	81%	78%	87%	83%	93%	61%	88%	38%
UMCIT share	80%	82%	74%	86%	95%	69%	89%	63%
2. Intra-industry trade change sectors (matched trade changes: $-0.65 \leq \text{MIIT} \leq 0.65$)								
X+M	42.02	37.87	239	2.20	131	827	1066	54409
UMCIT	9.36	6.63	75.18	1.15	26.01	81.58	190	5860
Importance	3.5%	3.2%	7.8%	0.3%	4.6%	24% ^c	8.6%	31%
UMCIT share	1.5%	1.1%	4.2%	0.2%	1.4%	4.5%	3.4%	11%
3. Sectors SACU is specialising away from ("unmatched" import changes: MIIT < -0.65)								
X+M	182	218	154	130	75.88	493	443	55368
UMCIT	113	99.87	386	88.27	75.20	484	455	14204
Importance	15%	18%	5.0%	17%	2.7%	14%	3.6%	31%
UMCIT share	18%	17%	21%	14%	3.9%	27%	8.1%	26%
4. Totals								
X+M	1187	1185	3051	781	2851	3429	12429	177541
UMCIT	615	602	1801	631	1906	1804	5636	53861
Importance	100%	100%	100%	100%	100%	100%	100%	100%
UMCIT share	100%	100%	100%	100%	100%	100%	100%	100%

- Note:
- "Importance" is the share of the sectors in total trade (X+M) in 2000.
 - "UMCIT share" is the sum of unmatched changes in trade for the sectors in question divided by the sum of unmatched changes in trade as a whole.
 - In some sectors intra-industry trade changes reflect matched *decreases* in both exports and imports, rather than matched increases. This is particularly the case for Zimbabwe (see Table A8), but is not important for the other trade partners in our sample. In Table 3 we have followed Brühlhart (1999: 45) in classifying these declining trade sectors as MIIT sectors. Nevertheless, the results for cases like Zimbabwe should be interpreted with caution.

To the extent that increasing trade is genuinely intra-industry, the need for factors to move between industries, and hence the associated adjustment costs, will be lessened. This is illustrated by using the UMCIT measure (see Tables A1-A8 for individual sectors).

Table 3 provides summations of individual (4 digit) UMCIT measures for the three different "types" of trade between SACU and each member of SADC (reflecting different ranges of the MIIT index). First, an MIIT of unity in a particular sector means that changes in SACU exports to the other country are unmatched (in other words, its imports from that country are constant or declining). This is taken to be bilateral inter-industry specialisation of SACU into that sector, with a matched specialisation out of that sector in the partner country. In all the SACU-SADC trade flows, this is the dominant "type" of

trade change at the 4-digit level. This supports the pattern of increasingly unbalanced regional manufacturing trade noted earlier.

Secondly, an MIIT of minus one means that SACU is specialising out of the particular sector. MIITs between unity and minus one indicate a degree of *matched trade*, and imply that a proportion of changes in trade flow are *intra-industry*. 0.65 and -0.65 are used as a cut off rather than unity and minus one (following Parr, 2000), because an MIIT of 0.9, for example, would indicate that changes in trade are predominantly, if not completely, unmatched.

The examples of SACU's trade with Zambia and Mozambique (which seem typical of SACU's trade with SADC countries other than Zimbabwe) illustrate the two most important points about intra-industry trade in the SADC region. SACU-Zambia trade has relatively few MIIT sectors (Table 2). This translates to a low importance as measured in terms of these sectors' share in total trade. Thus, only 4.6% of Zambia's total trade with SACU was in sectors with matched changes in trade (MIIT between 0.65 and -0.65) (Table 3, Row 7). Although Mozambique has a larger number of significant MIIT sectors, the importance of these sectors in total trade is still fairly low (7.8%). Thus, the first important point is that between 1994 and 2000, the bulk of the adjustment within the SADC region was not of the intra-industry variety. Thus the disruptive effect (in terms of factor displacement) is likely to have been high.

The second important point is that, to the extent that changing trade flows are of the intra-industry variety, the disruptive effect seems significantly less. This is captured by comparing UMCIT (our best measure of the disruptive effect of changing trade flows) with "importance". In Zambia for example, we can see that UMCIT is disproportionately low in the MIIT sectors (1.4%) compared to the importance of these sectors in total trade. Indeed there was less disruption in these sectors than in the sectors that SACU is specialising away from (and Zambia into). This is despite the former sectors having a greater share in total trade (X+M) than the latter.

The patterns of intra- versus inter-sectoral trade changes examined in this section suggest that trade expansion between SACU and its SADC partners has primarily been inter-industry in nature in the period 1994 to 2000. This suggests that policies to encourage intra-industry specialisation may have to be actively pursued if the region wishes to take advantage of the potential for lower adjustment costs as trade barriers are reduced.⁴¹ The existence of supply constraints in less developed member countries further underscores the need for a regional industrial development policy in this regard. The research to date has also indicated that care must be taken when attempting to assess regional patterns of specialisation, both in the choice of indices used to measure inter- and intra-sectoral trade expansion, as well as in the degree of aggregation allowed both across countries and at the sectoral level.

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A precedent for this is the specific focus by policymakers on the promotion of intra-industry trade in Latin American integration schemes (see Behar, 1991: 531, discussed in Section 2.2 above). The question of which regional integration policies are most likely to stimulate intra-industry specialisation needs to be carefully explored for the SADC case.

2.3.3 *Future Research*

Future research will explore changes in intra- and inter-industry trade more specifically in relation to the changing patterns of protection that have occurred and will be occurring as implementation of the SADC FTA and other liberalisations proceed. For example, more detailed consideration of the link between liberalisation and changes in intra-industry trade would be facilitated by comparing IIT changes in sectors which have been significantly liberalised as a result of recent trade agreements, those subject to slower liberalisation, and those in which trade is already effectively tariff-free. The intention to include an analysis of bilateral trade flows between other SADC countries and alternative time periods has already been mentioned.

Attention will then shift to the proposition that industries undergo easier structural adjustment when trade expansion is intra-industry in nature. This will involve testing the correlation between the extent of intra-industry specialisation and proxies for labour market adjustment. Hamilton and Kniest (1991: 363-365) propose a number of indicators of structural change in an industry: changes in the number of establishments, changes in employment, changes in turnover (as a proxy for output), and changes in turnover per employee.⁴² Such measures are used to assess patterns of structural adjustment in response to the formation of the Australia-New Zealand free trade agreement, but the authors do not attempt a formal correlation between changes in intra-industry trade and structural adjustment indicators.

Such a correlation is investigated by Brühlhart (2001), however. His analysis of the smooth adjustment hypothesis in the context of Irish manufacturing draws on plant-level industrial employment data, and corresponding industry-level production and trade data. The rate of intra-industry job turnover is used as a (qualified) proxy for labour-market adjustment. The data requirements for a similar exercise are likely to be prohibitive for most southern African countries, but perhaps may be attempted for South Africa in the first instance.

3 CONCLUSION AND POLICY IMPLICATIONS

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 and specialisation between a group of developing countries, such as those in SADC, may be

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They expect that smaller net changes in the number of establishments, employment and turnover per employee would follow intra-industry adjustment.

very low, regional integration could specifically be aimed at stimulating intra- rather than inter-industry trade expansion.

In the process of development, countries strive to *change* their factor endowments, production structures, income levels and patterns of demand. Heckscher-Ohlin theory, with its story of inter-industry specialisation along the lines of static comparative advantage, is not very appealing in this regard. Stewart (1984: 104-105) argues that developing countries would benefit by actively pursuing the types of trade described in the new trade theories, particularly by developing trade links regionally and with other countries in the South.

However, the stimulation of regional trade, whether inter-or intra-industry, will require more than just tariff reductions. Significant attention needs to be paid by policy-makers to non-tariff barriers, in particular infrastructural inadequacies, border delays and other administrative constraints and inefficiencies in the SADC region, as well as the supply constraints of less developed member countries.

It seems probable that much adjustment to trade expansion between the countries of the region will be inter-industry and even polarising in nature. Policies that ease resource reallocation costs in such sectors will be essential. These should include policies that increase inter-industrial labour mobility and/or reduce unemployment duration (Elliot and Lindley, 2001). In this way, potential adverse poverty outcomes may be ameliorated.

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APPENDIX A: SACU'S REGIONAL TRADE FLOWS (4-digit SIC level)

Table A1: Trade between SACU and ROW (constant 1995 prices, R1000s)										
	SIC4	Exp1994	Imp1994	Exp2000	Imp2000	GL00 (%)	d(Exp)	d(Imp)	MIIT (94-00)	UMCIT
Meat products	3011	435268	724553	363732	564823	78	-71537	-159730	0.38	88193
Fish products	3012	751883	440576	787745	233444	46	35862	-207132	1.00	242995
Fruit and vegetable products	3013	976380	70226	1564421	174869	20	588040	104643	0.70	483397
Vegetable and Animal Oils and Fats	3014	105626	924580	65948	990800	12	-39678	66220	-1.00	105898
Dairy Products	3020	49450	85005	56080	235249	38	6630	150245	-0.92	143614
Grain Mill Products	3031	114490	480801	88643	638291	24	-25847	157491	-1.00	183338
Starches and Starch Products	3032	21563	78572	83952	74360	94	62388	-4212	1.00	66600
Prepared Animal Feeds	3033	4077	37051	11976	126460	17	7898	89409	-0.84	81511
Bakery Products	3041	21070	12353	13573	42051	49	-7497	29697	-1.00	37194
Sugar, Including Golden Syrup and Cast	3042	401748	22957	1025461	5151	1	623713	-17806	1.00	641519
Cocoa, Chocolate and Sugar Confection	3043	123571	97562	132177	164550	89	8606	66987	-0.77	58381
Macaroni, Noodles, Couscous and Simil	3044	1141	22736	1811	25843	13	670	3106	-0.65	2437
Other Food Products N.e.c.	3049	37605	169005	146042	333030	61	108437	164025	-0.20	55588
Distilling, Rectifying and Blending of Spi	3051	477970	350557	1391790	258247	31	913819	-92310	1.00	1006130
Beer and Other Malt Liquors and Malt	3052	94546	98013	47491	81519	74	-47056	-16494	-0.48	30562
Soft Drinks; Mineral Waters	3053	49915	7405	120297	56556	64	70382	49151	0.18	21231
Tobacco Products	3060	61402	60813	126955	13140	19	65553	-47672	1.00	113225
Preparation and Spinning of Textile Fibr	3111	694726	1511653	653022	1281593	68	-41704	-230059	0.69	188356
Made-up Textile Articles, Except Apparel	3121	37284	115837	84703	190200	62	47419	74363	-0.22	26944
Carpets, Rugs and Mats	3122	71036	66388	65509	95475	81	-5527	29088	-1.00	34615
Cordage, Rope, Twine and Netting	3123	2304	15335	9038	20463	61	6735	5128	0.14	1606
Other Textiles N.e.c.	3129	49587	435633	132410	473419	44	82824	37785	0.37	45038
Knitted and Crocheted Fabrics and Artic	3130	54625	221671	222508	293644	86	167883	71973	0.40	95910
Wearing Apparel, Except Fur Apparel	3140	349946	395984	794115	713800	95	444170	317816	0.17	126354
Dressing and Dyeing of Fur; Articles of f	3150	12866	307	4345	901	34	-8520	594	-1.00	9114
Tanning and Dressing of Leather	3161	470821	334993	872826	379815	61	402005	44822	0.80	357183
Luggage, Handbags, etc, Saddlery and	3162	54796	133383	42925	208391	34	-11871	75008	-1.00	86879
Footwear	3170	62401	454809	33029	865125	7	-29372	410316	-1.00	439688
Sawmilling and Planing of Wood	3210	393888	356438	936002	331222	52	542114	-25217	1.00	567330
Veneer Sheets; Plywood, Laminboard, P	3221	88537	83053	138814	136764	99	50277	53711	-0.03	3434
Builders' Carpentry and Joinery	3222	162081	6745	193517	25535	23	31436	18791	0.25	12645
Wooden Containers	3223	27891	10350	69979	80425	93	42087	70075	-0.25	27988
Other Products of Wood; Articles of Cor	3229	45716	86018	96267	164100	74	50551	78082	-0.21	27531
Pulp, Paper and Paperboard	3231	2313748	1787230	3686142	1235632	50	1372394	-551598	1.00	1923992
Corrugated Paper and Paperboard and c	3232	61561	20489	71884	23772	50	10323	3283	0.52	7040
Other Articles of Paper and Paperboard	3239	25796	198657	137327	253459	70	111530	54801	0.34	56729
Publishing of Books, Brochures, Musical	3241	11890	548288	36739	395205	17	24848	-153083	1.00	177932
Publishing of Newspapers, Journals and	3242	644	39040	6207	40285	27	5563	1245	0.63	4318
Publishing of Recorded Media	3243	6965	883263	21094	597331	7	14129	-285932	1.00	300061
Other Publishing	3249	35047	47475	48039	71681	80	12991	24206	-0.30	11214
Printing	3251	7434	101478	49922	66694	86	42488	-34784	1.00	77272
Service Activities Related to Printing	3252	429	9003	3254	7432	61	2825	-1570	1.00	4396
Coke Oven Products	3310	20146	106	588	44666	3	-19558	44560	-1.00	64118
Petrol, Fuel Oils, Lubricating Oils and G	3321	1485700	522086	2735139	457700	29	1249439	-64386	1.00	1313825
Processing of Nuclear Fuel	3330	156542	25689	106449	102375	98	-50093	76685	-1.00	126778
Basic Chemicals, Except Fertilizers and	3341	3349017	3690818	5293362	4374298	90	1944345	683480	0.48	1260865
Fertilizers and Nitrogen Compounds	3342	202322	214865	386172	724199	70	183850	509334	-0.47	325484
Plastics in Primary Form and of Syntheti	3343	275669	1565761	494061	2375589	34	218392	809829	-0.58	591437
Pesticides and Other Agro-chemical Pro	3351	224087	317887	402026	516848	88	177939	198961	-0.06	21021
Paints, Varnishes and Similar Coatings,	3352	37415	198995	175806	346289	67	138392	147294	-0.03	8902
Pharmaceuticals, Medicinal Chemicals a	3353	110574	2148636	332135	2927698	20	221561	779062	-0.56	557500
Soap and Detergents, Cleaning and Poli	3354	83785	308769	275492	516118	70	191707	207349	-0.04	15642
Other Chemical Products N.e.c.	3359	86904	1875852	452511	2179653	34	365606	303801	0.09	61806
Man-made Fibres	3360	219147	439285	286864	440944	79	67717	1659	0.95	66058
Rubber Tyres and Tubes; Retreading an	3371	97426	316107	383485	627135	76	286058	311027	-0.04	24969
Other Rubber Products	3379	21033	381009	98608	600790	28	77575	219780	-0.48	142205
Plastic Products	3380	159418	971258	396571	1191314	50	237152	220055	0.04	17097
Glass and Glass Products	3411	125529	369564	284853	452985	77	159324	83421	0.31	75903
Non-structural Non-refractory Ceramicw	3421	8278	123641	25004	417232	11	16726	293592	-0.89	276865
Refractory Ceramic Products	3422	21290	205904	12593	294215	8	-8697	88310	-1.00	97007
Structural Non-refractory Clay and Cerar	3423	4881	177560	13812	136527	18	8931	-41032	1.00	49964
Cement, Lime and Plaster	3424	38933	32402	22386	31312	83	-16547	-1090	-0.88	15457

Table A1 (cont): Trade between SACU and ROW (constant 1995 prices, R1000s)

SIC4	Exp1994	Imp1994	Exp2000	Imp2000	GL00 (%)	d(Exp)	d(Imp)	MIT (94-00)	UMCIT	
Articles of Concrete, Cement and Plaste	3425	9321	5021	21397	6710	48	12076	1689	0.75	10387
Stone: cutting, Shaping and Finishing	3426	156486	9173	306735	38116	22	150249	28942	0.68	121306
Other Non-metallic Mineral Products N.e.c.	3429	59743	186775	82182	246671	50	22439	59896	-0.45	37457
Basic Iron and Steel	3510	8967395	1247879	12185837	1220553	18	3218441	-27326	1.00	3245767
Basic Precious and Non-ferrous Metals	3520	29873386	873921	26970716	2514730	17	-2902669	1640809	-1.00	4543479
Structural Metal Products	3541	151566	22180	290700	46537	28	139134	24356	0.70	114778
Tanks, Reservoirs and Similar Container	3542	143064	34927	46069	32226	82	-96995	-2702	-0.95	94294
Steam Generators, Except Central Heati	3543	4942	31941	16440	15347	97	11498	-16594	1.00	28091
Cutlery, Hand Tools and General Hardw	3553	148637	654685	731913	672224	96	583275	17539	0.94	565736
Other Fabricated Metal Products N.e.c.	3559	314535	956161	548290	968968	72	233754	12807	0.90	220948
Engines and Turbines, Except Aircraft, v	3561	31563	278629	61011	308531	33	29448	29902	-0.01	454
Pumps, Compressors, Taps and Valves	3562	73981	1524928	196911	1818673	20	122930	293745	-0.41	170815
Bearings, Gears, Gearing and Driving El	3563	66764	1115642	219114	1277123	29	152350	161481	-0.03	9131
Ovens, Furnaces and Furnace Burners	3564	14976	130930	19579	202155	18	4603	71225	0.85	66622
Lifting and Handling Equipment	3565	93558	410894	136738	785515	30	43180	374621	-0.79	331441
Other General Purpose Machinery	3569	382468	1719262	3883496	2241450	73	3501028	522188	0.74	2978840
Agricultural and Forestry Machinery	3571	18434	731077	54383	694679	15	35949	-36398	1.00	72347
Machine Tools	3572	72010	1028007	155984	1344002	21	83974	315995	-0.58	232021
Machinery for Metallurgy	3573	8776	928051	32237	174382	31	23460	-753669	1.00	777129
Machinery for Mining, Quarrying and Cor	3574	188204	1191756	696451	1861526	54	508247	669770	-0.14	161523
Machinery for Food, Beverage and Tobac	3575	19218	285487	114504	365468	48	95286	79981	0.09	15305
Machinery for Textile, Apparel and Leath	3576	10904	845079	28595	724226	8	17691	-120853	1.00	138544
Weapons and Ammunition	3577	7889	0	137399	4164	6	129511	4164	0.94	125346
Other Special Purpose Machinery	3579	149071	2408520	268738	2646361	18	119667	237841	-0.33	118174
Household Appliances N.e.c.	3580	25885	599193	57709	807364	13	31824	208171	-0.73	176347
Office, Accounting and Computing Mach	3590	53690	4350606	315620	6078145	10	261929	1727539	-0.74	1465610
Electric Motors, Generators and Transf	3610	62787	805713	308974	688862	62	246187	-116851	1.00	363038
Electricity Distribution and Control Appa	3620	105570	1342869	178368	1103974	28	72798	-238894	1.00	311692
Insulated Wire and Cable	3630	59053	191630	101801	248807	58	42749	57177	-0.14	14429
Accumulators, Primary Cells and Primar	3640	33889	175035	88994	236454	55	55105	61419	-0.05	6315
Electric Lamps and Lighting Equipment	3650	12137	300266	47338	319553	26	35201	19287	0.29	15914
Other Electrical Equipment N.e.c.	3660	130314	1234735	541102	809788	80	410789	-424948	1.00	835736
Electronic Valves and Tubes and Other I	3710	54892	1225528	89727	1706301	10	34835	480773	0.86	445938
Other Electrical Equipment N.e.c. Electr	3720	96330	2374371	581776	6756482	16	485447	4382111	-0.80	3896664
Television and Radio Receivers, Sound	3730	13408	912634	261740	2184393	21	248333	1271759	-0.67	1023426
Medical and Surgical Equipment and Ort	3741	27325	990615	105392	1183131	16	78068	192516	-0.42	114448
Instruments and Appliances for Measurir	3742	100845	1313004	222538	1402908	27	121693	89904	0.15	31789
Industrial Process Control Equipment	3743	16538	338495	72127	282563	41	55589	-55932	1.00	111521
Optical Instruments and Photographic E	3750	18041	356609	73371	511772	25	55329	155164	-0.47	99834
Watches and Clocks	3760	4443	192028	6203	189838	6	1760	-2190	1.00	3950
Motor Vehicles	3810	286927	6253011	5624721	3017959	70	5337794	-3235052	1.00	8572847
Bodies (Coachwork) for Motor Vehicles;	3820	560872	239815	1821952	59209	6	1261080	-180606	1.00	1441686
Parts and Accessories for Motor Vehicle	3830	805533	4061809	1767868	1204632	81	962335	-2857177	1.00	3819512
Building and Repairing of Ships	3841	3920	48269	8983	26833	50	5063	-21436	1.00	26499
Building and Repairing of Pleasure and t	3842	44308	8397	291499	18039	12	247191	9642	0.92	237550
Railway and Tramway Locomotives and	3850	55100	21553	88882	30364	51	33782	8811	0.59	24970
Aircraft and Spacecraft	3860	148133	1656393	753392	2570473	45	605260	914080	-0.20	308821
Motor Cycles	3871	1724	58793	6623	143027	9	4899	84234	-0.89	79335
Bicycles and Invalid Carriages	3872	4667	98102	4073	83108	9	-593	-14994	0.92	14401
Other Transport Equipment N.e.c.	3879	2279	3213	2205	2583	92	-74	-630	0.79	557
Furniture	3910	678938	135995	1702494	429684	40	1023557	293690	0.55	729867
Jewellery and Related Articles	3921	1628461	592299	2197247	297354	24	568786	-294945	1.00	863731
Musical Instruments	3922	12518	42381	3106	31309	18	-9412	-11072	0.08	1660
Sports Goods	3923	17385	164081	25927	232817	20	8543	68736	-0.78	60194
Games and Toys	3924	6326	185905	17674	457081	7	11348	271177	-0.92	259829
Other Manufacturing N.e.c.	3929	77703	396597	126445	425636	46	48742	29039	0.25	19703
Recycling of Metal Waste and Scrap N.e.c.	3951	297804	8845	1426096	22053	3	1128292	13209	0.98	1115084
Recycling of Non-metal Waste and Scrap	3952	92059	110909	188729	107920	73	96670	-2990	1.00	99660
MANUFACTURING TOTAL		62004515	72843107	92931740	84609391		30927225	11766284		19160941
GRAND TOTAL		90995850	81035354	126412598	117471012		35416747	36435659		1018911

Table A2: Trade between SACU and SADC (constant 1995 prices, R1000s)										
	SIC4	Exp94	Imp94	Exp00	Imp00	GL00 (%)	d(Exp)	d(Imp)	MIIT (94-00)	UMCIT
Meat products	3011	31208	9113	51573	36329	83	20365	27216	-0.14	6851
Fish products	3012	46146	15980	57517	18249	48	11371	2269	0.67	9102
Fruit and vegetable products	3013	32088	6023	74654	6171	15	42566	148	0.99	42418
Vegetable and Animal Oils	3014	43749	42301	104066	21186	34	60318	-21115	1.00	81432
Dairy Products	3020	73920	14708	92154	2847	6	18234	-11861	1.00	30094
Grain Mill Products	3031	75400	3774	88726	1339	3	13326	-2435	1.00	15761
Starches and Starch Products	3032	2730	9843	7015	73	2	4285	-9770	1.00	14055
Prepared Animal Feeds	3033	21240	7133	11209	1083	18	-10031	-6050	-0.25	3980
Bakery Products	3041	16155	4104	18090	808	9	1935	-3297	1.00	5232
Sugar, Including Golden Syrup	3042	62325	12686	217154	3295	3	154830	-9391	1.00	164221
Cocoa, Chocolate and Sugar Confectionery	3043	49426	9304	63815	1314	4	14388	-7990	1.00	22378
Macaroni, Noodles, Couscous and Other Food Products N.e.c.	3049	56077	11298	146194	2938	4	90116	-8360	1.00	98476
Distilling, Rectifying and Blending of Spirits	3051	37866	182	64211	154	0	26346	-28	1.00	26374
Beer and Other Malt Liquor	3052	85257	8263	21248	75	1	-64009	-8188	-0.77	55820
Soft Drinks; Mineral Water	3053	76566	40	55564	45	0	-21003	5	-1.00	21008
Tobacco Products	3060	16931	2450	144353	1255	2	127422	-1195	1.00	128618
Preparation and Spinning of Textiles	3111	46158	88146	134690	36247	42	88532	-51898	1.00	140431
Made-up Textile Articles, Except Carpets, Rugs and Mats	3121	28417	23741	46217	15573	50	17800	-8168	1.00	25969
Carpets, Rugs and Mats	3122	16836	259	10516	99	2	-6320	-160	-0.95	6160
Cordage, Rope, Twine and Other Textiles N.e.c.	3123	2912	132	2660	3399	88	-252	3267	-1.00	3519
Knitted and Crocheted Fabrics	3130	25600	1466	44056	563	3	18455	-903	1.00	19358
Wearing Apparel, Except Fur	3140	44101	30550	18920	16961	95	-25181	-13588	-0.30	11593
Dressing and Dyeing of Fur	3150	24585	76096	64800	89536	84	40215	13441	0.50	26774
Tanning and Dressing of Leather Goods, Handbags, etc.	3161	163	235	529	0	0	366	-235	1.00	601
Footwear	3170	858	23197	1098	3948	44	239	-19249	1.00	19488
Sawmilling and Planing of Wood	3210	923	13907	4302	6937	77	3378	-6969	1.00	10348
Veneer Sheets; Plywood, Laminated Wood and Builders' Carpentry and Joinery	3221	11601	37186	25503	14276	72	13902	-22910	1.00	36812
Wooden Containers and Other Products of Wood; Articles of Straw, Rattan, Bamboo or Similar Materials	3223	7378	57124	26380	46279	73	19002	-10845	1.00	29847
Pulp, Paper and Paperboard	3231	17120	19596	30156	17177	73	13036	-2419	1.00	15455
Corrugated Paper and Paperboard	3232	36702	10080	16886	410	5	-19817	-9670	-0.34	10146
Other Articles of Paper and Paperboard	3233	956	258	3980	10	0	3023	-248	1.00	3272
Publishing of Books, Brochures, Newspapers, Journals and Other Periodicals	3241	3534	586	9165	1836	33	5631	1250	0.64	4381
Publishing of Newspapers, Journals and Other Periodicals	3242	180265	9557	256292	7010	5	76026	-2547	1.00	78573
Other Publishing	3249	253713	5401	69366	532	2	-184347	-4869	-0.95	179478
Printing	3251	44180	497	93657	646	1	49476	149	0.99	49327
Service Activities Related to Trade	3252	17794	997	37979	534	3	20186	-463	1.00	20649
Coke Oven Products	3310	5343	237	8840	1	0	3497	-236	1.00	3734
Petrol, Fuel Oils, Lubricating Oils and Greases	3321	5284	97	4812	192	8	-472	96	-1.00	568
Processing of Nuclear Fuel	3330	48988	786	3806	756	33	-45181	-31	-1.00	45150
Basic Chemicals, Except Fertilizers and Nitrogen Compounds	3341	15476	2415	54452	1012	4	38976	-1402	1.00	40379
Fertilizers and Nitrogen Compounds	3342	1293	19	2406	1	0	1112	-18	1.00	1130
Plastics in Primary Forms and Shapes	3343	4780	4020	3832	24953	27	-948	20933	-1.00	21881
Pesticides and Other Agrochemicals	3351	910762	22	1585497	243	0	674735	221	1.00	674514
Paints, Varnishes and Similar Products	3352	164	0	90	5	11	-74	5	-1.00	79
Pharmaceuticals, Medicinal and Allied Chemicals	3353	248645	11125	379947	16049	8	131302	4924	0.93	126378
Soap and Detergents, Cleaners and Other Chemical Products N.e.c.	3354	185900	1417	340495	1414	1	154596	-3	1.00	154599
Man-made Fibres	3360	191253	1453	315467	4225	3	124213	2771	0.96	121442
Rubber Tyres and Tubes; Other Rubber Products	3371	105463	2237	129011	864	1	23549	-1373	1.00	24922
Plastic Products	3380	37418	1497	52371	22	0	14952	-1475	1.00	16427
Glass and Glass Products	3411	82234	11816	279140	6995	5	196906	-4821	1.00	201727
Non-structural Non-refractory Ceramic Products	3421	123102	3541	223635	994	1	100533	-2547	1.00	103080
Refractory Ceramic Products	3422	167491	4236	368729	1813	1	201238	-2424	1.00	203661
Structural Non-refractory Ceramic Products	3423	20513	58	21840	14	0	1327	-44	1.00	1371
Cement, Lime and Plaster	3424	89429	12406	111607	13160	21	22178	754	0.93	21424
Glass and Glass Products	3411	52485	2899	80153	6673	15	27669	3775	0.76	23894
Non-structural Non-refractory Ceramic Products	3421	15477	1237	20583	186	2	5106	-1052	1.00	6158
Refractory Ceramic Products	3422	20648	393	41882	596	3	21234	203	0.98	21031
Structural Non-refractory Ceramic Products	3423	7351	400	19417	537	5	12066	137	0.98	11929
Cement, Lime and Plaster	3424	45683	28416	87440	14	0	41757	-28401	1.00	70159

Table A2(cont): Trade between SACU and SADC (constant 1995 prices, R1000s)										
	SIC4	Exp94	Imp94	Exp00	Imp00	GL00 (%)	d(Exp)	d(Imp)	MIIT (94-00)	UMCIT
Articles of Concrete, Ceme	3425	13237	5295	14158	6242	61	920	947	-0.01	26
Stone: cutting, Shaping anc	3426	2208	89	2591	4173	77	384	4084	-0.83	3700
Other Non-metallic Mineral	3429	21783	511	47941	200	1	26159	-310	1.00	26469
Basic Iron and Steel	3510	564949	46193	643556	37649	11	78607	-8544	1.00	87151
Basic Precious and Non-fer	3520	156136	60107	110646	100735	95	-45490	40628	-1.00	86117
Structural Metal Products	3541	60403	10943	367978	8015	4	307575	-2928	1.00	310502
Tanks, Reservoirs and Simi	3542	20844	1215	18970	550	6	-1874	-665	-0.48	1209
Steam Generators, Except	3543	8349	95	16425	251	3	8076	156	0.96	7920
Cutlery, Hand Tools and G	3553	56619	3542	126556	1102	2	69937	-2439	1.00	72377
Other Fabricated Metal Pro	3559	102489	44410	217011	34844	28	114521	-9566	1.00	124087
Engines and Turbines, Excc	3561	42369	1336	14555	1055	14	-27813	-281	-0.98	27532
Pumps, Compressors, Tap	3562	105029	2459	182172	6995	7	77143	4536	0.89	72607
Bearings, Gears, Gearinq a	3563	37558	594	44245	2331	10	6687	1738	0.59	4949
Ovens, Furnaces and Furn	3564	13658	199	23438	1406	11	9780	1207	0.78	8572
Lifting and Handling Equipn	3565	91899	1171	110046	43604	57	18146	42432	-0.40	24286
Other General Purpose Ma	3569	117572	8676	211131	4212	4	93559	-4463	1.00	98022
Agricultural and Forestry M	3571	49459	11340	66577	7637	21	17119	-3703	1.00	20822
Machine Tools	3572	50924	1446	68302	7245	19	17377	5798	0.50	11579
Machinery for Metallurgy	3573	1016	177	4866	54	2	3850	-123	1.00	3972
Machinery for Mining, Quar	3574	154460	4401	292932	63819	36	138472	59418	0.40	79054
Machinery for Food, Bever	3575	32429	1136	78051	1134	3	45622	-2	1.00	45625
Machinery for Textile, Appa	3576	8695	3782	18339	3144	29	9645	-638	1.00	10282
Weapons and Ammunition	3577	88	0	835	1	0	746	1	1.00	746
Other Special Purpose Mac	3579	58707	1327	102362	1829	4	43655	502	0.98	43153
Household Appliances N.e.	3580	51989	2568	95467	3964	8	43478	1396	0.94	42082
Office, Accounting and Con	3590	41749	2509	186701	2713	3	144952	204	1.00	144748
Electric Motors, Generators	3610	50716	1802	78951	2719	7	28235	917	0.94	27318
Electricity Distribution and (3620	48955	2094	100399	2851	6	51444	757	0.97	50687
Insulated Wire and Cable	3630	30725	19427	59536	23248	56	28811	3821	0.77	24990
Accumulators, Primary Cell	3640	14703	2778	30782	1772	11	16079	-1005	1.00	17084
Electric Lamps and Lightinq	3650	18687	613	27763	1023	7	9076	410	0.91	8666
Other Electrical Equipment	3660	32467	354	70321	219	1	37853	-134	1.00	37988
Electronic Valves and Tube	3710	5274	137	32644	244	1	27370	107	0.99	27263
Other Electrical Equipment	3720	13545	497	113830	4966	8	100285	4469	0.91	95816
Television and Radio Recei	3730	13792	14580	86340	1328	3	72548	-13252	1.00	85800
Medical and Surgical Equip	3741	30416	822	38284	3777	18	7868	2955	0.45	4913
Instruments and Appliances	3742	25532	1661	65676	1814	5	40144	154	0.99	39990
Industrial Process Control E	3743	10723	27	7204	160	4	-3519	133	-1.00	3652
Optical Instruments and Ph	3750	5411	438	16014	224	3	10603	-213	1.00	10817
Watches and Clocks	3760	1027	116	2460	817	50	1433	701	0.34	732
Motor Vehicles	3810	540850	28531	668385	28058	8	127536	-473	1.00	128009
Bodies (Coachwork) for Mc	3820	33439	5368	52474	2916	11	19035	-2451	1.00	21486
Parts and Accessories for M	3830	93803	2855	182588	3134	3	88785	279	0.99	88506
Building and Repairing of S	3841	3260	26	3478	143	8	218	116	0.30	102
Building and Repairing of P	3842	2425	206	5223	76	3	2798	-130	1.00	2927
Railway and Tramway Locc	3850	17759	1170	24653	1180	9	6894	11	1.00	6883
Aircraft and Spacecraft	3860	5976	9645	13717	1250	17	7741	-8395	1.00	16136
Motor Cycles	3871	1436	46	12104	9	0	10668	-37	1.00	10706
Bicycles and Invalid Carriag	3872	1883	260	6576	53	2	4693	-207	1.00	4899
Other Transport Equipment	3879	1615	414	5222	13	0	3607	-401	1.00	4008
Furniture	3910	66194	37811	83027	32051	56	16833	-5761	1.00	22594
Jewellery and Related Artic	3921	2896	3067	4782	1527	48	1885	-1540	1.00	3426
Musical Instruments	3922	1234	118	2553	165	12	1319	47	0.93	1272
Sports Goods	3923	3493	140	6398	107	3	2906	-33	1.00	2939
Games and Toys	3924	3360	98	5863	142	5	2503	44	0.97	2459
Other Manufacturing N.e.c.	3929	23822	3732	49860	1707	7	26038	-2025	1.00	28063
Recycling of Metal Waste a	3951	183	18392	3789	22211	29	3606	3819	-0.03	212
Recycling of Non-metal Wa	3952	8068	9410	27079	9671	53	19011	261	0.97	18750
MANUFACTURING TOTAL		6981738	1036568	11492160	936541		4510422	-100027		4610449
GRAND TOTAL		7243038	1502594	12052487	1455551		4809449	-47043		4856492

Table A3: Trade between SACU and Mauritius (constant 1995 prices, R1000s)

	SIC4	Exp1994	Imp1994	Exp2000	Imp2000	GL00 (%)	d(Exp)	d(Imp)	MIT (94-00)	UMCIT
Meat products	3011	542	0	2498	0	0	1956	0	1.00	1956
Fish products	3012	10590	0	14415	0	0	3825	0	1.00	3825
Fruit and vegetable products	3013	14311	0	14681	0	0	370	0	1.00	370
Vegetable and Animal Oils and Fats	3014	5730	0	9767	27	1	4037	27	0.99	4010
Dairy Products	3020	2927	0	9997	35	1	7070	35	0.99	7035
Grain Mill Products	3031	1285	0	1297	0	0	12	0	1.00	12
Starches and Starch Products	3032	407	0	1399	41	6	992	41	0.92	951
Prepared Animal Feeds	3033	1510	0	710	0	0	-800	0	-1.00	800
Bakery Products	3041	2627	0	1125	46	8	-1502	46	-1.00	1548
Sugar, Including Golden Syrup and Cast	3042	12	2861	48423	0	0	48412	-2861	1.00	51272
Cocoa, Chocolate and Sugar Confection	3043	20370	0	3113	2	0	-17257	2	-1.00	17259
Macaroni, Noodles, Couscous and Simil	3044	17	0	0	12	0	-17	12	-1.00	28
Other Food Products N.e.c.	3049	10670	4	35674	86	0	25003	81	0.99	24922
Distilling, Rectifying and Blending of Spi	3051	3537	7	7387	15	0	3850	8	1.00	3842
Beer and Other Malt Liquors and Malt	3052	274	0	156	0	0	-119	0	-1.00	119
Soft Drinks; Mineral Waters	3053	10637	0	1150	31	5	-9488	31	-1.00	9518
Tobacco Products	3060	0	0	64	0	0	64	0	1.00	64
Preparation and Spinning of Textile Fibr	3111	12853	1191	79968	3174	8	67114	1983	0.94	65131
Made-up Textile Articles, Except Appare	3121	646	2	828	1	0	182	-1	1.00	183
Carpets, Rugs and Mats	3122	1664	66	381	65	29	-1283	-1	-1.00	1282
Cordage, Rope, Twine and Netting	3123	89	0	107	0	0	19	0	1.00	19
Other Textiles N.e.c.	3129	2941	62	3882	25	1	941	-36	1.00	977
Knitted and Crocheted Fabrics and Artic	3130	1726	32	1276	678	69	-450	646	-1.00	1097
Wearing Apparel, Except Fur Apparel	3140	1429	524	1064	4261	40	-364	3737	-1.00	4101
Dressing and Dyeing of Fur; Articles of F	3150	41	0	2	0	0	-39	0	-1.00	39
Tanning and Dressing of Leather	3161	54	0	10	0	0	-44	0	-1.00	44
Luggage, Handbags, etc., Saddlery and F	3162	10	0	106	10	17	96	10	0.81	86
Footwear	3170	299	168	1068	0	0	768	-168	1.00	936
Sawmilling and Planing of Wood	3210	4468	429	6194	0	0	1726	-429	1.00	2156
Veneer Sheets; Plywood, Laminboard, F	3221	4496	0	8157	0	0	3661	0	1.00	3661
Builders' Carpentry and Joinery	3222	672	0	603	0	0	-69	0	-1.00	69
Wooden Containers	3223	0	0	325	0	0	325	0	1.00	325
Other Products of Wood; Articles of Cor	3229	705	35	589	89	26	-116	54	-1.00	170
Pulp, Paper and Paperboard	3231	27868	281	28926	60	0	1058	-221	1.00	1279
Corrugated Paper and Paperboard and	3232	3322	0	1653	0	0	-1669	0	-1.00	1669
Other Articles of Paper and Paperboard	3239	2779	24	1364	375	43	-1415	351	-1.00	1766
Publishing of Books, Brochures, Musica	3241	476	26	727	236	49	252	210	0.09	42
Publishing of Newspapers, Journals and	3242	0	0	952	0	0	952	0	1.00	952
Publishing of Recorded Media	3243	246	11	977	6	1	731	-5	1.00	736
Other Publishing	3249	48	461	252	734	51	203	273	-0.15	70
Printing	3251	280	15	461	38	15	181	23	0.77	158
Service Activities Related to Printing	3252	36	17	15	1	7	-21	-17	-0.11	4
Coke Oven Products	3310	0	0	8	0	0	8	0	1.00	8
Petrol, Fuel Oils, Lubricating Oils and G	3321	203278	1	369243	0	0	165965	-1	1.00	165966
Processing of Nuclear Fuel	3330	0	0	14	0	0	14	0	1.00	14
Basic Chemicals, Except Fertilizers and	3341	16798	321	19356	529	5	2558	208	0.85	2350
Fertilizers and Nitrogen Compounds	3342	3223	0	5239	1211	38	2017	1211	0.25	806
Plastics in Primary Form and of Syntheti	3343	21836	66	19846	78	1	-1990	12	-1.00	2003
Pesticides and Other Agro-chemical Prc	3351	15915	0	19069	201	2	3154	201	0.88	2953
Paints, Varnishes and Similar Coatings	3352	4168	0	5389	2	0	1221	2	1.00	1219
Pharmaceuticals, Medicinal Chemicals	3353	9221	29	17598	27	0	8377	-3	1.00	8380
Soap and Detergents, Cleaning and Pol	3354	6044	40	9909	304	6	3865	263	0.87	3601
Other Chemical Products N.e.c.	3359	5565	12	12802	354	5	7237	342	0.91	6895
Man-made Fibres	3360	1119	0	1033	12	2	-86	12	-1.00	98
Rubber Tyres and Tubes; Retreading ar	3371	5639	2	7464	33	1	1825	31	0.97	1794
Other Rubber Products	3379	1169	7	1651	12	1	482	5	0.98	477
Plastic Products	3380	12161	48	34727	20	0	22567	-28	1.00	22595
Glass and Glass Products	3411	11923	8	3748	26	1	-8174	18	-1.00	8193
Non-structural Non-refractory Ceramicw	3421	3136	8	3316	76	4	180	67	0.46	113
Refractory Ceramic Products	3422	390	0	104	1	2	-286	1	-1.00	287
Structural Non-refractory Clay and Cera	3423	363	0	1192	508	60	829	508	0.24	321
Cement, Lime and Plaster	3424	466	0	306	0	0	-159	0	-1.00	159

Table A3 (cont): Trade between SACU and Mauritius (constant 1995 prices, R1000s)

	SIC4	Exp1994	Imp1994	Exp2000	Imp2000	GL00 (%)	d(Exp)	d(Imp)	MIT (94-00)	UMCIT
Articles of Concrete, Cement and Plaster	3425	1921	0	1059	0	0	-863	0	-1.00	863
Stone: cutting, Shaping and Finishing	3426	1263	0	447	0	0	-816	0	-1.00	816
Other Non-metallic Mineral Products N.e.c.	3429	755	0	1719	0	0	964	0	1.00	964
Basic Iron and Steel	3510	113407	29	72965	513	1	-40442	484	-1.00	40926
Basic Precious and Non-ferrous Metals	3520	6294	444	9961	0	0	3667	-444	1.00	4111
Structural Metal Products	3541	11243	0	11550	0	0	307	0	1.00	307
Tanks, Reservoirs and Similar Containers	3542	525	28	433	28	12	-92	0	-1.00	92
Steam Generators, Except Central Heating	3543	3606	24	193	0	0	-3413	-24	-0.99	3389
Cutlery, Hand Tools and General Hardware	3553	2262	12	3813	34	2	1551	22	0.97	1530
Other Fabricated Metal Products N.e.c.	3559	13045	21	27992	165	1	14947	144	0.98	14803
Engines and Turbines, Except Aircraft, V	3561	126	0	238	0	0	112	0	1.00	112
Pumps, Compressors, Taps and Valves	3562	4496	6	5771	46	2	1275	40	0.94	1235
Bearings, Gears, Gearing and Driving Equipment	3563	1359	18	2554	32	2	1195	14	0.98	1181
Ovens, Furnaces and Furnace Burners	3564	2430	0	814	1	0	-1616	1	-1.00	1618
Lifting and Handling Equipment	3565	2642	5	4028	15	1	1385	10	0.99	1375
Other General Purpose Machinery	3569	11884	22	11487	74	1	-398	52	-1.00	450
Agricultural and Forestry Machinery	3571	2741	0	3263	0	0	522	0	1.00	522
Machine Tools	3572	1707	10	3186	115	7	1479	104	0.87	1375
Machinery for Metallurgy	3573	79	0	44	9	33	-34	9	-1.00	43
Machinery for Mining, Quarrying and Construction	3574	6641	0	6222	165	5	-419	165	-1.00	584
Machinery for Food, Beverage and Tobacco	3575	1837	735	1578	49	6	-259	-686	0.45	427
Machinery for Textile, Apparel and Leather	3576	249	1658	2340	2069	94	2091	411	0.67	1680
Weapons and Ammunition	3577	0	0	0	0	#DIV/0!	0	0	#DIV/0!	0
Other Special Purpose Machinery	3579	3702	55	4723	344	14	1021	288	0.56	732
Household Appliances N.e.c.	3580	665	26	1932	12	1	1267	-14	1.00	1281
Office, Accounting and Computing Machinery	3590	1282	768	8308	291	7	7026	-477	1.00	7503
Electric Motors, Generators and Transformers	3610	1236	65	1464	67	9	227	2	0.98	226
Electricity Distribution and Control Apparatus	3620	2378	5	3406	227	13	1028	222	0.64	806
Insulated Wire and Cable	3630	4491	1	7127	0	0	2635	-1	1.00	2637
Accumulators, Primary Cells and Primary Batteries	3640	440	0	859	0	0	419	0	1.00	419
Electric Lamps and Lighting Equipment	3650	2063	5	2953	0	0	891	-5	1.00	896
Other Electrical Equipment N.e.c.	3660	856	23	2491	35	3	1636	12	0.99	1624
Electronic Valves and Tubes and Other Electronic Equipment	3710	41	38	1538	139	17	1497	101	0.87	1395
Other Electrical Equipment N.e.c. - Electronic	3720	294	19	5746	2290	57	5452	2271	0.41	3181
Television and Radio Receivers, Sound Reproducing Equipment	3730	357	22	1786	28	3	1429	7	0.99	1423
Medical and Surgical Equipment and Instruments	3741	790	45	2319	3286	83	1528	3241	-0.36	1713
Instruments and Appliances for Measurement	3742	1504	179	4720	411	16	3216	232	0.87	2984
Industrial Process Control Equipment	3743	133	4	570	9	3	438	5	0.98	433
Optical Instruments and Photographic Equipment	3750	130	195	2600	152	11	2470	-44	1.00	2513
Watches and Clocks	3760	19	13	129	579	36	110	566	-0.68	456
Motor Vehicles	3810	12234	1418	48586	0	0	36352	-1418	1.00	37771
Bodies (Coachwork) for Motor Vehicles	3820	44	17	2180	91	8	2136	74	0.93	2062
Parts and Accessories for Motor Vehicles	3830	2971	8	3686	52	3	714	44	0.88	670
Building and Repairing of Ships	3841	2606	0	196	0	0	-2410	0	-1.00	2410
Building and Repairing of Pleasure and Recreational Craft	3842	810	67	3008	0	0	2198	-67	1.00	2265
Railway and Tramway Locomotives and Rolling Stock	3850	2	0	38	0	0	36	0	1.00	36
Aircraft and Spacecraft	3860	68	41	2767	6	0	2699	-35	1.00	2734
Motor Cycles	3871	2	4	9	0	0	7	-4	1.00	11
Bicycles and Invalid Carriages	3872	0	8	88	48	71	88	40	0.37	48
Other Transport Equipment N.e.c.	3879	46	12	64	0	0	18	-12	1.00	30
Furniture	3910	3578	150	2269	326	25	-1309	176	-1.00	1485
Jewellery and Related Articles	3921	1962	0	3716	665	30	1754	665	0.45	1090
Musical Instruments	3922	24	0	31	3	16	7	3	0.41	4
Sports Goods	3923	689	2	702	93	23	13	91	-0.76	78
Games and Toys	3924	1147	13	388	109	44	-760	97	-1.00	856
Other Manufacturing N.e.c.	3929	1738	1687	2125	964	62	387	-723	1.00	1110
Recycling of Metal Waste and Scrap N.e.c.	3951	0	533	44	534	15	44	1	0.94	43
Recycling of Non-metal Waste and Scrap N.e.c.	3952	209	580	2269	647	44	2060	67	0.94	1993
MANUFACTURING TOTAL		714030	15774	1120250	28160		406220	12387		393833
GRAND TOTAL		758169	16846	1203016	28769		444847	11922		432925

Table A4: Trade between SACU and Malawi (constant 1995 prices, R1000s)

	SIC4	Exp1994	Imp1994	Exp2000	Imp2000	GL00 (%)	d(Exp)	d(Imp)	MIIT (94-00)	UMCIT
Meat products	3011	133	135	11232	95	2	11099	-41	1.00	11140
Fish products	3012	2378	53	987	0	0	-1391	-53	-0.93	1338
Fruit and vegetable products	3013	1108	87	10038	337	6	8931	250	0.95	8681
Vegetable and Animal Oils and Fats	3014	3093	1849	18756	938	10	15663	-910	1.00	16573
Dairy Products	3020	10842	16	8466	0	0	-2376	-16	-0.99	2359
Grain Mill Products	3031	8095	75	49710	0	0	41614	-75	1.00	41689
Starches and Starch Products	3032	220	0	689	0	0	469	0	1.00	469
Prepared Animal Feeds	3033	803	0	876	108	22	72	108	-0.20	36
Bakery Products	3041	1560	176	1346	124	17	-215	-51	-0.61	163
Sugar, Including Golden Syrup and C	3042	30	195	60	1996	6	30	1801	-0.97	1771
Cocoa, Chocolate and Sugar Confec	3043	2486	42	5337	0	0	2851	-42	1.00	2893
Macaroni, Noodles, Couscous and S	3044	45	0	201	0	0	156	0	1.00	156
Other Food Products N.e.c.	3049	6125	132	17937	240	3	11813	108	0.98	11705
Distilling, Rectifying and Blending of	3051	1447	78	3868	0	0	2421	-78	1.00	2499
Beer and Other Malt Liquors and Malt	3052	511	0	2546	0	0	2034	0	1.00	2034
Soft Drinks; Mineral Waters	3053	9810	0	1865	0	0	-7945	0	-1.00	7945
Tobacco Products	3060	197	17	39235	310	2	39038	293	0.99	38744
Preparation and Spinning of Textile F	3111	5348	13796	14806	2623	30	9458	-11173	1.00	20631
Made-up Textile Articles, Except Appa	3121	4454	4267	3650	13735	42	-804	9468	-1.00	10272
Carpets, Rugs and Mats	3122	2305	3	1527	0	0	-777	-3	-0.99	774
Cordage, Rope, Twine and Netting	3123	315	20	169	0	0	-146	-20	-0.76	125
Other Textiles N.e.c.	3129	1929	0	3359	399	21	1430	399	0.56	1031
Knitted and Crocheted Fabrics and A	3130	325	11329	4825	12112	57	4500	783	0.70	3717
Wearing Apparel, Except Fur Apparel	3140	8888	52127	11205	64191	30	2317	12064	-0.68	9747
Dressing and Dyeing of Fur; Articles	3150	2	0	28	0	0	26	0	1.00	26
Tanning and Dressing of Leather	3161	15	0	10	0	0	-4	0	-1.00	4
Luggage, Handbags, etc., Saddlery ar	3162	57	0	785	0	0	728	0	1.00	728
Footwear	3170	2473	0	3815	0	0	1342	0	1.00	1342
Sawmilling and Planing of Wood	3210	405	2439	1057	862	90	653	-1577	1.00	2230
Veneer Sheets; Plywood, Laminboar	3221	968	6784	1821	1978	96	853	-4806	1.00	5659
Builders' Carpentry and Joinery	3222	19	529	1026	0	0	1007	-529	1.00	1537
Wooden Containers	3223	26	0	98	0	0	72	0	1.00	72
Other Products of Wood; Articles of C	3229	352	193	719	564	88	367	371	-0.01	4
Pulp, Paper and Paperboard	3231	25851	27	21562	10	0	-4289	-17	-0.99	4272
Corrugated Paper and Paperboard ar	3232	4322	136	6427	472	14	2105	337	0.72	1768
Other Articles of Paper and Paperboe	3239	7996	13	7164	48	1	-832	36	-1.00	868
Publishing of Books, Brochures, Musi	3241	1206	4	8435	10	0	7229	6	1.00	7223
Publishing of Newspapers, Journals	3242	798	0	1503	0	0	705	0	1.00	705
Publishing of Recorded Media	3243	90	1	169	1	1	79	-1	1.00	80
Other Publishing	3249	715	0	657	0	0	-58	0	-1.00	58
Printing	3251	5469	1	25000	92	1	19531	91	0.99	19441
Service Activities Related to Printing	3252	305	0	159	0	0	-147	0	-1.00	147
Coke Oven Products	3310	0	0	37	0	0	37	0	1.00	37
Petrol, Fuel Oils, Lubricating Oils and	3321	46769	0	10932	18	0	-35837	18	-1.00	35855
Processing of Nuclear Fuel	3330	30	0	11	0	0	-19	0	-1.00	19
Basic Chemicals, Except Fertilizers a	3341	24856	3	14723	0	0	-10133	-3	-1.00	10130
Fertilizers and Nitrogen Compounds	3342	56459	0	80417	0	0	23958	0	1.00	23958
Plastics in Primary Form and of Synt	3343	16758	0	27413	0	0	10655	0	1.00	10655
Pesticides and Other Agro-chemical	3351	21637	0	16080	0	0	-5557	0	-1.00	5557
Paints, Varnishes and Similar Coat	3352	6727	0	5939	0	0	-787	0	-1.00	787
Pharmaceuticals, Medicinal Chemic	3353	9316	4	9307	0	0	-9	-4	-0.33	4
Soap and Detergents, Cleaning and F	3354	11213	2210	15470	0	0	4257	-2210	1.00	6467
Other Chemical Products N.e.c.	3359	11278	0	12189	0	0	911	0	1.00	911
Man-made Fibres	3360	1221	0	152	0	0	-1069	0	-1.00	1069
Rubber Tyres and Tubes; Retreading	3371	16084	1	16543	0	0	459	-1	1.00	460
Other Rubber Products	3379	4348	15	5567	4	0	1219	-11	1.00	1230
Plastic Products	3380	16994	151	23871	17	0	6877	-134	1.00	7010
Glass and Glass Products	3411	6943	0	9988	25	0	3044	25	0.98	3020
Non-structural Non-refractory Ceram	3421	3032	6	2134	8	1	-898	2	-1.00	900
Refractory Ceramic Products	3422	1025	0	568	0	0	-458	0	-1.00	458
Structural Non-refractory Clay and C	3423	1090	0	1728	0	0	638	0	1.00	638
Cement, Lime and Plaster	3424	315	0	2019	0	0	1705	0	1.00	1705

Table A4 (cont): Trade between SACU and Malawi (constant 1995 prices, R1000s)

	SIC4	Exp1994	Imp1994	Exp2000	Imp2000	GL00 (%)	d(Exp)	d(Imp)	MIIT (94-00)	UMCIIT
Articles of Concrete, Cement and Pla	3425	320	0	963	0	0	643	0	1.00	643
Stone: cutting, Shaping and Finishing	3426	364	0	154	0	0	-210	0	-1.00	210
Other Non-metallic Mineral Products	3429	1239	18	1930	0	0	691	-18	1.00	708
Basic Iron and Steel	3510	42711	486	52837	172	1	10127	-314	1.00	10440
Basic Precious and Non-ferrous Meta	3520	2542	5	4100	0	0	1559	-5	1.00	1563
Structural Metal Products	3541	8549	169	12936	53	1	4387	-116	1.00	4502
Tanks, Reservoirs and Similar Conta	3542	3237	103	1971	128	12	-1265	24	-1.00	1290
Steam Generators, Except Central He	3543	968	0	644	0	0	-324	0	-1.00	324
Cutlery, Hand Tools and General Har	3553	5280	1230	10034	11	0	4754	-1219	1.00	5973
Other Fabricated Metal Products N.e	3559	17703	58	16988	12	0	-715	-46	-0.88	669
Engines and Turbines, Except Aircraf	3561	1512	3	3703	43	2	2191	40	0.96	2151
Pumps, Compressors, Taps and Valv	3562	8788	95	20261	23	0	11473	-72	1.00	11544
Bearings, Gears, Gearing and Drivin	3563	2292	3	5086	109	4	2794	106	0.93	2688
Ovens, Furnaces and Furnace Burne	3564	780	0	783	0	0	3	0	1.00	3
Lifting and Handling Equipment	3565	4495	18	7864	0	0	3369	-18	1.00	3387
Other General Purpose Machinery	3569	11855	3	16671	37	0	4816	34	0.99	4782
Agricultural and Forestry Machinery	3571	4691	0	7494	67	2	2803	67	0.95	2736
Machine Tools	3572	5364	47	5628	8	0	264	-39	1.00	303
Machinery for Metallurgy	3573	133	0	330	0	0	196	0	1.00	196
Machinery for Mining, Quarrying and	3574	6931	338	36772	36	0	29841	-302	1.00	30143
Machinery for Food, Beverage and Tr	3575	4221	31	12293	4	0	8072	-28	1.00	8099
Machinery for Textile, Apparel and Le	3576	1192	14	3408	567	29	2215	554	0.60	1662
Weapons and Ammunition	3577	13	0	321	0	0	308	0	1.00	308
Other Special Purpose Machinery	3579	5093	1	11214	5	0	6122	4	1.00	6118
Household Appliances N.e.c.	3580	8341	71	7296	11	0	-1044	-60	-0.89	985
Office, Accounting and Computing Ma	3590	4857	8	17238	90	1	12382	82	0.99	12300
Electric Motors, Generators and Trar	3610	5947	10	7524	8	0	1577	-2	1.00	1579
Electricity Distribution and Control Ap	3620	3607	0	6260	9	0	2653	9	0.99	2643
Insulated Wire and Cable	3630	2820	0	12248	5	0	9428	5	1.00	9423
Accumulators, Primary Cells and Pri	3640	2248	0	3856	1	0	1608	1	1.00	1607
Electric Lamps and Lighting Equipme	3650	2120	0	2423	1	0	303	1	0.99	302
Other Electrical Equipment N.e.c.	3660	4117	4	4126	5	0	9	1	0.79	8
Electronic Valves and Tubes and Oth	3710	416	1	1281	22	3	866	21	0.95	845
Other Electrical Equipment N.e.c. Ele	3720	2057	13	8326	17	0	6269	4	1.00	6265
Television and Radio Receivers, Sou	3730	1504	11876	11141	38	1	9638	-11838	1.00	21476
Medical and Surgical Equipment and	3741	3765	82	6271	0	0	2506	-82	1.00	2588
Instruments and Appliances for Meas	3742	2938	21	4483	138	6	1545	117	0.86	1427
Industrial Process Control Equipment	3743	132	0	1213	0	0	1081	0	1.00	1081
Optical Instruments and Photographic	3750	320	1	1022	0	0	702	-1	1.00	703
Watches and Clocks	3760	213	2	228	0	0	15	-2	1.00	18
Motor Vehicles	3810	76611	653	120312	398	1	43701	-255	1.00	43955
Bodies (Coachwork) for Motor Vehicl	3820	2534	294	8923	6	0	6390	-287	1.00	6677
Parts and Accessories for Motor Veh	3830	12694	38	27573	3	0	14879	-35	1.00	14915
Building and Repairing of Ships	3841	126	0	1780	0	0	1654	0	1.00	1654
Building and Repairing of Pleasure ar	3842	476	2	404	30	14	-73	28	-1.00	101
Railway and Tramway Locomotives a	3850	47	261	346	0	0	299	-261	1.00	560
Aircraft and Spacecraft	3860	233	14	1336	0	0	1103	-14	1.00	1116
Motor Cycles	3871	333	4	939	0	0	606	-4	1.00	610
Bicycles and Invalid Carriages	3872	123	0	1017	0	0	894	0	1.00	894
Other Transport Equipment N.e.c.	3879	331	0	811	0	0	479	0	1.00	479
Furniture	3910	7317	23	9963	446	9	2646	422	0.72	2223
Jewellery and Related Articles	3921	51	0	28	0	0	-23	0	-1.00	23
Musical Instruments	3922	166	28	154	0	0	-12	-28	0.39	16
Sports Goods	3923	600	6	556	0	0	-44	-6	-0.74	37
Games and Toys	3924	220	1	330	2	1	109	1	0.98	108
Other Manufacturing N.e.c.	3929	2797	33	8184	10	0	5387	-24	1.00	5411
Recycling of Metal Waste and Scrap	3951	40	178	55	1971	5	15	1793	-0.98	1778
Recycling of Non-metal Waste and St	3952	617	307	1635	396	39	1018	88	0.84	930
MANUFACTURING TOTAL		670604	113467	1061880	106198		391276	-7269		398545
GRAND TOTAL		692583	189484	1087879	184664		395295	-4820		400116

Table A5: Trade between SACU and Mozambique (constant 1995 prices, R1000s)

	SIC4	Exp1994	Imp1994	Exp2000	Imp2000	GL00 (%)	d(Exp)	d(Imp)	MIIT (94-00)	UMCIT
Meat products	3011	10600	0	29700	0	0	19100	0	1.00	19100
Fish products	3012	6869	15312	31706	16367	68	24837	1055	0.92	23781
Fruit and vegetable products	3013	9108	0	31417	0	0	22309	0	1.00	22309
Vegetable and Animal Oils and Fats	3014	28435	2646	25401	6935	43	-3033	4289	-1.00	7322
Dairy Products	3020	53926	0	54707	1	0	782	1	1.00	781
Grain Mill Products	3031	51200	0	25171	326	3	-26029	326	-1.00	26355
Starches and Starch Products	3032	599	0	1210	0	0	612	0	1.00	612
Prepared Animal Feeds	3033	6225	0	2201	0	0	-4024	0	-1.00	4024
Bakery Products	3041	5742	0	7993	0	0	2250	0	1.00	2250
Sugar, Including Golden Syrup and C	3042	52088	1875	125139	6	0	73051	-1869	1.00	74920
Cocoa, Chocolate and Sugar Confe	3043	11461	0	33694	0	0	22233	0	1.00	22233
Macaroni, Noodles, Couscous and E	3044	790	0	1592	0	0	802	0	1.00	802
Other Food Products N.e.c.	3049	22035	0	49357	59	0	27322	59	1.00	27264
Distilling, Rectifying and Blending of	3051	12885	0	26634	2	0	13749	2	1.00	13747
Beer and Other Malt Liquors and Ma	3052	71323	0	9166	0	0	-62158	0	-1.00	62158
Soft Drinks; Mineral Waters	3053	28837	0	46362	0	0	17525	0	1.00	17525
Tobacco Products	3060	15228	0	18514	0	0	3287	0	1.00	3287
Preparation and Spinning of Textile	3111	1899	28	7636	11	0	5737	-17	1.00	5754
Made-up Textile Articles, Except Apr	3121	11957	0	21136	198	2	9179	198	0.96	8981
Carpets, Rugs and Mats	3122	2080	0	1780	32	4	-300	32	-1.00	332
Cordage, Rope, Twine and Netting	3123	308	0	584	25	8	276	25	0.83	251
Other Textiles N.e.c.	3129	1698	0	4332	17	1	2634	17	0.99	2617
Knitted and Crocheted Fabrics and	3130	3390	1230	4769	3266	81	1379	2036	-0.19	657
Wearing Apparel, Except Fur Appar	3140	7415	3148	17325	13904	89	9911	10757	-0.04	846
Dressing and Dyeing of Fur; Articles	3150	68	0	27	0	0	-41	0	-1.00	41
Tanning and Dressing of Leather	3161	84	0	37	0	0	-47	0	-1.00	47
Luggage, Handbags, etc, Saddlery e	3162	356	0	1231	0	0	875	0	1.00	875
Footwear	3170	1703	6	5710	12	0	4007	6	1.00	4001
Sawmilling and Planing of Wood	3210	1556	3403	15497	5198	50	13941	1795	0.77	12145
Veneer Sheets; Plywood, Laminboa	3221	1801	74	5130	124	5	3329	50	0.97	3279
Builders' Carpentry and Joinery	3222	35054	0	9392	4	0	-25662	4	-1.00	25666
Wooden Containers	3223	276	0	662	1	0	386	1	0.99	384
Other Products of Wood; Articles of	3229	962	2	4114	16	1	3153	14	0.99	3139
Pulp, Paper and Paperboard	3231	9950	0	27276	7	0	17327	7	1.00	17319
Corrugated Paper and Paperboard e	3232	221022	0	16425	9	0	-204597	9	-1.00	204606
Other Articles of Paper and Paperbo	3239	9881	4	17983	12	0	8102	8	1.00	8094
Publishing of Books, Brochures, Mu	3241	1993	0	4034	32	2	2041	32	0.97	2008
Publishing of Newspapers, Journals	3242	397	0	220	1	0	-176	1	-1.00	177
Publishing of Recorded Media	3243	167	0	818	20	5	651	20	0.94	631
Other Publishing	3249	32122	0	471	0	0	-31651	0	-1.00	31651
Printing	3251	3503	0	11129	101	2	7626	101	0.97	7525
Service Activities Related to Printing	3252	88	0	426	0	0	338	0	1.00	338
Coke Oven Products	3310	104	0	75	216	52	-29	216	-1.00	245
Petrol, Fuel Oils, Lubricating Oils an	3321	381853	0	428387	2	0	46535	2	1.00	46533
Processing of Nuclear Fuel	3330	0	0	0	0	#DIV/0!	0	0	#DIV/0!	0
Basic Chemicals, Except Fertilizers	3341	9536	7	30264	214	1	20727	207	0.98	20521
Fertilizers and Nitrogen Compounds	3342	2967	1300	16087	204	3	13120	-1096	1.00	14216
Plastics in Primary Form and of Synt	3343	5045	0	18499	334	4	13454	334	0.95	13120
Pesticides and Other Agro-chemical	3351	12471	325	15054	231	3	2583	-95	1.00	2678
Paints, Varnishes and Similar Coatir	3352	7604	0	11058	7	0	3454	7	1.00	3447
Pharmaceuticals, Medicinal Chemica	3353	8853	22	8430	5	0	-423	-17	-0.92	405
Soap and Detergents, Cleaning and	3354	63267	0	118462	24	0	55195	24	1.00	55171
Other Chemical Products N.e.c.	3359	10960	28	21745	319	3	10786	291	0.95	10494
Man-made Fibres	3360	147	0	340	0	0	192	0	1.00	192
Rubber Tyres and Tubes; Retreadin	3371	18788	8338	21049	13099	77	2260	4761	-0.36	2501
Other Rubber Products	3379	2456	0	8409	80	2	5953	80	0.97	5873
Plastic Products	3380	20649	0	52899	194	1	32250	194	0.99	32056
Glass and Glass Products	3411	5334	55	26929	116	1	21594	60	0.99	21534
Non-structural Non-refractory Ceram	3421	2012	0	5153	7	0	3141	7	1.00	3134
Refractory Ceramic Products	3422	599	0	7175	0	0	6576	0	1.00	6576
Structural Non-refractory Clay and C	3423	1764	0	6310	2	0	4546	2	1.00	4544
Cement, Lime and Plaster	3424	43319	0	45170	3	0	1851	3	1.00	1848

Table A5 (cont): Trade between SACU and Mozambique (constant 1995 prices, R1000s)

SIC4	Exp1994	Imp1994	Exp2000	Imp2000	GL00 (%)	d(Exp)	d(Imp)	MIIT (94-00)	UMCIT	
Articles of Concrete, Cement and Pl:	3425	7255	0	4336	22	1	-2918	22	-1.00	2940
Stone: cutting, Shaping and Finishin	3426	249	0	667	4	1	418	4	0.98	414
Other Non-metallic Mineral Products	3429	2355	0	10546	16	0	8191	16	1.00	8176
Basic Iron and Steel	3510	86688	1630	135392	826	1	48704	-803	1.00	49508
Basic Precious and Non-ferrous Met	3520	3427	5	11860	269	4	8433	264	0.94	8169
Structural Metal Products	3541	14505	71	236003	7849	6	221498	7779	0.93	213720
Tanks, Reservoirs and Similar Cont:	3542	2127	105	5235	340	12	3108	235	0.86	2873
Steam Generators, Except Central I:	3543	207	11	8342	0	0	8136	-11	1.00	8146
Cutlery, Hand Tools and General Ha	3553	9009	0	20082	726	7	11073	726	0.88	10347
Other Fabricated Metal Products N.e.	3559	19368	13	69489	3637	10	50121	3624	0.87	46497
Engines and Turbines, Except Aircr	3561	1073	286	4074	753	31	3001	467	0.73	2534
Pumps, Compressors, Taps and Val	3562	8422	196	27413	2630	18	18991	2434	0.77	16557
Bearings, Gears, Gearing and Drivin	3563	1272	10	5077	145	6	3805	134	0.93	3670
Ovens, Furnaces and Furnace Burn	3564	404	0	5516	1346	39	5112	1346	0.58	3766
Lifting and Handling Equipment	3565	12444	635	22473	43371	68	10029	42736	-0.62	32707
Other General Purpose Machinery	3569	15584	1	58620	2211	7	43036	2210	0.90	40826
Agricultural and Forestry Machinery	3571	3435	234	14076	891	12	10641	657	0.88	9984
Machine Tools	3572	3068	0	16927	5934	52	13858	5934	0.40	7924
Machinery for Metallurgy	3573	0	0	3131	34	2	3131	34	0.98	3097
Machinery for Mining, Quarrying and	3574	15934	1067	28970	40089	84	13035	39022	-0.50	25987
Machinery for Food, Beverage and T	3575	3322	0	13971	30	0	10648	30	0.99	10619
Machinery for Textile, Apparel and L	3576	559	0	820	0	0	262	0	1.00	262
Weapons and Ammunition	3577	40	0	96	1	2	56	1	0.97	55
Other Special Purpose Machinery	3579	3690	0	16613	914	10	12923	914	0.87	12009
Household Appliances N.e.c.	3580	11007	2	25211	291	2	14204	288	0.96	13916
Office, Accounting and Computing M	3590	8995	6	50277	1057	4	41282	1051	0.95	40231
Electric Motors, Generators and Tra	3610	5364	53	18413	1357	14	13049	1304	0.82	11745
Electricity Distribution and Control A	3620	4362	0	26408	209	2	22046	209	0.98	21838
Insulated Wire and Cable	3630	1908	0	12843	482	7	10935	482	0.92	10453
Accumulators, Primary Cells and Pri	3640	2296	1	6487	5	0	4191	4	1.00	4187
Electric Lamps and Lighting Equipm	3650	3186	5	5491	314	11	2305	309	0.76	1997
Other Electrical Equipment N.e.c.	3660	4164	2	18017	26	0	13854	24	1.00	13830
Electronic Valves and Tubes and Ot	3710	532	0	16618	57	1	16086	57	0.99	16029
Other Electrical Equipment N.e.c. El	3720	4662	1	21652	104	1	16990	103	0.99	16887
Television and Radio Receivers, So	3730	5109	5	13313	443	6	8204	438	0.90	7766
Medical and Surgical Equipment anc	3741	3913	0	8912	9	0	4999	9	1.00	4990
Instruments and Appliances for Mea	3742	4156	29	13578	775	11	9422	745	0.85	8677
Industrial Process Control Equipm	3743	7985	0	1078	1	0	-6906	1	-1.00	6907
Optical Instruments and Photographi	3750	699	0	2887	36	2	2189	36	0.97	2152
Watches and Clocks	3760	205	0	524	30	11	319	30	0.83	289
Motor Vehicles	3810	90377	596	224292	17589	15	133915	16994	0.77	116922
Bodies (Coachwork) for Motor Vehic	3820	8578	53	15209	893	11	6631	841	0.78	5791
Parts and Accessories for Motor Veh	3830	14181	0	35129	62	0	20947	62	0.99	20885
Building and Repairing of Ships	3841	196	17	622	141	37	426	124	0.55	302
Building and Repairing of Pleasure	3842	351	69	450	0	0	99	-69	1.00	167
Railway and Tramway Locomotives	3850	5352	0	2420	12	1	-2932	12	-1.00	2944
Aircraft and Spacecraft	3860	896	200	305	23	14	-591	-177	-0.54	414
Motor Cycles	3871	394	0	4120	4	0	3726	4	1.00	3722
Bicycles and Invalid Carriages	3872	537	0	1128	2	0	591	2	0.99	589
Other Transport Equipment N.e.c.	3879	415	0	1788	13	1	1373	13	0.98	1360
Furniture	3910	37042	0	32258	635	4	-4784	635	-1.00	5419
Jewellery and Related Articles	3921	141	0	197	0	0	57	0	1.00	57
Musical Instruments	3922	128	0	208	150	84	79	150	-0.31	71
Sports Goods	3923	336	0	1930	7	1	1594	7	0.99	1587
Games and Toys	3924	223	0	801	8	2	578	8	0.97	570
Other Manufacturing N.e.c.	3929	5482	58	23788	380	3	18306	321	0.97	17985
Recycling of Metal Waste and Scrap	3951	0	5	196	1284	26	196	1278	-0.73	1083
Recycling of Non-metal Waste and S	3952	321	1241	472	4938	17	151	3698	-0.92	3547
MANUFACTURING TOTAL		1782737	44411	2846357	205116		1063620	160705		902915
GRAND TOTAL		1843371	90620	3106800	229133		1263429	138513		1124916

Table A6: Trade between SACU and Tanzania (constant '95 prices, R1000s)

	SIC4	Exp94	Imp94	Exp00	Imp00	GL00 (%)	d(Exp)	d(Imp)	MIIT (94-00)	UMCIT
Meat products	3011	7	11	841	80	17	833	69	0.85	764
Fish products	3012	2	154	4	1851	0	2	1697	-1.00	1695
Fruit and vegetable products	3013	235	0	1871	1	0	1637	1	1.00	1635
Vegetable and Animal Oils and Fats	3014	2	2405	6089	0	0	6087	-2405	1.00	8491
Dairy Products	3020	532	0	1596	0	0	1064	0	1.00	1064
Grain Mill Products	3031	4707	0	965	0	0	-3741	0	-1.00	3741
Starches and Starch Products	3032	25	0	825	0	0	800	0	1.00	800
Prepared Animal Feeds	3033	0	0	193	0	0	193	0	1.00	193
Bakery Products	3041	311	0	146	80	71	-165	80	-1.00	245
Sugar, Including Golden Syrup and C	3042	9695	0	42945	0	0	33250	0	1.00	33250
Cocoa, Chocolate and Sugar Confec	3043	333	0	2679	0	0	2346	0	1.00	2346
Macaroni, Noodles, Couscous and C	3044	0	0	19	0	0	19	0	1.00	19
Other Food Products N.e.c.	3049	1983	0	3985	3	0	2002	3	1.00	1999
Distilling, Rectifying and Blending of	3051	1588	0	9683	0	0	8095	0	1.00	8095
Beer and Other Malt Liquors and Mal	3052	3330	0	8345	0	0	5015	0	1.00	5014
Soft Drinks; Mineral Waters	3053	12263	0	1153	0	0	-11111	0	-1.00	11111
Tobacco Products	3060	37	0	3	0	0	-34	0	-1.00	34
Preparation and Spinning of Textile I	3111	14	0	271	0	0	256	0	1.00	256
Made-up Textile Articles, Except Apr	3121	227	1	1326	1	0	1099	0	1.00	1099
Carpets, Rugs and Mats	3122	136	0	447	0	0	311	0	1.00	311
Cordage, Rope, Twine and Netting	3123	65	0	354	1484	39	289	1484	-0.67	1195
Other Textiles N.e.c.	3129	89	0	5259	0	0	5171	0	1.00	5171
Knitted and Crocheted Fabrics and /	3130	0	0	520	0	0	520	0	1.00	520
Wearing Apparel, Except Fur Appara	3140	367	9	3014	0	0	2647	-9	1.00	2656
Dressing and Dyeing of Fur; Articles	3150	0	229	0	0	#DIV/0!	0	-229	1.00	229
Tanning and Dressing of Leather	3161	0	0	18	37	66	18	37	-0.34	19
Luggage, Handbags, etc., Saddlery a	3162	7	0	158	4	4	151	4	0.95	148
Footwear	3170	13	1	722	0	0	709	-1	1.00	710
Sawmilling and Planing of Wood	3210	27	0	269	0	0	242	0	1.00	242
Veneer Sheets; Plywood, Laminboa	3221	0	0	361	0	0	361	0	1.00	361
Builders' Carpentry and Joinery	3222	2	0	173	8	8	171	8	0.92	163
Wooden Containers	3223	0	0	7	0	0	7	0	1.00	7
Other Products of Wood; Articles of	3229	4	8	69	25	54	65	17	0.58	48
Pulp, Paper and Paperboard	3231	5595	0	33815	0	0	28220	0	1.00	28220
Corrugated Paper and Paperboard a	3232	2449	0	1955	0	0	-493	0	-1.00	493
Other Articles of Paper and Paperbo	3239	142	0	10976	42	1	10834	42	0.99	10792
Publishing of Books, Brochures, Mu	3241	71	0	6337	4	0	6266	4	1.00	6262
Publishing of Newspapers, Journals	3242	0	0	938	0	0	938	0	1.00	938
Publishing of Recorded Media	3243	0	0	66	2	6	66	2	0.94	64
Other Publishing	3249	0	0	499	0	0	499	0	1.00	499
Printing	3251	13	5	5739	0	0	5725	-5	1.00	5730
Service Activities Related to Printing	3252	0	0	0	1	0	0	1	-1.00	1
Coke Oven Products	3310	0	0	0	0	#DIV/0!	0	0	#DIV/0!	0
Petrol, Fuel Oils, Lubricating Oils an	3321	180717	0	115421	26	0	-65297	26	-1.00	65323
Processing of Nuclear Fuel	3330	0	0	48	0	0	48	0	1.00	48
Basic Chemicals, Except Fertilizers ;	3341	6602	42	14057	78	1	7455	36	0.99	7420
Fertilizers and Nitrogen Compounds	3342	1868	0	7943	0	0	6075	0	1.00	6075
Plastics in Primary Form and of Synt	3343	5253	0	21089	0	0	15836	0	1.00	15836
Pesticides and Other Agro-chemical	3351	2792	0	8776	0	0	5984	0	1.00	5984
Paints, Varnishes and Similar Coatin	3352	1849	0	1760	4	0	-89	4	-1.00	93
Pharmaceuticals, Medicinal Chemic	3353	919	0	3843	0	0	2924	0	1.00	2924
Soap and Detergents, Cleaning and	3354	6781	0	18691	126	1	11909	126	0.98	11783
Other Chemical Products N.e.c.	3359	5065	2	16664	0	0	11599	-2	1.00	11601
Man-made Fibres	3360	579	0	170	0	0	-409	0	-1.00	409
Rubber Tyres and Tubes; Retreadin	3371	969	0	10682	0	0	9713	0	1.00	9713
Other Rubber Products	3379	81	0	2686	3	0	2605	3	1.00	2602
Plastic Products	3380	1984	0	9539	22	0	7555	22	0.99	7533
Glass and Glass Products	3411	1607	0	1084	14	3	-523	14	-1.00	537
Non-structural Non-refractory Ceran	3421	303	0	489	0	0	186	0	1.00	186
Refractory Ceramic Products	3422	513	0	210	0	0	-302	0	-1.00	302
Structural Non-refractory Clay and C	3423	64	0	587	0	0	522	0	1.00	522
Cement, Lime and Plaster	3424	413	0	182	0	0	-231	0	-1.00	231

Table A6 (cont) : Trade between SACU and Tanzania (constant '95 prices, R1000s)

	SIC4	Exp94	Imp94	Exp00	Imp00	GL00 (%)	d(Exp)	d(Imp)	MIIT (94-00)	UMCIT
Articles of Concrete, Cement and Plaster	3425	17	0	880	0	0	862	0	1.00	862
Stone: cutting, Shaping and Finishing	3426	0	0	8	9	93	8	9	-0.07	1
Other Non-metallic Mineral Products	3429	226	0	359	2	1	133	2	0.98	132
Basic Iron and Steel	3510	7978	1	22943	2	0	14965	1	1.00	14964
Basic Precious and Non-ferrous Metals	3520	58	0	17557	0	0	17499	0	1.00	17499
Structural Metal Products	3541	2362	0	41036	24	0	38674	24	1.00	38650
Tanks, Reservoirs and Similar Containers	3542	3072	0	1407	4	1	-1665	4	-1.00	1669
Steam Generators, Except Central Heating	3543	9	0	817	0	0	809	0	1.00	809
Cutlery, Hand Tools and General Hardware	3553	929	0	33563	46	0	32634	46	1.00	32588
Other Fabricated Metal Products N.e.c.	3559	2005	2	17765	79	1	15759	77	0.99	15682
Engines and Turbines, Except Aircraft	3561	13	30	1297	3	0	1284	-27	1.00	1311
Pumps, Compressors, Taps and Valves	3562	3569	77	10010	101	2	6442	24	0.99	6418
Bearings, Gears, Gearing and Drives	3563	74	120	2007	100	10	1933	-20	1.00	1952
Ovens, Furnaces and Furnace Burners	3564	97	0	330	0	0	233	0	1.00	233
Lifting and Handling Equipment	3565	1407	58	10271	26	1	8865	-32	1.00	8897
Other General Purpose Machinery	3569	4144	0	12774	8	0	8630	8	1.00	8622
Agricultural and Forestry Machinery	3571	2568	5	1374	1	0	-1193	-4	-0.99	1189
Machine Tools	3572	1136	0	2499	28	2	1363	28	0.96	1335
Machinery for Metallurgy	3573	0	0	8	11	86	8	11	-0.14	3
Machinery for Mining, Quarrying and Construction	3574	9085	107	48995	842	3	39910	734	0.96	39175
Machinery for Food, Beverage and Tobacco	3575	2266	0	15442	9	0	13176	9	1.00	13166
Machinery for Textile, Apparel and Leather	3576	0	0	337	9	5	337	9	0.95	329
Weapons and Ammunition	3577	0	0	51	0	0	51	0	1.00	51
Other Special Purpose Machinery	3579	1342	143	4135	51	2	2793	-92	1.00	2885
Household Appliances N.e.c.	3580	588	4	5196	1	0	4609	-3	1.00	4611
Office, Accounting and Computing Machinery	3590	189	14	4663	34	1	4474	21	0.99	4453
Electric Motors, Generators and Transformers	3610	2262	0	6018	119	4	3756	119	0.94	3637
Electricity Distribution and Control Apparatus	3620	2342	0	6987	2	0	4644	2	1.00	4643
Insulated Wire and Cable	3630	779	0	2149	3	0	1370	3	1.00	1367
Accumulators, Primary Cells and Primary Batteries	3640	31	0	1226	0	0	1195	0	1.00	1195
Electric Lamps and Lighting Equipment	3650	176	1	1870	0	0	1694	-1	1.00	1696
Other Electrical Equipment N.e.c.	3660	34	1	2835	8	1	2801	6	1.00	2794
Electronic Valves and Tubes and Other Electronic Equipment	3710	12	0	4339	0	0	4327	0	1.00	4327
Other Electrical Equipment N.e.c. Electrical	3720	1088	363	31096	639	4	30007	277	0.98	29731
Television and Radio Receivers, Sets and Components	3730	140	3	15222	19	0	15082	16	1.00	15066
Medical and Surgical Equipment and Instruments	3741	1	7	2201	52	5	2200	45	0.96	2155
Instruments and Appliances for Measurement	3742	847	11	6839	53	2	5992	42	0.99	5950
Industrial Process Control Equipment	3743	135	0	353	3	2	218	3	0.97	215
Optical Instruments and Photographing Apparatus	3750	10	0	228	0	0	218	0	1.00	218
Watches and Clocks	3760	0	0	346	0	0	346	0	1.00	346
Motor Vehicles	3810	3308	5021	14996	57	1	11688	-4964	1.00	16652
Bodies (Coachwork) for Motor Vehicles	3820	1897	0	6715	0	0	4817	0	1.00	4817
Parts and Accessories for Motor Vehicles	3830	1325	125	3128	11	1	1804	-113	1.00	1917
Building and Repairing of Ships	3841	22	10	173	0	0	151	-10	1.00	161
Building and Repairing of Pleasure Craft	3842	192	0	988	0	0	796	0	1.00	796
Railway and Tramway Locomotives and Rolling Stock	3850	1	0	6260	0	0	6259	0	1.00	6259
Aircraft and Spacecraft	3860	22	24	1221	0	0	1199	-24	1.00	1222
Motor Cycles	3871	3	0	1185	2	0	1182	2	1.00	1180
Bicycles and Invalid Carriages	3872	0	0	194	0	0	194	0	1.00	194
Other Transport Equipment N.e.c.	3879	3	0	216	0	0	212	0	1.00	212
Furniture	3910	776	0	7025	21	1	6249	21	0.99	6228
Jewellery and Related Articles	3921	0	0	128	447	45	128	447	-0.55	318
Musical Instruments	3922	0	0	73	0	0	73	0	1.00	73
Sports Goods	3923	50	19	437	0	0	387	-19	1.00	406
Games and Toys	3924	0	0	1192	0	0	1192	0	1.00	1192
Other Manufacturing N.e.c.	3929	748	101	2084	23	2	1337	-79	1.00	1415
Recycling of Metal Waste and Scrap	3951	0	0	1103	338	47	1103	338	0.53	764
Recycling of Non-metal Waste and Scrap	3952	183	761	172	58	51	-11	-702	0.97	692
MANUFACTURING TOTAL		322153	9876	773282	7141		451129	-2736		453865
GRAND TOTAL		340426	16792	802945	16723		462519	-68		462588

Table A7: Trade between SACU and Zambia (contant 1995 prices, R1000s)

	SIC4	Exp1994	Imp1994	Exp00	Imp00	GL00 (%)	d(Exp)	d(Imp)	MIIT (94-00)	UMCIT
Meat products	3011	2421	56	6246	0	0	3825	-56	1.00	3881
Fish products	3012	1750	3	2821	0	0	1071	-3	1.00	1074
Fruit and vegetable products	3013	3180	0	12355	15	0	9175	15	1.00	9160
Vegetable and Animal Oils and Fats	3014	5125	684	20822	752	7	15697	69	0.99	15629
Dairy Products	3020	3481	0	7814	0	0	4334	0	1.00	4334
Grain Mill Products	3031	6010	31	9715	0	0	3705	-31	1.00	3736
Starches and Starch Products	3032	659	42	804	0	0	145	-42	1.00	187
Prepared Animal Feeds	3033	3104	0	2372	0	0	-731	0	-1.00	731
Bakery Products	3041	4525	0	6868	0	0	2344	0	1.00	2344
Sugar, Including Golden Syrup and C	3042	339	354	373	30	15	34	-324	1.00	358
Cocoa, Chocolate and Sugar Confer	3043	9563	0	12884	0	0	3321	0	1.00	3321
Macaroni, Noodles, Couscous and C	3044	244	0	1635	0	0	1391	0	1.00	1391
Other Food Products N.e.c.	3049	6962	2	18582	0	0	11619	-2	1.00	11621
Distilling, Rectifying and Blending of	3051	5337	88	5951	0	0	615	-88	1.00	703
Beer and Other Malt Liquors and Ma	3052	8908	0	914	0	0	-7995	0	-1.00	7995
Soft Drinks; Mineral Waters	3053	13204	0	1664	0	0	-11540	0	-1.00	11540
Tobacco Products	3060	74	0	54395	0	0	54321	0	1.00	54321
Preparation and Spinning of Textile	3111	3156	4628	3452	9122	55	296	4493	-0.88	4197
Made-up Textile Articles, Except Apr	3121	5135	21	12357	44	1	7222	23	0.99	7199
Carpets, Rugs and Mats	3122	4018	0	3853	0	0	-165	0	-1.00	165
Cordage, Rope, Twine and Netting	3123	1194	0	1180	0	0	-14	0	-1.00	14
Other Textiles N.e.c.	3129	3140	10	4492	1	0	1352	-9	1.00	1361
Knitted and Crocheted Fabrics and	3130	252	0	3780	32	2	3528	32	0.98	3496
Wearing Apparel, Except Fur Appare	3140	2269	937	27127	160	1	24858	-777	1.00	25635
Dressing and Dyeing of Fur; Articles	3150	1	0	416	0	0	414	0	1.00	414
Tanning and Dressing of Leather	3161	20	2800	5	1570	1	-15	-1230	0.98	1215
Luggage, Handbags, etc, Saddlery a	3162	245	0	1522	0	0	1277	0	1.00	1277
Footwear	3170	966	22	10178	23	0	9212	0	1.00	9211
Sawmilling and Planing of Wood	3210	214	4677	337	3408	18	123	-1269	1.00	1393
Veneer Sheets; Plywood, Laminboar	3221	588	65	2303	0	0	1714	-65	1.00	1779
Builders' Carpentry and Joinery	3222	639	5	4011	0	0	3373	-5	1.00	3378
Wooden Containers	3223	45	0	321	0	0	276	0	1.00	276
Other Products of Wood; Articles of	3229	473	8	2235	61	5	1762	53	0.94	1709
Pulp, Paper and Paperboard	3231	19306	1694	47883	13	0	28577	-1681	1.00	30258
Corrugated Paper and Paperboard a	3232	12784	120	18939	31	0	6155	-89	1.00	6244
Other Articles of Paper and Paperbr	3239	9091	0	29683	17	0	20593	17	1.00	20576
Publishing of Books, Brochures, Mu	3241	2778	21	7724	87	2	4946	66	0.97	4879
Publishing of Newspapers, Journals	3242	1247	0	1991	0	0	744	0	1.00	744
Publishing of Recorded Media	3243	160	1	1882	25	3	1722	24	0.97	1698
Other Publishing	3249	15907	0	1255	1	0	-14652	1	-1.00	14652
Printing	3251	3989	11	8093	60	1	4105	49	0.98	4056
Service Activities Related to Printing	3252	200	0	426	0	0	225	0	1.00	225
Coke Oven Products	3310	68	0	874	0	0	806	0	1.00	806
Petrol, Fuel Oils, Lubricating Oils an	3321	27510	3	384196	0	0	356686	-3	1.00	356689
Processing of Nuclear Fuel	3330	0	0	12	2	31	12	2	0.69	10
Basic Chemicals, Except Fertilizers	3341	45736	971	134041	12	0	88305	-959	1.00	89264
Fertilizers and Nitrogen Compounds	3342	40851	43	117003	0	0	76152	-43	1.00	76196
Plastics in Primary Form and of Syn	3343	31429	0	57990	151	1	26561	151	0.99	26409
Pesticides and Other Agro-chemical	3351	13799	0	23738	0	0	9939	0	1.00	9939
Paints, Varnishes and Similar Coatir	3352	4973	0	14435	0	0	9462	0	1.00	9462
Pharmaceuticals, Medicinal Chemic	3353	8377	89	17451	167	2	9074	78	0.98	8996
Soap and Detergents, Cleaning and	3354	17335	201	34491	145	1	17156	-57	1.00	17213
Other Chemical Products N.e.c.	3359	25738	744	201184	5	0	175446	-739	1.00	176185
Man-made Fibres	3360	4351	0	12191	2	0	7840	2	1.00	7838
Rubber Tyres and Tubes; Retreadin	3371	22809	49	29526	28	0	6717	-21	1.00	6738
Other Rubber Products	3379	10996	17	13284	3	0	2287	-14	1.00	2301
Plastic Products	3380	11694	10	38625	133	1	26931	123	0.99	26808
Glass and Glass Products	3411	9349	0	8821	126	3	-528	126	-1.00	654
Non-structural Non-refractory Cerar	3421	2184	0	6764	0	0	4581	0	1.00	4581
Refractory Ceramic Products	3422	5745	0	19147	0	0	13401	0	1.00	13401
Structural Non-refractory Clay and C	3423	1246	0	3555	0	0	2309	0	1.00	2309
Cement, Lime and Plaster	3424	224	2107	8770	0	0	8546	-2107	1.00	10653

Table A7 (cont): Trade between SACU and Zambia (contant 1995 prices, R1000s)

SIC4	Exp1994	Imp1994	Exp00	Imp00	GL00 (%)	d(Exp)	d(Imp)	MIIT (94-00)	UMCIT
Articles of Concrete, Cement and Pl: 3425	1292	64	5009	304	11	3717	240	0.88	3477
Stone: cutting, Shaping and Finishin 3426	166	3	405	1	0	239	-3	1.00	242
Other Non-metallic Mineral Products: 3429	1810	1	8810	5	0	7000	4	1.00	6996
Basic Iron and Steel 3510	63826	3797	127373	2952	5	63547	-845	1.00	64392
Basic Precious and Non-ferrous Me 3520	9962	33787	18706	62891	46	8744	29104	-0.54	20360
Structural Metal Products 3541	14853	15	52216	13	0	37363	-3	1.00	37366
Tanks, Reservoirs and Similar Cont: 3542	1530	4	8507	17	0	6977	13	1.00	6965
Steam Generators, Except Central F 3543	686	2	2425	0	0	1739	-2	1.00	1741
Cutlery, Hand Tools and General H: 3553	9962	96	32467	140	1	22505	45	1.00	22460
Other Fabricated Metal Products N.€ 3559	15904	99	42887	40	0	26983	-59	1.00	27042
Engines and Turbines, Except Aircre 3561	29171	307	2272	82	7	-26899	-225	-0.98	26674
Pumps, Compressors, Taps and Va 3562	28824	598	72972	1036	3	44149	438	0.98	43711
Bearings, Gears, Gearing and Drivir 3563	10946	160	16410	84	1	5464	-77	1.00	5541
Ovens, Furnaces and Furnace Burn 3564	4012	12	12151	2	0	8139	-10	1.00	8150
Lifting and Handling Equipment 3565	38781	69	31934	22	0	-6847	-47	-0.99	6800
Other General Purpose Machinery 3569	19250	56	50074	109	0	30824	53	1.00	30771
Agricultural and Forestry Machinery 3571	13746	488	25549	1179	9	11803	691	0.89	11112
Machine Tools 3572	7922	236	24596	428	3	16674	191	0.98	16483
Machinery for Metallurgy 3573	644	5	793	0	0	149	-5	1.00	154
Machinery for Mining, Quarrying and 3574	28880	1252	117323	1686	3	88443	434	0.99	88009
Machinery for Food, Beverage and T 3575	5372	19	19127	76	1	13755	57	0.99	13698
Machinery for Textile, Apparel and L 3576	1494	1171	3141	285	17	1647	-886	1.00	2533
Weapons and Ammunition 3577	0	0	301	0	0	301	0	1.00	301
Other Special Purpose Machinery 3579	4295	261	25700	94	1	21405	-167	1.00	21572
Household Appliances N.e.c. 3580	13968	18	41837	5	0	27869	-13	1.00	27881
Office, Accounting and Computing IV 3590	8061	122	32376	64	0	24316	-58	1.00	24374
Electric Motors, Generators and Trai 3610	14008	146	27822	913	6	13814	767	0.89	13047
Electricity Distribution and Control A 3620	7403	27	32916	2087	12	25514	2060	0.85	23454
Insulated Wire and Cable 3630	740	7480	7873	16119	66	7133	8639	-0.10	1506
Accumulators, Primary Cells and Pri 3640	3331	0	9670	29	1	6339	29	0.99	6310
Electric Lamps and Lighting Equipm 3650	2892	0	10777	194	4	7885	194	0.95	7691
Other Electrical Equipment N.e.c. 3660	7633	31	20164	7	0	12531	-24	1.00	12555
Electronic Valves and Tubes and Ot 3710	199	16	4149	1	0	3950	-15	1.00	3966
Other Electrical Equipment N.e.c. Eli 3720	1249	82	24743	43	0	23495	-39	1.00	23534
Television and Radio Receivers, So 3730	1418	48	27618	51	0	26200	3	1.00	26196
Medical and Surgical Equipment and 3741	5425	17	7290	11	0	1865	-6	1.00	1871
Instruments and Appliances for Mea 3742	3640	228	11028	43	1	7389	-186	1.00	7574
Industrial Process Control Equipme 3743	181	0	1059	2	0	878	2	1.00	876
Optical Instruments and Photograph 3750	642	0	3797	2	0	3155	2	1.00	3152
Watches and Clocks 3760	166	0	578	0	0	412	0	1.00	412
Motor Vehicles 3810	79435	3307	163518	8630	10	84083	5323	0.88	78761
Bodies (Coachwork) for Motor Vehic 3820	8614	266	14048	1846	23	5433	1580	0.55	3854
Parts and Accessories for Motor Vel 3830	16963	68	31311	76	0	14347	8	1.00	14339
Building and Repairing of Ships 3841	44	0	672	0	0	629	0	1.00	629
Building and Repairing of Pleasure € 3842	226	0	208	0	0	-18	0	-1.00	18
Railway and Tramway Locomotives : 3850	8101	0	9237	170	4	1136	170	0.74	966
Aircraft and Spacecraft 3860	360	526	6828	41	1	6469	-485	1.00	6953
Motor Cycles 3871	489	24	3497	1	0	3008	-22	1.00	3030
Bicycles and Invalid Carriages 3872	607	0	1592	0	0	986	0	1.00	986
Other Transport Equipment N.e.c. 3879	542	0	700	0	0	159	0	1.00	159
Furniture 3910	10701	3	25485	15	0	14784	11	1.00	14773
Jewellery and Related Articles 3921	65	92	400	34	16	334	-58	1.00	392
Musical Instruments 3922	219	0	965	1	0	746	1	1.00	746
Sports Goods 3923	483	3	1251	0	0	767	-3	1.00	771
Games and Toys 3924	472	9	2456	0	0	1984	-9	1.00	1992
Other Manufacturing N.e.c. 3929	6234	248	6124	57	2	-111	-191	0.27	81
Recycling of Metal Waste and Scrap 3951	63	6291	304	8293	7	241	2002	-0.78	1761
Recycling of Non-metal Waste and € 3952	784	2211	1217	2434	67	433	223	0.32	209
MANUFACTURING TOTAL	965799	84284	2722414	128840		1756615	44556		1712059
GRAND TOTAL	998483	112494	2766629	184666		1768146	72172		1695974

Table A8: Trade between SACU and Zimbabwe (constant 1995 prices, R1000s)

	SIC4	Exp94	Imp94	Exp00	Imp00	GL00 (%)	d(Exp)	d(Imp)	MIIT (94-00)	UMCJT
Meat products	3011	17505	8910	1056	36154	6	-16449	27244	-1.00	43693
Fish products	3012	24557	458	7584	32	1	-16973	-426	-0.95	16547
Fruit and vegetable products	3013	4147	5936	4291	5818	85	145	-118	1.00	263
Vegetable and Animal Oils and Fats	3014	1364	34718	23232	12534	70	21868	-22184	1.00	44052
Dairy Products	3020	2214	14692	9573	2812	45	7360	-11880	1.00	19239
Grain Mill Products	3031	4103	3668	1867	1013	70	-2235	-2655	0.09	420
Starches and Starch Products	3032	820	9801	2087	33	3	1268	-9768	1.00	11036
Prepared Animal Feeds	3033	9598	7133	4857	975	33	-4741	-6158	0.13	1417
Bakery Products	3041	1390	3929	612	558	95	-777	-3371	0.63	2594
Sugar, Including Golden Syrup and C	3042	160	7401	213	1262	29	53	-6139	1.00	6192
Cocoa, Chocolate and Sugar Confec	3043	5214	9262	6109	1312	35	895	-7950	1.00	8845
Macaroni, Noodles, Couscous and E	3044	431	12	279	0	0	-152	-12	-0.85	140
Other Food Products N.e.c.	3049	8303	11160	20659	2550	22	12356	-8609	1.00	20966
Distilling, Rectifying and Blending of	3051	13072	9	10687	137	3	-2385	128	-1.00	2513
Beer and Other Malt Liquors and Ma	3052	909	8263	122	74	75	-787	-8189	0.82	7402
Soft Drinks; Mineral Waters	3053	1814	40	3370	14	1	1556	-25	1.00	1582
Tobacco Products	3060	1395	2434	32142	945	6	30748	-1489	1.00	32237
Preparation and Spinning of Textile f	3111	22888	68503	28559	21318	85	5671	-47185	1.00	52856
Made-up Textile Articles, Except Apr	3121	5998	19449	6920	1592	37	922	-17857	1.00	18779
Carpets, Rugs and Mats	3122	6633	189	2528	1	0	-4106	-188	-0.91	3918
Cordage, Rope, Twine and Netting	3123	941	112	265	1890	25	-676	1778	-1.00	2454
Other Textiles N.e.c.	3129	15803	1394	22731	122	1	6928	-1272	1.00	8200
Knitted and Crocheted Fabrics and /	3130	38408	17960	3751	874	38	-34658	-17086	-0.34	17572
Wearing Apparel, Except Fur Appare	3140	4219	19351	5065	7021	84	847	-12330	1.00	13177
Dressing and Dyeing of Fur; Articles	3150	51	6	56	0	0	5	-6	1.00	12
Tanning and Dressing of Leather	3161	686	20397	1017	2341	61	331	-18056	1.00	18387
Luggage, Handbags, etc, Saddlery a	3162	248	13907	500	6924	13	252	-6983	1.00	7235
Footwear	3170	6145	36988	4010	14242	44	-2136	-22747	0.83	20611
Sawmilling and Planing of Wood	3210	709	46176	3025	36811	15	2317	-9365	1.00	11682
Veneer Sheets; Plywood, Laminboar	3221	9267	12672	12385	15075	90	3118	2402	0.13	716
Builders' Carpentry and Joinery	3222	317	9546	1681	399	38	1364	-9147	1.00	10511
Wooden Containers	3223	610	258	2566	8	1	1957	-250	1.00	2207
Other Products of Wood; Articles of l	3229	1038	339	1438	1081	86	401	742	-0.30	341
Pulp, Paper and Paperboard	3231	91695	7556	96829	6920	13	5134	-636	1.00	5769
Corrugated Paper and Paperboard a	3232	9814	5145	23966	19	0	14153	-5126	1.00	19279
Other Articles of Paper and Paperbc	3239	14291	456	26486	152	1	12195	-304	1.00	12499
Publishing of Books, Brochures, Mus	3241	11270	946	10723	164	3	-547	-782	0.18	235
Publishing of Newspapers, Journals	3242	2902	237	3237	0	0	335	-237	1.00	572
Publishing of Recorded Media	3243	4621	83	899	139	27	-3722	55	-1.00	3777
Other Publishing	3249	196	325	674	21	6	477	-304	1.00	782
Printing	3251	2222	2382	4030	722	30	1808	-1661	1.00	3469
Service Activities Related to Printing	3252	663	1	1380	0	0	717	-1	1.00	718
Coke Oven Products	3310	4609	4020	2838	24737	21	-1770	20717	-1.00	22487
Petrol, Fuel Oils, Lubricating Oils an	3321	70635	18	277318	197	0	206683	179	1.00	206504
Processing of Nuclear Fuel	3330	134	0	5	3	72	-129	3	-1.00	132
Basic Chemicals, Except Fertilizers ;	3341	145117	9779	167507	15216	17	22390	5437	0.61	16954
Fertilizers and Nitrogen Compounds	3342	80532	74	113807	0	0	33275	-74	1.00	33349
Plastics in Primary Form and of Synt	3343	110931	1388	170630	3662	4	59699	2274	0.93	57425
Pesticides and Other Agro-chemical	3351	38850	1911	46295	432	2	7446	-1479	1.00	8925
Paints, Varnishes and Similar Coatin	3352	12098	1497	13790	9	0	1692	-1488	1.00	3180
Pharmaceuticals, Medicinal Chemics	3353	45549	11671	222510	6796	6	176961	-4875	1.00	181836
Soap and Detergents, Cleaning and	3354	18462	1089	26613	395	3	8151	-694	1.00	8844
Other Chemical Products N.e.c.	3359	108884	3450	104145	1135	2	-4740	-2315	-0.34	2424
Man-made Fibres	3360	13096	58	7955	0	0	-5141	-58	-0.98	5083
Rubber Tyres and Tubes; Retreading	3371	25140	4017	26344	0	0	1204	-4017	1.00	5221
Other Rubber Products	3379	12602	2000	19379	308	3	6776	-1692	1.00	8468
Plastic Products	3380	30728	5218	73825	1398	4	43097	-3820	1.00	46917
Glass and Glass Products	3411	17329	2835	29584	6366	35	12255	3531	0.55	8724
Non-structural Non-refractory Ceran	3421	4811	1223	2727	95	7	-2084	-1128	-0.30	956
Refractory Ceramic Products	3422	12376	393	14679	595	8	2303	202	0.84	2101
Structural Non-refractory Clay and C	3423	2824	400	6046	27	1	3222	-373	1.00	3596
Cement, Lime and Plaster	3424	946	26309	30992	12	0	30046	-26297	1.00	56343

Table A8 (cont): Trade between SACU and Zimbabwe (constant 1995 prices, R1000s)

	SIC4	Exp94	Imp94	Exp00	Imp00	GL00 (%)	d(Exp)	d(Imp)	MIT (94-00)	UMCIT
Articles of Concrete, Cement and Plk	3425	2432	5231	1911	5916	49	-521	685	-1.00	1206
Stone: cutting, Shaping and Finishin	3426	165	86	909	4159	36	744	4073	-0.69	3329
Other Non-metallic Mineral Products	3429	15397	492	24576	178	1	9179	-314	1.00	9493
Basic Iron and Steel	3510	250340	40250	232045	33184	25	-18294	-7066	-0.44	11229
Basic Precious and Non-ferrous Met	3520	133853	25867	48462	37575	87	-85392	11708	-1.00	97100
Structural Metal Products	3541	8892	10688	14237	76	1	5345	-10612	1.00	15958
Tanks, Reservoirs and Similar Conta	3542	10352	973	1416	33	4	-8937	-941	-0.81	7996
Steam Generators, Except Central I	3543	2873	58	4003	251	12	1130	193	0.71	937
Cutlery, Hand Tools and General Ha	3553	29177	2204	26598	145	1	-2579	-2059	-0.11	520
Other Fabricated Metal Products N.e	3559	34463	44217	41890	30912	85	7427	-13305	1.00	20732
Engines and Turbines, Except Aircre	3561	10474	709	2972	174	11	-7502	-536	-0.87	6966
Pumps, Compressors, Taps and Val	3562	50930	1488	45744	3159	13	-5186	1671	-1.00	6858
Bearings, Gears, Gearing and Drivin	3563	21614	282	13111	1862	25	-8504	1580	-1.00	10084
Ovens, Furnaces and Furnace Burne	3564	5935	186	3844	57	3	-2091	-130	-0.88	1961
Lifting and Handling Equipment	3565	32131	386	33476	169	1	1345	-217	1.00	1562
Other General Purpose Machinery	3569	54854	8593	61505	1773	6	6651	-6820	1.00	13471
Agricultural and Forestry Machinery	3571	22277	10612	14820	5499	54	-7457	-5114	-0.19	2343
Machine Tools	3572	31727	1153	15466	732	9	-16261	-421	-0.95	15840
Machinery for Metallurgy	3573	160	172	560	1	0	400	-171	1.00	571
Machinery for Mining, Quarrying and	3574	86989	1637	54650	21002	56	-32338	19365	-1.00	51703
Machinery for Food, Beverage and T	3575	15410	351	15640	967	12	230	616	-0.46	385
Machinery for Textile, Apparel and L	3576	5201	939	8294	214	5	3092	-726	1.00	3818
Weapons and Ammunition	3577	36	0	66	0	0	30	0	1.00	30
Other Special Purpose Machinery	3579	40585	866	39976	421	2	-609	-445	-0.16	164
Household Appliances N.e.c.	3580	17420	2447	13995	3644	41	-3426	1197	-1.00	4623
Office, Accounting and Computing Iv	3590	18365	1591	73838	1177	3	55473	-414	1.00	55888
Electric Motors, Generators and Trar	3610	21898	1528	17710	254	3	-4189	-1273	-0.53	2915
Electricity Distribution and Control A	3620	28863	2062	24422	317	3	-4441	-1745	-0.44	2696
Insulated Wire and Cable	3630	19988	11945	17297	6639	55	-2691	-5306	0.33	2615
Accumulators, Primary Cells and Pri	3640	6358	2777	8684	1738	33	2327	-1038	1.00	3365
Electric Lamps and Lighting Equipm	3650	8250	602	4247	514	22	-4003	-88	-0.96	3915
Other Electrical Equipment N.e.c.	3660	15664	292	22687	139	1	7022	-153	1.00	7176
Electronic Valves and Tubes and Ot	3710	4075	82	4719	25	1	644	-57	1.00	700
Other Electrical Equipment N.e.c. El	3720	4194	18	22268	1873	16	18073	1854	0.81	16219
Television and Radio Receivers, Sou	3730	5264	2626	17260	749	8	11995	-1877	1.00	13872
Medical and Surgical Equipment anc	3741	16521	671	11291	419	7	-5230	-253	-0.91	4977
Instruments and Appliances for Mea:	3742	12448	1193	25027	395	3	12579	-798	1.00	13377
Industrial Process Control Equipmer	3743	2159	23	2931	145	9	772	123	0.73	649
Optical Instruments and Photograph	3750	3609	241	5480	34	1	1871	-207	1.00	2078
Watches and Clocks	3760	424	100	655	208	48	232	108	0.37	124
Motor Vehicles	3810	278884	17536	96680	1384	3	-182204	-16152	-0.84	166052
Bodies (Coachwork) for Motor Vehic	3820	11772	4738	5399	80	3	-6373	-4658	-0.16	1715
Parts and Accessories for Motor Veh	3830	45668	2616	81761	2930	7	36093	314	0.98	35780
Building and Repairing of Ships	3841	266	0	35	2	11	-231	2	-1.00	233
Building and Repairing of Pleasure a	3842	370	69	165	46	43	-205	-23	-0.80	182
Railway and Tramway Locomotives :	3850	4256	909	6352	998	27	2096	89	0.92	2007
Aircraft and Spacecraft	3860	4398	8841	1260	1180	97	-3137	-7661	0.42	4523
Motor Cycles	3871	215	15	2354	2	0	2139	-13	1.00	2152
Bicycles and Invalid Carriages	3872	617	252	2557	3	0	1940	-249	1.00	2189
Other Transport Equipment N.e.c.	3879	278	403	1643	0	0	1365	-403	1.00	1767
Furniture	3910	6780	37636	6027	30609	33	-753	-7027	0.81	6274
Jewellery and Related Articles	3921	678	2976	313	381	90	-365	-2594	0.75	2229
Musical Instruments	3922	696	90	1122	12	2	427	-78	1.00	505
Sports Goods	3923	1334	109	1523	8	1	189	-101	1.00	290
Games and Toys	3924	1297	76	696	23	6	-600	-53	-0.84	547
Other Manufacturing N.e.c.	3929	6824	1603	7555	275	7	731	-1329	1.00	2060
Recycling of Metal Waste and Scrap	3951	80	11385	2087	9791	35	2008	-1594	1.00	3601
Recycling of Non-metal Waste and S	3952	5954	4310	21315	1198	11	15360	-3112	1.00	18473
MANUFACTURING TOTAL		2526415	768756	2967976	461086		441561	-307670		749231
GRAND TOTAL		2610006	1076358	3085218	811597		475212	-264762		739974