2

Mauritian Manufactured Export Performance in Comparative Perspective

2.1 Introduction

This chapter evaluates the Mauritian export performance since 1980, analysing various characteristics of its manufactured exports, on their own and in relation to other countries: Singapore, Malaysia, Thailand, Taiwan, Sri Lanka, India and Bangladesh. These comparisons are useful and revealing: some of the selected countries (such as Bangladesh, India, Sri Lanka and to some extent Malaysia and Thailand) are actual or potential competitors in current export products like clothing. Some, in particular Singapore, Taiwan, Malaysia and Thailand are far more dynamic and advanced in their export development and spread, and offer useful lessons. And some, like India and perhaps the South East Asian countries, are already or may become partners in future industrial and trade development. A comparative examination is very useful in showing their relative strengths and weaknesses, and for devising a strategy for future export development.

"Manufactured exports" are defined here to include processed food and tobacco as well as the normal categories of industrial products. This is a broad definition, including some processed raw materials that are normally excluded from manufactures, but it is useful to include primary products that undergo some processing for export. Data were compiled at the 3-digit SITC level from the *UN Trade Statistics Yearbooks* (and, for Taiwan, from World Bank data banks) on manufactured exports in these countries and for the world as a whole, and were used to calculate growth rates, world market shares, trade structures, 'revealed comparative advantages' and export 'dynamism' of manufactured exports over 1980-92. In addition, more recent data on Mauritian exports are shown later.

The overwhelming majority of Mauritian manufactured exports come from its export processing zones (EPZs). In September 1997, there were 480 EPZ enterprises, employing 82,083 persons (of whom about 6,097 were foreign workers).[5] Most of the enterprises (81.5%) were large, and most (51%) were in the wearing apparel industry, with another 7% in textiles. Both the number of enterprises and employees had declined over time (though export values continued to rise): the peak in number of enterprises was 591 in 1988, and in employment 90,861 in 1991. The number of closures rose steadily over the 1990s, from 57 in 1990 to 69 in 1994, with a decline to 38 in 1995 and a slight increase to 43 in 1996.

2.2 Export Values and Structure

According to the World Bank's *World Development Report 1997*, Mauritian merchandise exports grew annually 10.4% per year during 1980-90, but slowed down to 4.8% during 1990-95. The engine of growth in the 1980s was manufactured products, which grew at 18.2% per annum; and it is the slowdown of these exports in the 1990s that account for the dramatic slowdown of overall export earnings. Table 2.1 shows the World Bank figures for manufactured exports for the comparator countries and the relative rates of growth.

While Mauritius has, as the smallest country in the group, relatively small exports by total value, in per capita terms it is significant, with 1995 exports of $912.9 per head of population. Singapore has the highest *per capita* exports in the group ($31.7 thousand), followed by Taiwan

Table 2.1 **Values and Growth Rates of Manufactured Exports (1980-95)**

Country	1980 ($ m.)	1995 ($ m.)	Annual Average Growth Rate 1980-95 (%)	Per capita Manuf'd Exports, 1995 ($ m.)
Mauritius	84	1030	18.2%	912.9
Singapore	9700	94616	16.4%	31675.9
Taiwan	17424	103774	12.6%	4895.0
Malaysia	2470	48126	21.9%	2389.6
Thailand	1823	41216	23.1%	707.6
India	5068	23074	10.6%	24.8
Sri Lanka	171	2774	20.4%	153.1
Bangladesh	547	2568	10.9%	21.4

Source: World Bank, *World Development Report 1997*

($4.9 thousand) and Malaysia ($2.4 thousand). At the other end are Sri Lanka ($ 153.1), India ($24.8 only) and Bangladesh ($21.4). Mauritius thus comes in at less than half the Malaysian level and just above the Thai level ($0.7 thousand). This signifies that Mauritius has built up a significant base of export-related skills, information and institutions in relation to the size of the economy, far ahead of neighbouring countries in Africa, and could be used to promote exports of a range of related services to the region.

An analysis of the **export structure** can be useful in devising strategy. The distribution of a country's exports reveals its competitive base in the manufacturing industry, and its evolution over time shows the ability to diversify and move from simpler, more vulnerable and lower value-added activities into more complex and higher value ones. It also shows where the gaps in past performance lie and where strategic resources should be focused to change the export structure.

Table 2.2 shows the broad export structure at the two-digit level in Mauritius and its comparators in 1980 and 1992.

Mauritius stands out because of the low degree of diversification of its exports: there are lots of 'gaps' in the matrix of exports in comparison with other countries. The contrast is particularly marked in relation to Singapore and Taiwan, both of which have very 'dense' (i.e. diverse) export structures. A highly concentrated structure has obvious disadvantages. Heavy dependence on a few products renders the country vulnerable to unfavourable developments in those activities. Mauritius is exceptionally vulnerable, since over 80 per cent of its manufactured exports (note that *sugar is excluded* here) come from one product group – clothing. This degree of dependence is higher than other garment-dependent exporters in the group, such as Sri Lanka (71%) and Bangladesh (69%). The other striking feature is the virtual absence of more complex industrial goods, either sophisticated consumer or producer goods. To the extent that the upgrading of exports depends on the existing base of skills and capabilities, this means that the existing base is very narrow.

There are numerous ways of analysing the export structure further to show their underlying competitive nature. This report uses *skill distribution* and a *technology-based* classification.

Skill Categories: Table 2.3 shows the distribution of export activities over *low and high skill products* in 1980 and 1992 for the selected countries. This classification is intended to show the sophistication of skills involved in the production process.[6] The first stages of export growth in a developing country generally tend to concentrate in low skill products, which generally involve simple technology and low value added. Over time, countries tend to graduate into more high skill products, with greater value added, higher labour productivity and more advanced technology. The categories are very broad, of course, and in some cases apparently 'low skill' activities (like textiles) have high skill segments, or when 'high skill' activities (like electronics) have labour-intensive assembly processes that require minimal worker skills. Nevertheless, the general classification is plausible and meaningful, and yields interesting strategic insights.

The share of *high skill products for the world as a whole* was 75.7% in 1980 and 75.4% in 1992, a

Table 2.2 **Structure of Manufactured Exports (Two-Digit ISIC Level) (%)**

	Mauritius		Singapore		Sri Lanka	
	1980	1992	1980	1992	1980	1992
Organic chemicals			7.9	8.4		
Inorganic chemicals						
Dyes, Tanning, Colour Prod.						
Medicinal etc. Products						
Perfume, cleaning etc.					4.32	
Other Chemicals						0.99
Leather, dressed fur, etc.						0.06
Rubber manufactures n.e.s.				0.4	2.89	1.92
Wood, cork manufactures			3.0	0.6		0.82
Paper, paperboard and mfr			0.7	0.7		
Textile yarn, fabrics, etc.	n/a	4.04	4.4	2.2	3.62	4.86
Non metal mineral mfrs n.e.s.	7.09	2.67	1.6	0.9	40.93	11.33
Iron and steel			2.5	1.1		
Metal manufactures mfrs n.e.s.			2.5	1.5		1.31
Power generating equip.			2.6	2.3		
Mach. for special industry		0.15	4.7	2.3	1.94	0.12
Metalworking machinery			0.7	0.4		
General industrial machinery n.e.s.			4.9	4.4	0.60	0.14
Office machines and equip.			1.9	26.8		0.92
Telecom, sound equip.			16.3	15.1		
Electric machinery n.e.s.			20.6	17.4		1.21
Road vehicles			2.8	1.5		
Other transport equip.			7.1	2.0	1.69	0.10
Plumbing, heating, lighting eqpt.						
Furniture				0.5		
Travel goods, handbags			3.1			
Clothing, accessories	87.30	81.28	5.1	3.7	41.10	70.94
Footwear						
Precision instruments n.e.s			1.1	1.8		
Photo eqpt, optical goods	2.68	4.39	2.4	1.9		
Misc. Manufactures	2.93	5.24	4.2	4.0	2.91	5.27

distribution common to most developed industrial countries, and increasingly to the NIEs. Compare this to 2.7% and 5% for Mauritius: an overwhelming and continuing dependence on low skill exports. A similar structure is observed in the two smaller South Asian countries, with Bangladesh showing not only a practical absence of high skill exports but also, unusually, a deterioration in the structure over time; by the later year its high-skill exports are less than half a percent of its total manufactured exports. India has a more diversified export structure, but one which is still dominated by low end products. By contrast, the four NIEs and new-NIEs show much higher shares of high skill products: two (Taiwan and Thailand) show very rapid rates of upgrading during this period, while two (Singapore and Malaysia) already have very high-skill export structures at the beginning. Figure 2.1 shows graphically the evolution of

India		Bangladesh		Malaysia		Thailand		Taiwan	
1980	1992	1980	1992	1980	1992	1980	1992	1980	1992
0.20	2.31	1.25			0.88		0.77	0.61	0.62
0.58	0.53							0.28	0.20
	2.16						0.47	0.14	0.53
								0.15	0.07
0.76	0.76				0.53			0.19	0.27
	0.75				0.53		2.35	1.50	3.11
3.59	4.50	11.33	8.55				1.50	0.51	3.10
0.28	1.69			1.74	1.15	1.66	1.12	1.09	0.72
				9.71	3.59	3.22	0.91	4.41	0.98
		1.43	0.17		0.81		0.31	0.63	0.89
10.15	21.17	83.89	21.44	8.15	2.35	15.98	6.46	10.25	10.12
5.59	23.77				1.39	9.12	6.75	2.17	1.60
0.34	3.84				1.42	2.41	0.96	1.89	1.62
1.96	3.55			1.94	1.29	32.31	2.08	4.80	5.88
0.78	1.13			0.76	1.52		0.84	0.88	0.61
0.58	0.02	0.63		1.27	0.80			1.78	3.82
0.29	0.36							1.08	1.09
0.60	1.08	0.73		2.46	3.03	0.67	3.39	1.12	2.73
	0.55				9.38		11.07	1.21	12.78
				4.62	21.20		8.80	11.78	6.61
1.01	1.51	0.39		53.44	28.58	15.75	11.77	6.75	11.22
18.43	4.13				1.06		1.69	2.79	4.83
0.31				4.12	4.89	0.41		0.76	0.34
								0.28	1.25
								1.65	2.43
								3.69	0.97
52.32	22.41	0.34	69.35	6.78	7.44	12.91	20.89	13.94	5.45
							4.99	8.10	2.18
					1.21	0.04	0.66	0.22	0.74
0.30				2.03	1.54	1.05	2.07	2.21	1.88
1.96	3.79		0.49	2.98	5.43	4.46	10.14	13.12	11.33

Fig 2.1 **Shares of High Skill Exports (%)**

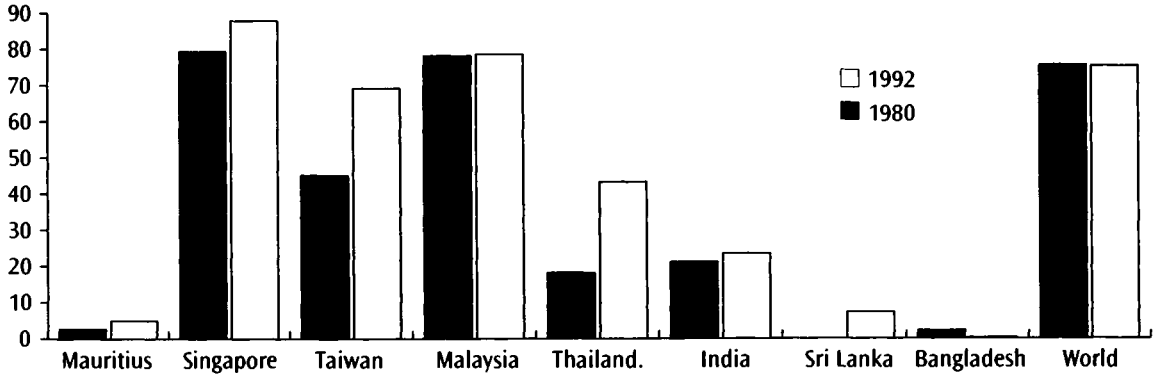


Table 2.3 **Skill Structure of Manufactured Exports (1980-92) (%)**

	Mauritius		Singapore		Taiwan		Malaysia	
	1980	1992	1980	1992	1980	1992	1980	1992
Low skill	97.3	95.0	20.6	12.1	54.9	30.8	21.8	21.4
High skill	2.7	5.0	79.4	87.9	45.1	69.2	78.2	78.6

	Thailand		India		Sri Lanka		Bangladesh	
	1980	1992	1980	1992	1980	1992	1980	1992
Low skill	81.8	56.7	78.8	76.5	100.0	92.7	97.8	99.8
High skill	18.2	43.3	21.2	23.5	0.0	7.3	2.2	0.2

high-skill products in manufactured exports.

The sub-group of economies specialised in low-skill products (Mauritius and the South Asian countries) have different structures and face different prospects for growth of their low skill exports. Sri Lanka and Bangladesh have relatively small (and uncompetitive) textile sectors, and have specialised in the low end of mass-produced garments. India, by contrast, has a large and increasingly efficient textile industry and its garment industry, while also in the low end at this time, is capable of higher quality production and specialisation. A large and diverse textile industry can be a major source of competitive advantage for the garment industry, and after the MFA abolition it is likely that the competitive edge will move in favour of countries that have such an industry: China, Indonesia and India. All these countries also have relatively low wages, at least away from the main industrial centres, and large reserves of labour. They pose the main competitive threat to the smaller garment exporters in the region. Mauritius is specialised in a different, and generally higher quality, product range (though China is a major competitor in knitwear) than the South Asian countries, but given the low entry barriers in the industry this is not an assurance of future export growth. What is required, and stated endlessly in Mauritius, is for the industry to make a quantum jump in quality and design in garments to approximate with developed country levels. What this requires is considered later.

The East Asian economies, despite their diversification into more complex products, also had sizeable garment exports in 1992: Thai exports of clothing came to $3.7 billion, Malaysia's $1.9 billion, Taiwan's $4.1 billion and Singapore's $1.8 billion (though the last figure may include a lot of re-exports from neighbouring countries), compared to $700 million for Mauritius. For most of these Asian countries, garments were regarded as a 'sunset' industry and

Table 2.4 **Technological Basis of Competitive Advantage**

Activity Group	Major Competitive Factor	Examples	OECD exports 1985
Resource intensive	Access to natural resources	Aluminium smelting, oil refining	13.5%
Labour intensive	Cost of un/semi-skilled labour	Garments, footwear, toys	9.8%
Scale intensive	Length of production runs	Steel, automobiles, paper, chemicals	33.8%
Differentiated	Production tailored to varied demands	Advanced machines, generating equip.	27.3%
Science based	Rapid application of science to technology	Electronics, biotechnology, medicines	15.5%

Table 2.5 **Shares of Manufactured Exports by Technological Categories (%)**

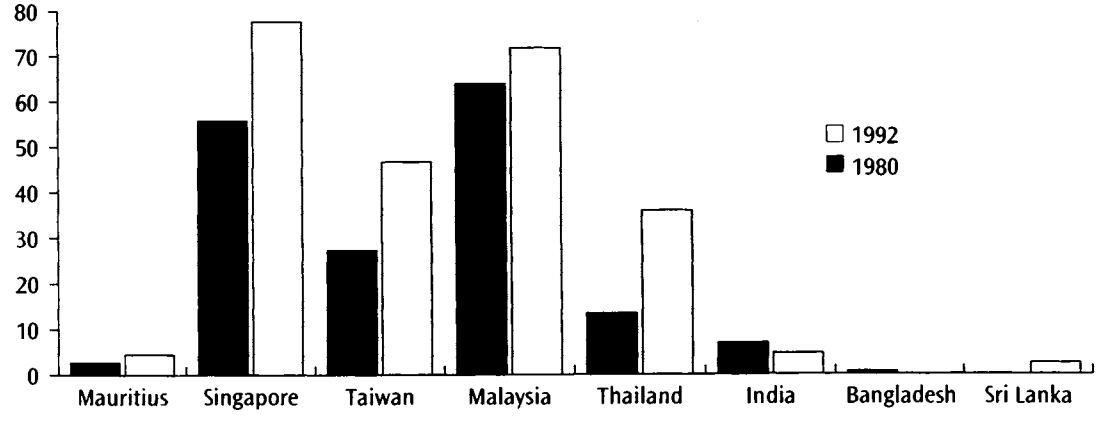
	Mauritius		Singapore		Taiwan		Malaysia	
	1980	1992	1980	1994	1980	1994	1980	1992
Resource- based	7.1	4.9	6.5	3.3	9.4	6.8	11.0	5.4
Labour intensive	90.2	90.6	16.9	8.5	53.9	32.7	18.4	17.4
Scale intensive	0.0	0.0	20.9	10.5	9.4	13.9	4.9	5.3
Differentiated	2.7	4.5	50.3	46.3	23.7	30.9	60.1	29.6
Science-based	0.0	0.0	5.4	31.4	3.6	15.8	3.8	42.3

	Thailand		India		Bangladesh		Sri Lanka	
	1980	1992	1980	1994	1980	1994	1980	1992
Resource- based	53.9	20.1	26.5	28.7	14.3	9.4	19.7	13.4
Labour intensive	28.4	38.3	55.4	49.6	84.9	90.6	73.6	78.2
Scale intensive	4.3	5.6	11.2	17.1	0.7	0.0	6.8	5.8
Differentiated	13.4	15.7	4.1	1.2	0.1	0.0	0.0	1.4
Science-based	0.0	20.3	2.8	3.4	0.0	0.0	0.0	1.1

treated with benign neglect by policy makers. The industry had provided the initial entry into large-scale manufactured export activity, a massive generator of employment and foreign exchange, as well as the base to diversify into other industries. The countries had used the 'rent' from a depleting 'resource' (cheap semi-skilled or unskilled labour) to build up other sources of competitiveness, moving towards more complex and higher value-added activities. In this they differ from Mauritius, Sri Lanka or Bangladesh, where the 'rent' has not been used to generate dynamic comparative advantage.

Why this concern with the skill structure of exports? After all, it may be argued that 'exports are exports' and their competitive basis is irrelevant as long as they exist and grow. This may be facile, since the skill (and technology) base affects both the sustainability of export growth as well as the beneficial spillovers that result from export activity. Low skill products are inherently more vulnerable to the entry of new competitors, since scale economies and technological requirements tend to be low and the main competitive advantage lies in low wages. They are also vulnerable to substitution by other products and by higher quality versions. Their 'learning' potential is limited, and they tend not to create skills and technical knowledge that has wider applications in other industries. All this is

Fig 2.2 **Shares of 'Technologically Advanced' Products in Manufactured Exports (%)**



on top of the risk of high dependence on a very narrow range of products.

The low-skill product driving Mauritian exports, garments, faces the additional handicap that the MFA, which induced the initial relocation of foreign producers in the island and which constrains open competition by the larger Asian producers, is about to end. This prospect causes enormous concern in competing low-end garment exporters. While garment exports from these countries will survive, and may even expand, after the MFA goes, it would be unwise to expect them to provide the dynamo of growth that they did in the recent past – unless they can manage a substantial jump in their quality and enter segments currently in the developed countries and a few high-end NIE producers.

As for skill and technological spillovers, garment exports do not seem to provide the basis for much export diversification. The technology of garment manufacture is very specific, and the skills and know-how it creates, even after decades of operation, have few applications to other manufacturing industries. A recent study of Sri Lanka (Lall, Rao and Wignaraja, 1996) finds that almost no new export-oriented manufacturing activities have emerged using the capabilities developed in the garment industry, and the country, while much larger (it has the same population as Malaysia) is facing a very similar strategic problem to Mauritius. What garment export does contribute is a generic 'learning to export', with new skills in searching for buyers, negotiating deals, meeting delivery deadlines and quality standards, financing, shipping and so on. These are valuable skills, and Mauritius now has an abundance of them: these need to be exploited in future strategy.

Technology: The export structure can be further analysed in terms of the technological base of the activity (the classification was developed for advanced industrial nations by OECD, 1987). Table 2.4 shows the categories used, their characteristics and examples and the share of total OECD exports accounted for by each. Appendix B shows the industries included under each heading.

The categorisation is not perfect. There are overlaps between the categories (e.g. resource-based industries can be very capital-intensive), and the groups are broad and can include many different processes (for instance, many electronics exports are labour-intensive). However, the classification is helpful if carefully used. As with skills, the technological categories have some implications for export sustainability and spillovers.

Labour-intensive products tend to be at the low end of the technology spectrum, with low requirements of technical skills (though in large scale production they often call for good organisational skills, and high fashion products call for difficult design skills). Resource-based products span a range of different technologies, but are not considered further for competitiveness analysis because their edge is too specific to merit generalisation. Products in the scale-intensive group tend to use complex, capital-intensive technologies with high skill requirements, but not usually at the cutting edge of innovation or change. Within this group, we should distinguish between process (chemicals) and engineering industries (automobiles); the latter tend to have more difficult learning requirements, be very linkage-intensive, and involve a larger variety of advanced skills. Some chemical industries are also highly innovative (fine chemicals and pharmaceuticals) and so appear under the science-based category. 'Differentiated' products are the sophisticated end of engineering products, involving advanced design, research and manufacturing skills, while 'science-based' products use leading edge technologies and have close relations with basic research. In broad terms, the last three categories together may be regarded as 'technologically advanced', and the last two as 'high-technology', products. It is these two groups of exports that have the best prospects for growth and beneficial spillover impacts on domestic industrial structure and activity.

Table 2.5 shows the structure of exports by

these categories for eight of the countries. The following points are worth making:

There are striking differences between the countries in their technological specialisation. At one end, Mauritius and Bangladesh are overwhelmingly specialised in labour-intensive products; at the other end, Malaysia has only 17% of its manufactured exports in this category. The contribution of differentiated products is highest in Singapore, Malaysia and Taiwan; over time, this has been falling in the former two and rising in Taiwan. Science-based products are highest in Malaysia, followed by Singapore, Taiwan and Thailand. All 'high-technology' (differentiated and science-based) products account for over 78% of Singapore's exports, 72% of Malaysia's, 47% of Taiwan's and 36% of Thailand's; they contribute nothing to Bangladeshi exports, 2.5% to Sri Lanka's and just under 5% to those of India and Mauritius.

Mauritian manufactured exports are overwhelmingly dominated by *labour intensive* products (over 90% in both 1980 and 1992). The contribution of resource based manufactured exports is falling over time and that of differentiated products is rising, but the contribution of the latter remains tiny. While the share of 'technologically advanced' (scale-intensive, differentiated and science-based) products in total exports for Mauritius (Figure 2.2) is not as low as most of South Asia, it is very low indeed in comparison to South East and East Asia. The upgrading of its export structure has also been rather weak. This pattern of specialisation is not conducive to a sustained expansion of exports in the emerging technological and trading environment.

The NIEs and new-NIEs are far more advanced than the others in the group in terms of upgrading their export structures. Malaysia reached a very high share for high-tech products earlier than the others (in the 1970s), with semi-conductor assembly leading its export boom rather than garments or footwear. Thereafter, the share of technologically advanced products has remained at a high level, but its further upgrading has been slow. Singapore has carried on up the technology scale in its export composition, and today has what is the most advanced export structure in the developing world (and possibly in the world as a whole), driven mainly by producer electronics and heavy chemicals. In the others, there is more gradual build-up as the structure moves from simpler to more complex technologies.

These differences between the NIEs are traceable partly to the different agents responsible for the export drive. Malaysian and Singaporean high technology exports are almost entirely in the hands of MNCs. In the former, many of these activities are still assembly operations with low local content and little indigenous technological input (though the latest wave of FDI into the country is moving more complex processes there). Singapore has greater local technological depth, and some strong local electronics companies (such as Creative Laboratories, one of the world's largest maker of sound cards for personal computers). Taiwanese exports are, by contrast, predominantly by local enterprises, and its high technology products actually embody indigenous technological effort and high levels of local content. The fact that much of this is carried out by SMEs is the result of intense support in technology, skill creation and marketing by the government; this clearly has important implications for Mauritius.

In terms of export 'agents', Mauritius has moved from a heavy dependence of foreign firms in the EPZs (over 80% of exports in the mid-1980s) to a position where the majority of exports now come from domestically-owned (mainly large) companies. This is an impressive achievement, especially since rising wages have entailed considerable upgrading of quality. While many garment exporters in the developing world are local firms, the proportion in Mauritius is relatively high, as is the quality of products and independent design and marketing capabilities.

India and Thailand are at different stages in the transition from exporting mainly low skill, low technology products to developing a comparative advantage in more demanding products. Thailand

Table 2.7 **Fifty Most Dynamic Exports to the OECD 1980-94**

		% Contribution		% Growth 1980-94	
SITC	*Group*	*1980*	*1994*	*Contribution*	*Value*
	I. Computers	1.4	5.0	3.6	256.9
752	Automatic data processing machines and units thereof	0.9	3.2	2.3	271.6
759	Parts, n.e.s. of and accessories for groups 751 or 752	0.5	1.8	1.3	233.4
	II. Other Electrical Mach. and Electronic Eqpt.	4.8	9.4	4.6	95.5
776	Thermionic, cold cathode and photo-cathode valves	0.8	2.3	1.5	181.0
773	Equipment for distributing electricity	0.2	0.5	0.3	178.5
771	Electrical apparatus and parts	0.1	0.3	0.2	131.3
764	Telecommunication equipment, parts and accessories	0.8	1.8	0.9	110.8
772	Electrical apparatus for making and breaking electrical circuits	0.6	1.1	0.5	79.6
778	Electrical machinery and apparatus	0.8	1.4	0.6	78.8
761	Television receivers	0.3	0.4	0.1	54.6
775	Household equipment	0.5	0.7	0.2	46.4
763	Sound and video equipment	0.3	0.5	0.1	39.7
762	Radio receivers	0.4	0.5	0.1	26.4
	III. Clothing and Apparel	2.2	3.9	1.8	81.7
844	Under garments, of textile fibres, not knitted or crocheted	0.2	0.3	0.2	93.3
845	Outer garments and accessories, knitted or crocheted	0.6	1.1	0.5	88.0
843	Outer garments, for women, girls and infants, of textile fibres	0.6	1.2	0.6	87.4
846	Under garments, knitted or crocheted	0.3	0.6	0.3	84.8
842	Outer garments, for men and boys, of textile fibres	0.5	0.8	0.3	60.4
	IV. Non-electrical Machinery and Equipment	3.1	4.4	1.3	42.4
714	Non-electric engines and motors and their parts	0.4	0.7	0.3	79.8
741	Heating and cooling equipment and their parts	0.3	0.5	0.2	52.0
716	Rotating electric plant and parts	0.3	0.4	0.1	45.5
743	Pumps and compressors, fans and blowers, etc.	0.4	0.6	0.2	44.0
742	Pumps for liquids and liquid elevators	0.3	0.3	0.1	31.7
749	Non-electric parts and accessories of machinery	0.8	1.1	0.3	30.6
728	Other specialised machinery for particular industries	0.6	0.7	0.2	29.5
	V. Automobiles	6.6	9.9	3.3	49.6
781	Passenger vehicles	3.8	6.0	2.2	56.0
713	Internal combustion piston engines and parts	0.8	1.1	0.4	45.7
784	Parts and accessories n.e.s. of motor vehicles	2.0	2.7	0.8	38.6
	VI. Others	10.9	18.6	7.7	70.2
553	Perfumery, cosmetics and toilet preparations	0.1	0.4	0.2	179.6
898	Musical instruments, parts and accessories	0.3	0.7	0.4	155.5
931	Special transactions and commodities not classified by kind	0.9	2.3	1.4	149.9
872	Medical instruments and appliances	0.2	0.4	0.2	131.2
541	Medical and pharmaceutical products	0.7	1.5	0.8	119.3
893	Articles of plastics and resins	0.5	1.0	0.5	103.7
894	Games, sporting goods, toys and baby carriages	0.6	1.1	0.6	100.4
812	Sanitary, plumbing, heating and lighting fixtures and fittings	0.2	0.3	0.2	90.0
831	Travel goods, shopping bags, hand bags, etc.	0.2	0.4	0.2	86.4
514	Nitrogen-function compounds	0.3	0.6	0.3	84.1

SITC	Group	% Contribution 1980	% Contribution 1994	% Growth 1980-94 Contribution	% Growth 1980-94 Value
	VI. Others *Cont.*				
897	Jewellery, goldsmiths' and silversmiths' wares	0.3	0.4	0.2	72.2
821	Furniture and parts	0.7	1.1	0.5	69.3
899	Other miscellaneous manufactured articles	0.3	0.4	0.1	54.0
034	Fresh fish, chilled or frozen	0.4	0.6	0.2	50.6
036	Crustaceans and molluscs, fresh	0.3	0.5	0.2	50.5
642	Articles of paper and paperboard	0.3	0.4	0.1	50.4
874	Measuring, checking, analysing and controlling instruments	0.8	1.1	0.3	40.3
851	Footwear	0.8	1.1	0.3	39.0
515	Organic-inorganic and heterocyclic compounds	0.3	0.5	0.1	37.0
598	Other chemical products	0.5	0.7	0.2	35.7
583	Polymerisation and co-polymerisation products	0.9	1.2	0.3	32.0
792	Aircraft and associated equipment and parts	1.2	1.5	0.3	29.2
672	Ingots and other primary forms, of iron or steel	0.3	0.4	0.1	25.6
Total	**28.9**	**51.1**	**22.2**	**76.6**	

Source: UN ECLAC, Competitiveness Analysis of Nations (CAN) software, version 2.

is the closest to Malaysia in its export structure, and is upgrading rather rapidly, with a very large role for FDI (though not as overwhelming as in Malaysia). India is still fairly low technology in its specialisation despite a large and diversified industrial structure. Its strong inward looking bias still persists, and large areas of industry continue to suffer from technological lags.

2.3 Growth Rates

Table 2.6 shows the **growth rates** of manufactured exports by skill groups. During 1980-92, Mauritius had the third highest rate for total manufactured exports in this group, after Malaysia and Thailand. In low skill products its growth was just behind that of Malaysia, while in high skill products it came after Bangladesh and Thailand. However, these growth rates should be interpreted cautiously, since the size of the initial base affects the growth rates: Bangladesh, for instance, has a very high rate of growth of high skill exports, but the values involved are tiny, and the figure does not denote a strong overall performance in this category. By contrast, Taiwan and Singapore, with much higher values of high skill exports, show lower rates of growth.

Table 2.6 **Growth Rates of Manufactured Exports 1980-92** (% p.a.)

	Mauritius	Singapore	Taiwan	Malaysia
Low skill exports	21.0	10.7	7.0	23.5
High skill exports	27.6	16.7	16.4	23.8
Total exports	21.2	15.7	12.3	23.8

	Thailand	India	Sri Lanka	B'desh
Low skill exports	17.7	5.5	20.0	13.0
High skill exports	30.5	13.7	-	47.6
Total exports	**21.4**	**5.7**	**20.8**	**15.2**

Since Mauritian export growth is traceable to one product – **garments** – it is useful to remark briefly on this industry. The growth of garment exports, while dynamic and sustained for several decades, has been driven by an unusual process of structural adjustment in the global clothing indus-

Table 2.8 **Recent Manufactured Export Performance by Mauritius, 1980-96**

Item	*Values ($ million)*					
	1980	*1985*	*1992*	*1994*	*1995*	*1996*
Fish & preparations	-	-	18.7	28.6	36.7	40.1
Pearls, precious stones	5.9	8.3	22.5	25.2	27.8	28.4
Textile yarn, fabrics	-	5.2	34.0	39.1	59.5	80.6
Clothing, accessories (a)	73.1	155.9	683.2	716.4	792.6	901.9
Toys, sporting goods	-	-	10.7	9.0	11.9	10.8
Gold, jewellery	2.4	3.8	29.7	10.7	13.1	15.9
Optical instruments	-	-	-	10.5	13.5	11.8
Watches, clocks	2.2	9.8	26.0	28.5	11.9	22.6
Other (b)	-	-	15.7	3.0	3.0	n/a
Total	**83.6**	**183.0**	**840.5**	**871.0**	**970.0**	**1112.0**

Item	*Annual growth rates (%)*				
	1980-85	*1985-92*	*1992-96*	*1980-96*	*1995-96*
Fish & preparations	-	-	21.0	-	9.2
Pearls, precious stones	7.0	15.3	6.0	10.3	2.0
Textile yarn, fabrics	-	30.9	24.1	-	35.5
Clothing, accessories (a)	16.4	23.5	7.2	17.0	13.8
Toys, sporting goods	-	-	0.3	-	-9.2
Gold, jewellery	9.2	34.1	-14.4	12.6	21.6
Optical instruments	-	-	-	-	-12.9
Watches, clocks	34.2	15.0	-3.5	15.7	89.6
Other (b)	-	-	-42.4	-	n/a
Total	**16.9**	**24.3**	**8.6**	**17.9**	**20.6**

Source: Calculated from UN figures and data on EPZs and Pioneer Status Enterprises, Central Statistical Office, Mauritius. Rupee figures converted to US dollars at official rate given in IMF, *International Financial Statistics*.

Notes: (a) Data for clothing include the small value of non-EPZ exports. (b) 'Other' exports include chemicals and machinery.

try, a process that is now nearing maturity. Falling transport and communications costs, changing rules for trade and foreign investment, greater standardisation of technologies for the assembly of garments and improvements in production conditions in the developing world, have led to a massive relocation of the simpler end of textile and garment production from the OECD countries. In more recent years, this process is being repeated in the NIEs, which have been trying to move into the upper end of the industry. The location of textile and garment production was also driven by the allocation of quotas under the MFA. This succeeded in bringing into the export arena a number of new producers who may not otherwise have established a market presence, including Mauritius as well as Bangladesh, Sri Lanka, Thailand and Malaysia (and others in Asia and Latin America).[7] However, the OECD countries upgraded their production systems over time, and, despite high wages, remain major exporters of textiles and garments in the high quality and specialised segments.

Many of these 'latecomers' to the garment industry lacked a domestic base of raw materials (cotton, wool or synthetic fibres) and of textile production. Over time, they built up some genuine competitive advantages in garment production and increased the degree of backward integration. This means that a part of their export-oriented garment industry is likely to survive the removal of the MFA. However, most

analysts agree that there will be a substantial 'shake-out' in the industry. The larger producers, with a combination of substantial textile production capability, raw materials, low wages and the ability to enter into high quality segments and design, led by China and India, are likely to gain at the expense of the smaller latecomers that lack these advantages. Among the latter, only those that retain a large wage cost advantage or are able to move upmarket will remain as significant exporters in the post-MFA era. Others will lose their industries to cheaper areas or to the giants in the global industry.

For these reasons, past growth in garment exports is not a good indicator of their future potential. Total world consumption of textiles and clothing is not very income elastic, i.e. it does not rise rapidly with growing incomes, though in some poor countries there is fast growth in a 'catching up' stage (but most of these countries do not permit garment imports). Once an exporter's wage cost advantage is exhausted, therefore, export growth will depend upon the ability to add value by backward integration (into textiles) and, within clothing, to upgrade quality and flexibility. Neither is easy. Textile production is fairly capital intensive, and small producers like Mauritius have rather limited scope for meeting their varied needs from domestic production. The move up the quality ladder in garment requires investments, not just in equipment but also in organisational and labour skills and quality management, design, marketing and response capability. The Italian example suggests that the very top end of garment production needs a 'cluster' of producers in which medium and small sized enterprises collaborate with designers and retailers, as well as some large firms, in a pattern of very flexible and specialised production, with high levels of technical and other skills and advanced equipment. The growth of such clusters or industrial districts allows the combination of scale economies and individual flexibility, but needs very close collaboration and efficient means of transmitting information and technology. The fostering of clusters, which are practically non-existent in Mauritius, is one way forward in the garment industry, and the section on strategy returns to this.

It should also be reiterated that garment exports have relatively few spillovers in terms of catalysing the growth of related export activities. The technology and skills created are fairly specific to the industry, and the products do not (unlike electrical and non-electrical equipment) feed into production capabilities elsewhere. Nor does the industry generate a favourable 'image' of quality and reliability, especially at the low quality end. While all export activity creates some skills and knowledge that are helpful in expanding exports, this industry does offer relatively low externalities compared to more sophisticated industrial products.

Returning to export prospects, it is clear that future growth will have to be based on other dynamic products in world trade where the income elasticity of demand is higher, barriers to low cost entry by competitors greater, and prospects of diversification and technological spillovers better. It is useful in this context to look at the most dynamic products in world trade. Table 2.7 shows *the fifty most dynamic exports to the OECD* (including non-manufactured ones, from a total of over 230 at the 3-digit SITC level) in 1980-94. Since the OECD is the predominant market for Mauritius, as for most developing countries, this shows the products of export interest more generally.

These fifty products increased their total share of exports to the OECD from 29 to 51% over these 15 years, with an overall increase in value by 77%. The most dynamic products were in electronics and electrical engineering, accounting for nearly 15% of OECD imports in 1994. These are followed by automotive products, accounting for another 10%. Overall, the great majority of 'dynamic' traded products are technologically advanced, with significant economies of scale and high income elasticities of demand. However, there are some products whose trade has grown rapidly because of relocation of production rather than technological change or rising total demand

– garments, toys, travel goods and footwear are the main examples. These relatively 'simple' labour-intensive products together accounted for 7% of OECD imports in 1994. In addition, there are some resource-based exports like furniture, paper and fish products. It is important to bear these differences in competitive advantage in mind when assessing the prospects for *future* export growth. Clearly, the underlying advantage will affect the extent to which particular products, even though 'dynamic' in trade in the past, can be viable sources of future comparative advantage (this is taken up in the section on market positioning).

It should be noted that clothing, the product of interest to Mauritius, is the third most dynamic category, after computers and other electrical and electronic equipment. However, Mauritius does not have a market presence in practically any of the other dynamic exports. Nevertheless, Mauritius is well positioned in the clothing categories (SITC 842-846) that have grown rapidly: these categories account for *nearly 80 per cent* of its total manufactured exports in 1992. Table 2.8 shows the growth of Mauritian exports in the most recent period (for which comparable data are unfortunately unavailable for the other countries from UN sources).

Total manufactured exports grew fastest during 1985-92. There was a sharp drop in growth rates in 1992-94, then a revival in 1994-95, which seems to have accelerated in 1995-1996 (the latter short-term data should be treated with caution). However, 1992-96 as a whole shows rather modest growth, with some of the smaller exports declining significantly, and a significant slowing down of clothing exports. Clothing exports continue to dominate exports, with 81.1% of total manufactured exports in 1996.

As they stand, the growth figures are not bad, but they do not augur well for future export growth. Clothing exports are growing, and in the past year or so have accelerated; however, it does not appear likely that a sustained rise to growth rates seen in the late 1980s can be expected. The slow-down in garment exports seen in Mauritius is also found in similar exporters like Sri Lanka and Indonesia (in Indonesia in 1994, clothing exports, which totalled $2.3 billion, declined by 9.5%, to resume modest growth in 1995). At the same time, India had high rates of garment export growth (over 30 per cent per year in the past two years); while figures for China are not available, they are likely to be even higher. This suggests that the shift in export market shares forecast in the post-MFA period is already starting to occur, and may increase as trade in clothing is liberalised further and these two countries gear up their competitiveness in textiles and garments.

Table 2.9 **World Market Shares for Mauritius in Main Export Products, 1985-92 (%)**

Product (SITC)	1985	1992	Change
Men's outerwear, non-knit (842)	0.30	0.37	0.07
Women's outerwear, non-knit (843)	0.14	0.15	0.01
Undergarments, non-knit (844)	1.00	1.05	0.05
Outerwear knit, non-elastic (845)	0.88	0.72	-0.16
Undergarments, knitted (846)	0.16	1.12	0.96
Textile clothing (847) and accessories		0.25	0.25
Headgear, non-textile clothing (848)	0.09	0.03	-0.06
Textile yarn (651)	0.04	0.04	0.0
Cotton fabrics, woven (652)	-	0.11	0.11
Woven man-made fabric (653)	-	0.02	0.02
Watches and clocks (885)	0.15	0.15	0.0
Optical goods (884)	-	0.20	0.20
Pearls, precious stones (667)	0.07	0.08	0.01
All manufactured products	**0.02**	**0.03**	**0.01**

2.4 Market Shares and Competitive Positioning

Given the size of its economy, it is to be expected that Mauritian exports account for minuscule

portions of total world trade in their respective categories. Thus, in 1985 its manufactured exports as a whole accounted for 0.02% of total world manufactured exports; by 1992, this share had risen to 0.03% (Table 2.9). In the main products of export interest, Mauritian market shares expanded slightly in most categories, with some decline in knit non-elastic outerwear and headgear, and stagnation in textile yarn and watches and clocks.

These minuscule shares suggest that Mauritius has enormous 'headroom' to grow in world trade if it can boost its competitive position in these (and new) products. The dominant exporter in the garment categories shown is generally *Hong Kong:* its world market shares in 1992 were as follows (by SITC categories): 842 – 12.6%; 843 – 15.2%; 844 – 18.0%; 845 – 18.7%; 846 – 13.6%; 847 – 7.5% and 848 – 12.0%. In four of these categories, Hong Kong is the world's largest exporter. Hong Kong is also not a large economy and has much higher wages than Mauritius (a growing proportion of its exports are sourced in China, though China appears as a very large independent exporter as well). Despite considerable deindustrialisation, the colony retains a substantial base in higher quality garment manufacture as well as services related to sourcing, design, marketing and shipping. Its example could serve as a model for Mauritius, if Mauritian producers are able to boost the quality of their products, and the government can launch similar support measures in human capital creation (especially for design), productivity support and export marketing. The African continent, with its large reserves of cheap labour and potential internal markets, can have a substantial potential for the export of such services. While Africa is not doing very well at this time, in the future its prospects are likely to improve, and Mauritius can play a role similar to Hong Kong in its neighbouring region.

An examination of a country's 'positioning' in world markets can indicate the strength of its export capabilities. Such positioning can be assessed by comparing changes in market shares over time and the dynamism of the products exported. Changes in a country's market shares indicate whether it is competitive in those products or not. The size of the market share indicates possibilities for further expansion: *ceteris paribus*, a country that already has large market share in a particular product should not expect large increases in the share. The specialisation of a country in fast or slow growing exports indicates how rapidly its total export earnings will grow in the absence of changes in market share.

The analysis uses a four-fold classification, based on whether or not exports are 'competitive' in world markets (i.e. whether Mauritius is gaining or losing world market shares in those products), and whether the products are themselves 'dynamic' (i.e. whether the products' own shares of world trade are rising). The four combinations are:

- "Rising stars" are exports with strong competitiveness (i.e. rising world market shares) in 'dynamic' products (which are growing faster than total trade). This is the most desirable, or 'optimal', export positioning.

Table 2.10 **Export Dynamism Classification**

	Share of Product in World Trade	
Share of country's export in world trade	RISING	FALLING
RISING	Optimal *"Rising Stars"*	Vulnerable *"Falling Stars"*
FALLING	Weakness *"Lost Opportunity"*	Restructuring *"Retreat"*

Table 2.11: **Dynamism of Manufactured Exports, 1985-92 ($ m. and %)**

Country	Rising Stars	Falling Stars	Lost Opportunity	Retreat	Total	Missing Data
Mauritius	549.90	32.68	228.26	0.00	810.84	29.69
% of total with data	*67.8%*	*4.0%*	*28.2%*	*0.0%*	*100%*	*(3.5%)*
Taiwan	38335.48	6935.35	15834.31	183.85	61288.99	1065.12
% of total	*62.5%*	*11.3%*	*25.8%*	*0.3%*	*100%*	*(1.7%)*
Malaysia	13409.90	2847.66	0.00	0.00	22497.53	815.74
% of total	*59.6%*	*12.7%*	*27.7%*	*0.0%*	*100.0%*	*(3.5%)*
Thailand	18656.46	2247.48	1827.16	0.00	22731.10	445.07
% of total	*82.1%*	*9.9%*	*8.0%*	*0.0%*	*100%*	*(1.9%)*
India	7285.95	2263.67	4078.87	311.50	13939.99	479.17
% of total	*52.3%*	*16.2%*	*29.3%*	*2.2%*	*100.0%*	*(3.3%)*
Bangladesh	904.13	0.00	453.31	161.36	1518.80	2.56
% of total	*59.5%*	*0.0%*	*29.8%*	*10.6%*	*100.0%*	*(0.2%)*
Sri Lanka	801.24	58.16	542.23	0.65	1402.28	28.28
% of total	*57.1%*	*4.1%*	*38.7%*	*0.0%*	*100.0%*	*(2.0%)*

- "Lost opportunities" are those with competitive declines (falling market shares) in dynamic products. This is the 'weakest' market position.
- "Falling stars" are those with rising market share in non-dynamic products. This indicates competitive 'vulnerability', and so is relatively undesirable.
- "Retreat" are those exports that are losing market shares in a non-dynamic products. This is relatively desirable, since it shows possible 'restructuring' away from a weaker position.

The distribution of a country's exports over these categories (Table 2.10) shows its overall export positioning. The significance of this positioning is that it shows how flexible and forward looking a country has been in benefiting from the dynamics of world trade. Since market positions are acquired over time, it is possible to maintain strong ones by appropriate policies and investments. Correspondingly, a weak market position may be difficult to change quickly. There may therefore be strategic implications in these positions.

Table 2.11 shows the results of classifying the exports of the selected countries. Changes in world market share are calculated for 1985-92 (however, some growth data are missing for each country). The table shows the percentages both for total manufactured exports and for the values for which the classification was made; 'missing data' are in the last column but they are relatively minor.

In this period, 1985-92, the average rate of growth for all manufactures in world trade was 12.5% *per annum*. The calculations suggest that Mauritius has a fairly strong market positioning, second only to Thailand's in this group. Some 68% of Mauritian exports are 'rising stars', and another 28% are 'lost opportunities', i.e. dynamically growing export products where Mauritius is losing market share. While this latter category is a cause for concern, it shows that Mauritius' export structure is overwhelmingly in products that have grown faster than world trade as a whole.

This strong 'positioning' should not, however, be a cause for complacency in Mauritius. 'Rising stars' can have different prospects for future

Table 2.12 **Breakdown by Rising Stars by Technological Characteristics ($m. and %)**

	Mauritius	Taiwan	Malaysia	Thailand	India	Bangladesh	Sri Lanka
Resource – based	41.2	2135.4	999.8	3079.5	3355.3	nil	185.5
% of Total	*7.1*	*5.6*	*7.2*	*16.5*	*44.1*	*nil*	*22.8*
Labour intensive	512.4	8335.8	2614.9	7123.8	2889.6	904.1	520.3
% of Total	*88.4*	*21.7*	*18.7*	*38.1*	*38.0*	*100.0*	*64.1*
Scale intensive	nil	2662.4	556.4	1107.7	868.0	nil	71.8
% of Total	*nil*	*6.9*	*4.0*	*5.9*	*11.4*	*nil*	*8.8*
Differentiated	26.0	9552.0	4996.2	2910.0	nil	nil	19.0
% of Total	*4.5*	*24.9*	*35.8*	*15.6*	*nil*	*nil*	*2.3*
Science – based	nil	15649.9	4799.3	4483.4	488.4	nil	15.3
% of Total	*nil*	*40.8*	*34.4*	*24.0*	*6.4*	*nil*	*1.9*
Total	**579.6**	**38335.5**	**13966.6**	**18704.4**	**7601.4**	**904.1**	**812.0**

growth and differing degrees of vulnerability to entry by competitors or changes in technology and market conditions. For instance, rising stars whose competitive advantage is based on cheap semi-skilled labour are less well-placed for long-term export growth than those based on scale and technological advantages, where entry is more difficult and technological leads can be maintained over long periods by appropriate investment. As noted, even though labour-intensive exports like garments have grown dynamically, they are inherently extremely vulnerable at the low quality end where most developing countries specialise.

It is thus useful to look at the *technological characteristics of the rising stars* for the group. Table 2.12 shows important technological weaknesses in Mauritian rising stars: 88% are labour intensive and a further 7% are resource-based. This weakness is shared by the South Asian countries (India has a very large weight of resource based rising stars), and stands in contrast to countries like Malaysia and Taiwan where nearly three-quarters of the value of rising stars comes from scale-intensive, differentiated and science-based products. Thailand comes in with a somewhat lower figure of 46%. These latter countries clearly have more sustainable and broader based competitive advantages for their rising stars.

Reliance on labour-intensive rising stars does not necessarily mean that all countries are equally vulnerable, or that all such exports are in the 'sunset' category. Countries *can* upgrade their competitiveness in these products by investing in quality and marketing, and, as noted, the fact that many developed countries remain major exporters of textiles and garments suggests that countries should invest in upgrading their industries rather than letting them fade away (as is happening in Malaysia). In South Asia, for instance, India should be able to sustain greater growth in textiles and garments than Bangladesh or Sri Lanka. Mauritius is better placed than most developing countries to improve clothing quality and marketing, and is already more advanced than most in its efforts and awareness. What it needs to do further will be explored later.

2.5 Revealed Comparative Advantage

The "revealed comparative advantage" (RCA) ratio shows the importance of a country's export of a particular product relative to its overall export performance. It is measured by the ratio of a country's world market share in a particular export to the world market share of its total manufactured exports. RCA indices range around unity, with figures below one

denoting a relative disadvantage in exporting that product, and those above one denoting a relative advantage.

In terms of broad skill categories, Mauritius' RCAs are, not surprisingly, very high in low skill exports (4.0 in 1980 and 3.9 in 1992) and minuscule in high skill exports (nil in 1980 and 0.1 in 1992). The South Asian countries show a very similar pattern, with very high low-skill and very low or zero high-skill RCAs, and with this pattern more or less constant over the period. By contrast, the NIEs show rising RCAs for high skill products and declining ones for low skill ones. The highest RCAs for high skill products (over 1) are in Singapore and Malaysia, while for Taiwan the high skill RCA reaches 0.9 in 1992 and for Thailand 0.6.

Table 2.13 **Evolution of Mauritian RCAs**

	1980	1985	1992
Emerging Comparative Advantage			
Preserved fish etc.			9.5
Cotton fabrics, woven			3.5
Textile clothing and accessories n.e.s.			8.2
Toys and sporting goods			12.3
Optical goods			6.4
Continuing Comparative Advantage			
Textile yarn		2.5	1.3
Pearls, precious and semi-precious stones	3.7	4.6	2.6
Men's outerwear non-knit		19.8	12.1
Women's outerwear non-knit		9.0	5.0
Undergarments non-knit		65.5	34.2
Outerwear knit, non-elastic		57.8	23.4
Undergarments knitted		10.4	36.3
Works of art etc.	5.8	3.7	6.2
Watches and clocks	3.6	9.6	4.9
Comparative Disadvantage			
Woven man-made fabric			0.8
Civil engineering equipment			0.2
Other manufactured goods			0.8
Declining Comparative Advantage			
Headgear, non-textile clothing		5.7	0.8

Table 2.13 shows Mauritian RCAs at the product level. These are classified into four types:

- "Emerging comparative advantage", which indicates the 'dynamic' products that have raised their RCAs over time to unity or above. This category includes new entrants like preserved fish, cotton fabrics, toys and optical goods.
- "Continuing comparative advantage" comprises products that maintain RCAs above unity. These include most exports, bearing out the relatively static nature of Mauritian comparative advantage. Within this group, several products show declining RCAs in the last period.
- "Continuing comparative disadvantage" indicates below-unity RCAs.
- "Declining comparative advantage" shows RCAs falling from above to below unity. This has only one product, headgear.

In general, these calculations serve to reinforce that Mauritius is highly specialised in a few products, with the pattern remaining fairly static over time. The very high figures for some RCAs suggest an undesirable degree of concentration and dependence on a few sources of earnings. The highest figures (knitted and non-knitted undergarments) are in mass production, relatively low value added clothing items where Mauritius cannot expect to retain a long-term comparative advantage as its wages rise further.

2.6 Mauritian Competitive Advantages and Challenges

The previous analysis suggests that, despite (and partly because of) rapid export growth over the past two decades, Mauritius faces emerging *structural problems* in sustaining export growth in the future. Manufactured exports have so far exploited relatively static sources of comparative advantage, primarily semi-skilled or unskilled labour and natural resources – these sources are

eroding as a consequence of rising wages, emerging competition and changing external circumstances. The initial dominance of a few low value-added, low technology products has not declined over time. Within these, Mauritius depends on one particularly vulnerable activity, garments, where new entry is easy because capital and skill requirements are low and international investors and buyers relatively footloose. While it does lead to the development of some production and marketing skills, the activity does not provide large technological or other spillovers, and has not led to a natural broadening or upgrading of domestic capabilities. The initial spurt of FDI inflows that fuelled the boom is tapering off, and investors are relocating to cheaper areas (as are the larger domestic firms).

The government is aware of the structural problems involved. As the Ministry of Economic Development and Regional Co-operation's *Vision 2020 National Long-Term Perspective Study* (1997) puts it:

> *"While the success of the EPZ has been nothing less than spectacular, in recent years progress has been more uneven, and problems have begun to arise. With full employment, labour is no longer so plentiful and there have been times recently when labour had to be imported. And nor is labour any longer so cheap – wages have been rising faster than productivity – and there have been problems with absenteeism, sick pay, redundancy arrangements and attitudes. Employment has fallen from a peak of 90,900 in 1991 to 85,600 in 1993, although it is still larger than employment in agriculture and tourism combined. International competition has become tougher, European markets have been weakened by recession and several clothing companies have had to cease production. Inward investment has become more difficult to attract and the total number of EPZ enterprises has fallen from 591 in 1988 to 563 in 1993. However, exports have continued to rise to reach a record Rs15.8bn in 1993.*
>
> *There are some clouds on the longer-term horizon. The Uruguay Round GATT agreement provides for the phasing out of the Multi-Fibre Agreement, which previously restricted imports from countries not included in the Lomé Convention with the result that in the future Mauritian exports of clothing and textiles will face new competition from low-cost, high-volume producers in countries such as India, Pakistan and China. There is also the possibility of increasing pressure in future years to dismantle the special incentives on which the EPZ regime is based.*
>
> *More generally, there is the emergence of a global market system in which competition will be increasingly sharp, and increasingly dominated by giant multinational groups, with very large financial and R&D resources, very large production volumes, very strong market links and very wide choices of location. In some ways even more worrying than the emergence of a keenly competitive world market system is the possibility of warring regional economic blocs – with no certainty that Mauritian industry will have easy access to any of them." (pp. 102-3)*

The problem of upgrading export competitiveness in a globalizing world is not uniquely Mauritian. What is more interesting is that several other developing countries that have depended heavily on garment exports are also facing the problem of insufficient dynamism in their export pattern and a lack of technological upgrading. Mauritius is, however, under greater stress because of its high incomes and relatively unfavourable location. Countries such as Sri Lanka and Bangladesh (and others not considered explicitly here), also exhibit an emerging threat after the abolition of the MFA and from their static and narrow bases of comparative advantage. However, these countries have much larger reserves of cheap labour and larger domestic markets, and so greater potential for keeping on with low-end garment exports and diversification into other activities. Larger and more

industrialised countries such as India are, of course, well placed to integrate backwards and have already developed competitive advantages in a range of other, more advanced, manufacturing activities. They face difficulties in upgrading, but are not as *structurally constrained* as Mauritius.

The East and South East Asian NIEs present a very different pattern of export development. While they also started their export drives with low wage products, they used the period and the 'rent' yielded to upgrade and diversify rapidly into more complex products. In countries such as Taiwan (and Korea), such upgrading was accomplished by active industrial and technology policies aimed at promoting indigenous technological and other capabilities (Lall, 1996), with the domestic market serving as a learning base in many industries. By contrast, in Singapore and Malaysia (and to a lesser extent Thailand), it was accomplished mainly by attracting MNCs and inducing them to upgrade their export activities. The domestic sector remained relatively isolated from export activity, and developed its linkages with the export enclaves, and direct export capabilities in manufacturing, relatively slowly (Thailand did more in this respect). The FDI based strategy also required very active government intervention, particularly in Singapore, with considerable targeting of activities and incentives and the development of specific skills and institutions to allow dynamic exports to be established. To some extent, the South East Asian region was also 'lucky': it got into the export-oriented electronics assembly boom at the earliest stages, and the location factor was enormously important in attracting international investors.

Mauritius differs from both these types of NIEs. Its domestic capabilities have developed reasonably well within the garment sector, with some backward integration and the upgrading of design and higher quality manufacturing in the large firms. However, there is relatively little development of other manufacturing capabilities (sugar processing excepted); the small amounts of watch and optical assembly remains at simple technological levels. On the FDI front, despite nearly two decades of export activity, well-managed economic policies and a favourable regime for private and foreign business, Mauritius has not been able to use its good 'image' to foster an MNC-driven export sector in other activities. Its wages have not been low enough to attract other simple assembly activities, as in footwear or toys, to a significant extent; its location and skill base have not been sufficient to allow it to attract electronics, electrical or other engineering-based activities.

As matters stand at this time, it appears that clothing exports will continue into the future, but the emerging competitive situation is likely to leave only products that are in the upper quality segments. Export growth can only take place in this industry if there is a much faster rate of quality upgrading and skill development than evidenced in the recent past. It is possible that significant growth can be maintained if the textile and garment industry is able to reproduce a pattern of flexible specialisation along Italian lines, with clusters of highly skilled SMEs operating in close collaboration with each other, large firms and design and marketing houses. This is not impossible, but it would require a very different industrial structure, skill base, management methods and worker productivity. However, all other clothing exporters are attempting to do something very similar, and several have the size to mount large design development programmes (as in India). Mauritius has the advantage that the domestically owned sector is very strong, and the larger firms are relatively advanced: if this can be exploited to develop a more flexible base, the garment industry can provide practically unlimited export growth for Mauritius.

At the same time, it is vital for Mauritius to promote *other sources* of comparative advantage, in manufacturing as well as services. As far as manufacturing is concerned, given the level of Mauritian wages and the small size and limited manufacturing capabilities of its economy, the activities will have to focus on assembly activities

that require medium-high levels of technology and skills. In 'heavy' items, its competitive edge will lie in serving regional rather than more distant markets; here the growth of African markets, good infrastructure links and the progress of trade liberalisation by the countries concerned are of critical importance. In 'light' (and more high value) items it could serve more distant markets as well, with a focus on Europe and possibly East Asia. There are a number of feasible high value added products in the electronics industry where trade is very dynamic and producers are still actively relocating in search of lower costs (Kelly and Kelly, 1992, note a number of possible electronics exports for Mauritius). To achieve a market position in such industries would require several things: a much improved base of engineering, technical and managerial skills; a more productive and dedicated workforce; a supporting structure of efficient SME subcontractors and service firms; world-class transport, communications and IT infrastructure; a financial system geared to supporting such ventures; and stronger FDI targeting with more directed incentives. These points are taken up below.

As far as services are concerned, Mauritius already has already a flourishing offshore financial and an infant software industry, and reasonable prospects for becoming a trans-shipment centre for the East coast of Africa. These need to be strengthened in every way possible. It would also seem that Mauritius can develop new competitive advantages in services, exploiting its long experience of export growth, managing EPZs, design and marketing, improving government administration on trade and investment and so on, to earn significant revenues from liberalising Africa.

The experience of the successful Asian Tigers, in particular Singapore, suggests that two sorts of policies are needed to develop dynamic comparative advantage. The first is improving existing markets and institutions to raise investment, flexibility and competitiveness, lower artificial barriers to entry and exit and raise the quality of human capital. This may be termed *'tactical' interventions*. The second is to have a strategy to guide and co-ordinate resources to develop new competitive advantages in particular directions. Such *'strategic' interventions* involve the government in formulating a 'vision' of where future comparative advantage may lie and creating the human and physical infrastructure needed for those activities, mobilising domestic and foreign resources and technology as needed. This is not 'picking winners' at the level of particular firms or activities, but creating the enabling conditions for certain types of activities to flourish rather than spreading available resources thinly without a clear sense of direction. One important lesson of the East Asian 'miracle' is that such strategy can be carried out very effectively, if the government has a skilled bureaucracy, clear objectives, close interaction with the private sector and flexibility, together with the political strength and will to discipline agents that do not perform to required standards.

This report suggests that both tactical and strategic interventions will be needed by the Mauritian government to dynamise export competitiveness. To some extent these are already being practised, and the government's *Vision 2020* report contains various strategic ideas (Ministry of Economic Development and Regional Co-operation, 1997). Most of these are sensible, but a more detailed evaluation is conducted below.