

EXPORT RESPONSE TO LIBERALISATION: THE SRI LANKAN EXPERIENCE*

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Abstract

The driving forces behind export expansion in the context of liberalisation reforms in developing countries remain a matter of debate. This article aims to contribute to this debate through a case study of the Sri Lankan experience following the policy reforms initiated in 1977. The results point to the importance of sound macroeconomic policy, policies to promote export oriented foreign direct investment and revamping the overall policy setting in favour of private sector activities for achieving export success. Direct export subsidies are a poor substitute for genuine trade, investment and macroeconomic policy reforms. There is little support for the hypothesis that an import-substitution phase is a prerequisite for the successful transition of domestic manufacturing to export orientation.

Introduction

A number of developing countries which embarked on liberalisation reforms over the past two decades have experienced improvements in export performance, with significant increases in manufacturing exports [Helleiner (1994 and 1995), Weiss (1992), Thomas and Nash (1991), Arslan and van Wijnbergen (1993), Joshi and Little (1996)]. Many observers believe that rapid export expansion has contributed significantly to both sustainability of the reforms and economic outcome of reforms, in particular the expansion of manufacturing output and employment, in these countries. However, the fundamental determinants of export expansion in the context of liberalisation reforms remain a matter of considerable debate. The key issues in the debate include: Did manufacturing for export develop *de novo* in response to new incentives or was it simply a 'switching' of sales from industries developed during the import-substitution era? What has been the relative importance of accompanying macroeconomic policies (including exchange rate policy) and trade policy reforms in generating the export push? Within the trade policy mix, what role did export-subsidies play? What influence did policy towards foreign direct investment have upon the export orientation of domestic manufacturing? Answers to these and related questions are important in understanding why policy reforms in many other developing countries failed to achieve the anticipated export break through. They also have a direct bearing on the choice of appropriate policy configurations in designing liberalisation reform packages.

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This paper attempts to contribute to this debate through a case study of the Sri Lankan experience with liberalisation reforms over the past two decades. Given the decisive policy shift in 1977 and policy continuity during the ensuing years, Sri Lanka provide a valuable laboratory for the study of these issues. After almost two decades of policy reforms, Sri Lanka is now one of the most open and market oriented countries in the developing world. In the new policy environment, the manufacturing sector has become increasingly export oriented. The share of exports in total manufacturing output increased from less than 5 per cent in the late 1980s to over 60 per cent in 1995. The share of manufacturing in total merchandise exports was over 70 per cent in 1995, up from a mere 2 per cent in the early 1970s. More than half of the total manufacturing work force is now employed in export-oriented firms.

The structure of the paper is as follows. The following section traces the evolution of trade and industry policy in Sri Lanka since independence, discusses the key elements of the market-oriented reforms initiated in 1977, and examines the pattern of overall incentives for manufacturing exports. This is followed by an overview of trends and patterns of manufacturing export expansion with emphasis on the role played by export-oriented foreign direct investment (EOFDI) in transforming a classical primary commodity-dependent economy into a 'new exporting country'¹ (NEC). The next section undertakes an econometric analysis of the determinants of manufacturing exports. A novelty of the analysis is the emphasis placed on the impact of significant presence of foreign firms in export-oriented manufacturing on the nexus between the real exchange rate and export performance. The final section summarises the main findings of the study and draws policy inferences.

Policy Context

Sri Lanka's industrialisation strategy during the post independence period until 1977 was a classic example of 'forced' import substitution. Quantitative import restrictions (QRs), which were introduced in the late 1950s to try to keep the negative trade balance under control, soon turned out to be the key instrument in directing private sector activities in line with (perceived) national priorities. Following a hesitant and mild liberalisation attempt during 1968–70, the period from 1970 to 1977 was marked by further government intervention in the economy under the guise of creating a 'socialist society'. By the mid-1970s the Sri Lankan economy was one of the most inward-oriented and regulated outside the communist block, characterised by stringent trade and exchange controls and pervasive state interventions in all areas of economic activity.²

The policy makers in Sri Lanka, like their counterparts in other developing countries, expected the growth of import-substitution (IS) industries to reduce the heavy dependence of the economy on imports. The reality was quite different, however. While consumer goods imports were reduced substantially, this was achieved at the expense of increased reliance on imported capital goods and raw materials, resulting, contrary to expectation, in an even more rigid dependence on imports. Given these structural features, the growth dynamism of the

¹ This term refers to developing countries which are now shifting gradually from primary commodity specialisation into labour-intensive manufacturing exports.

² Sri Lanka's post-independence policy history has been well documented. See, for instance, Snodgrass (1966), Rajapatirana (1988), Cuthbertson and Athukorala (1990) and Athukorala and Jayasuriya (1994).

newly established industrial sector tended to show a close functional relationship with the fortunes of the traditional export industries. Unanticipated import curtailments brought about by foreign exchange scarcity turned out to be the main constraint on industrial expansion since the late 1960s [Athukorala (1981)]. In most developing countries, rapid expansion of domestic industry continued until the 'easy' import-substitution opportunities (i.e. meeting domestic demand in textiles, footwear, some food processing and other light labour intensive activities) were used up. It was only then that the cost of additional investment in new IS activities began to rise and growth slowed down [Krueger (1992, pp.43-4)]. However, in Sri Lanka, a limit was set on the growth of industry by the balance of payments constraint well before the completion of the easy import-substitution phase.

In this context, some policy initiatives were taken from the mid-1960s to promote manufacturing (and other non-traditional) exports. These included import duty rebates, export-performance-related import entitlements, multiple exchange rates and new incentives for export-oriented foreign investment. These attempts largely failed, because, reflecting the cumulative impact of macroeconomic instability, stringent trade controls, high export taxes and the overvalued exchange rate, the overall incentive structure of the economy continued to be characterised by a significant 'anti-export' bias [Cuthbertson and Athukorala (1990, Chapter 4)]. Moreover, during the period from 1970 to 1977, widespread nationalisation measures and threats, coupled with various economic controls, effectively marginalised the private sector in the economy.

As a reaction to the dismal economic outcome of the inward-looking policy, Sri Lanka embarked on an extensive economic liberalisation process in 1977, becoming the first country in the South Asian region to do so. The first round of reforms carried out during 1977-79 included significant trade liberalisation, revamping the foreign investment approval and monitoring process with new incentives for investors, a significant interest rate reform and opening of the banking sector to foreign banks, limits on public sector participation in the economy and exchange rate realignment. Despite major macroeconomic problems, political turmoil and the ongoing ethnic conflict since 1983, market-oriented reforms have been sustained and broadened over the years. In 1990 a 'second wave' liberalisation package was announced. This included an ambitious privatisation program, further tariff cuts and simplification of the tariff structure, and removing exchange controls on current account transactions. Following almost two decades of significant reforms, Sri Lanka today stands out as one of the most open economies in the developing world [Dornbusch (1992)]. This basic policy orientation looks set to continue in the foreseeable future. Indeed, the most dramatic change in the Sri Lankan political landscape in recent years has been the convergence in broad economic policies among the major political parties and groupings; achieving greater openness and liberalisation is now a bipartisan policy in Sri Lanka.

With this background we now discuss in detail the key elements of the reform process which have a direct bearing on export performance, in order to set the stage for the ensuing empirical investigation.

Trade Policy

Trade policy reform was the key element of liberalisation reforms in Sri Lanka (Cuthb-

ertson and Athukorala 1990, Rajapatirana 1988). In November 1977 quantitative import restrictions on imports, which were near universal, were supplanted by a revised system of tariff, retaining only 280 items under license. This far-reaching trade liberalisation was accompanied by the removal of most price controls on domestic trade. While many of the tariff changes involved a gazetted increase in rates, the shift from QRs to tariff naturally resulted in a sharp reduction in the degree of protection provided previously by the stringent QR regime. There is evidence that in the process of subsequent fine-tuning of tariff rates, a few items whose free importation had a 'damaging' impact on state-owned enterprises (SOEs) were returned to the licensing list. There were also some moderate revenue oriented across-the-board duty increases in some years. These setbacks notwithstanding, there has been no major reversal of the reforms. Indeed, subsequent trade policy initiatives have reinforced the role of tariffs as the central instrument regulating Sri Lanka's merchandise trade. The tariff regime has also become less distortionary during successive rounds of reforms. It currently relies on a three-pronged structure with rates of 10, 20, and 35 per cent. In 1994, the simple (unweighted) average tariff rate across 6050 import items was in the order of 20 per cent and the ratio of actual duty revenue to imports was even lower (about 11 per cent)³ (WTO 1995, p.35).

A wide range of export promotion schemes including an all-encompassing duty rebate scheme with a flexible operational procedures, manufacturing-in-bond, provision of equity and working capital to firms with export potential, and various measures aimed at product and market development, was introduced under a newly established Export Development Board (EDB). Steps were also taken to streamline and improve fiscal incentives for export production at successive stages finally limiting tax-holiday concessions only to export ventures. A scheme of manufacture-in-bond for exporters importing material for re-exporting as a part of a finished good, a cash grant scheme based on annual export increments, and subsidised bank credit for exporters were among the other EDB incentives.

Foreign Investment Policy

The most important aspect of the new foreign investment policy was the setting up of the Greater Colombo Economic Commission (GCEC) in 1978 with wide-ranging powers to establish and operate Export Processing Zones (EPZs).⁴ The first investment promotion zone, at Katunayake near the Colombo International Airport (henceforth KEPZ) was opened in June 1978. The remarkable success of the KEPZ paved the way for setting up a second EPZ in Biyagama (BEPZ) in 1982 and a third in Koggala (KGEPZ) in June 1991. The investment promotion policy package offered by the GCEC to EPZ investors included complete foreign ownership of investment projects; a tax holiday for up to 10 years with complete tax exemption for remuneration of foreign personnel employed, royalties, and dividends of shareholders during that period; duty exemption for the importation of inputs and assistance with customs

³ The difference between the gazetted rate and the actual rate may be due to the operation of tariff exemptions and waivers and the deterrent effects of high tariffs on trade in the relevant items.

⁴ An area of approximately 160 square miles north of Colombo was demarcated for the GCEC. The Foreign Investment Advisory Committee (FIAC) (set up in 1966) was to continue to approve and monitor foreign investment (in both export-oriented and import-substitution projects) outside the GCEC area. In 1991 the two institutions were amalgamated to form the Board of Investment (BOI).

clearances; industrial services at subsidised rates and unlimited access to foreign-currency credit at interest rates prevailing in world financial markets (Athukorala 1995). As an important part of the FDI policy, steps were also taken to enter into Investment Protection Agreements and Double Taxation Relief Agreements with the major investing countries. A guarantee against nationalisation of foreign assets without compensation was provided under the Article 157 of the new Constitution of Sri Lanka adopted in 1978.

A new *Investment Policy Statement* announced in 1990 introduced several important changes to the foreign investment policy framework in line with the increased outward orientation of the economy. Various restrictions on the ownership structures of joint-venture projects outside EPZs were abolished and free-trade-zone privileges were extended to export-oriented foreign ventures in all parts of the country (in addition to the ones located in the area demarcated by the original GCEC Act). Steps were also taken to reformulate institutional procedures with a view to speeding up investment approval within a unified policy framework applicable to both import-substituting and export-oriented investors.

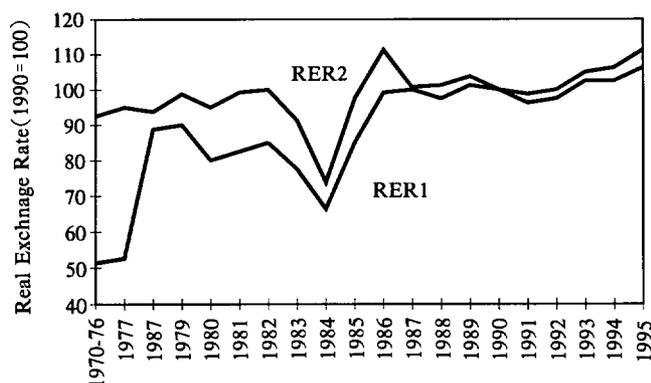
Macroeconomic Policy and Export Profitability

Trade liberalization in 1977 was accompanied by a significant exchange rate reform. The dual exchange rate system, which had been in operation from 1968, was abolished and the new unified rate was placed under a managed float. This resulted in an initial devaluation of almost 80 per cent. The exchange rate was planned to be adjusted daily to reflect changes in foreign exchange market conditions.

In order to sustain improved international competitiveness achieved through the exchange rate reforms, it was imperative to supplement the reform package with sound macroeconomic management. The policy initiatives in this direction included a significant interest rate reform and a number of measures to ensure fiscal prudence. The latter measures included attempts to reduce the budget deficit (which had been the major source of macroeconomic imbalance) through significant cuts in various consumer and producer subsidies, restraints on budgetary transfers to state-owned enterprises (SOEs) and limits on inflationary financing of the budget deficit. But the focus on fiscal prudence was short lived, and government policies soon resulted in the generation of inflationary pressures. The government's attitude to SOEs was a contributory factor. While a few loss making public enterprises were either shifted to the private sector or closed down, most continued to operate despite dismal performance and ongoing dependence on budgetary transfers. These transfers soon outweighed the expenditure reduction resulting from subsidy cuts and aggravated the budget deficit. But the chief source of macroeconomic instability and pressure on the real exchange rate in the early post-reform period was a massive public sector investment program that included a billion dollar multipurpose irrigation project, a large public housing program and an urban development program [Athukorala and Jayasuriya (1994)]. To make matters worse, from about 1979, the Central Bank started using the nominal exchange rate as an "anchor" for inflation control. The Bank intensified its intervention in the foreign exchange market and eventually abandoned (in November 1982) the practice of determining the exchange rate daily.

Estimates of the real exchange rate (RER) for manufacturing exports are plotted in Figure 1 to shed light on the cumulative effects of trade policy reforms and the developments

FIGURE 1. REAL EXCHANGE RATE INDICES (1990=100) FOR MANUFACTURING EXPORTS, 1975-1995



RER1: Real exchange rate estimated as the ratio of export price index (in rupee) to domestic wholesale price index of manufacturing.

RER2: Real exchange rate measured as the ratio of export price index (in rupee) adjusted for export subsidies to domestic wholesale price index of manufacturing.

Source:

Author's computations based on data obtained from the following sources:

Central Bank, *Annual Report* (various issues) (official exchange rate, exchange rate premium and wholesale price index); official records of Export Development Board (duty rebate, export grants and other export subsidies); and OECD, *Key Economic Indicators* (wholesale manufacturing prices of major importing countries).

in the macroeconomic front for the relative profitability of manufacturing for exports. Two separate sets of estimates for the real exchange rate (RER1 and RER2) are presented in order to help understand the role of direct subsidies in determining relative profitability. RER1 measures the changes in domestic-currency (rupee) price of exports (world-market price of exports adjusted for nominal exchange rate) relative to changes in the respective domestic market price. Thus, it can be interpreted as an indicator of the relative profitability of exporting over selling in the home market ('the home market bias' or 'anti-export bias'). According to the particular construct adopted here, an increase in the index implies an improvement in relative profitability of exporting (a reduction in home market bias), and the vice versa. The difference between RER1 and RER2 is that the latter captures export subsidies as an additional component of local-currency receipts from exports. A comparison of the time patterns of the two series should therefore shed light on the role played by export subsidies in determining export profitability.

RER1 series points to a dramatic improvement in relative export profitability during the immediate aftermath of the 1977 reforms. The improvement is however mild in terms of RER 2. This is because the liberalisation reforms involved the abolition of premium exchange rate and import entitlements enjoyed by the exporters of manufactured (and other non-traditional) goods. More importantly, both indices indicate a significant deterioration in profitability during the first half of the 1980s, when the public-sector investment boom was in full swing. A comparison of RER1 and RER2 suggests that direct export subsidies had a noticeable, though mild, impact on export profitability until about the late 1980. From then on, the annual

differences between the two series have been negligible. In the early 1980s, when the exchange rate policy ceased to provide a stimulus for exports, the EDB resorted to strengthening various financial incentives as an alternative to restore export profitability. However, this indirect approach largely failed in subsequent years as the government was forced to curtail funding of EDB operations in response to a deteriorating fiscal situation [Athukorala and Jayasuriya (1994, Chapter 5)].

The adjustment programme implemented as part of the second-wave liberalisation during 1989/90 provided a brief period of relative macroeconomic stability, with steps being taken to bring the fiscal deficit under control and to maintain a more realistic exchange rate under a crawling-peg system. Commitment to a policy of flexible exchange rate management in order to restore international competitiveness was another key element of the reform package. Reflecting the new policy, the Sri Lankan rupee depreciated against the US dollar, the intervention currency, by 17.4 per cent in 1989 (based on an end-of-year comparison). Following this substantial nominal devaluation, the Central Bank has continued to adjust the exchange rate daily, taking into account developments in the foreign exchange market.

These initiatives were reflected in a significant recovery of competitiveness. The real exchange rate index had surpassed the 1989 level by 1995. The rate of nominal exchange rate depreciation under the managed-floating exchange regime in these years has more than compensated for the negative effects of the overall macroeconomic policies which have fuelled domestic inflation. In other words, the Central Bank has pursued a sufficiently flexible exchange rate policy stance recently to improve the international competitiveness of traded goods sector. However, in recent years a massive surge in defense expenditures (which had increased to 7 per cent of GDP in 1996) has placed major constraints on sound fiscal management, and made it extremely difficult to maintain a conducive environment for investment and growth.

In sum, liberalisation reforms in Sri Lanka from 1977 have included a significant opening of the Sri Lankan economy to foreign trade and investment. However, except for relatively short periods, the economy lacked the benefit of supportive macroeconomic policies to complement the significant trade and foreign investment reforms in the post-reform period.

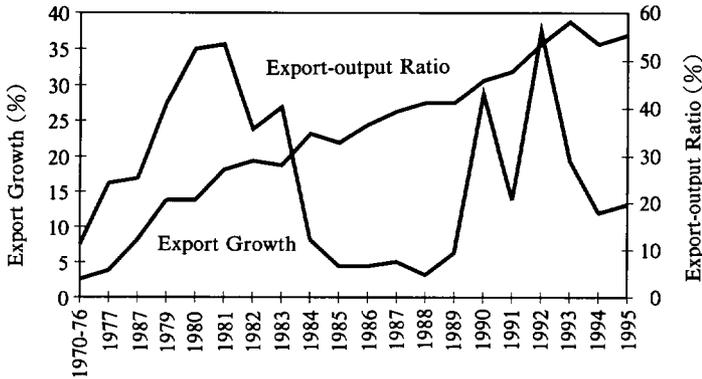
Trends and Patterns of Manufacturing Exports

Export response to liberalisation reforms was swift and remarkable (Figure 2). The average annual growth rate (in current SDR terms) of manufacturing exports⁵ during 1978–95 was over 18 per cent (24 per cent when 1984–89, a period of intense political turmoil, is excluded) compared to a 8.2 per cent growth during 1970–76. The value of total manufacturing exports in 1995 was SDR 1605 million, up from a mere 29 million in 1977. During 1980–94, Sri Lanka was among the top five low-income countries in terms of both the average annual growth in earnings from manufacturing exports and the increase in manufacturing share in total merchandise exports [UNCTAD (1995)].

The export orientation of manufacturing, as measured by the ratio of exports to gross

⁵ Manufacturing is defined in this paper to cover all production activities which come under item 3 of the International Standard Industry Classification (ISIC), excluding petroleum refining.

FIGURE 2. GROWTH OF MANUFACTURING EXPORTS AND EXPORT-OUTPUT RATIO OF DOMESTIC MANUFACTURING*



Notes: *Export growth is in current SDR terms. In calculating the export-output ratio, FOB export values were converted to producer-price basis using data on trade and transport margin obtained from the Input-Output Table-1991 (Ministry of Finance and Planning).

Source: Compiled from Central Bank, *Annual Report* (various issues)

manufacturing output ('the export coefficient'), tended to increase rapidly. The export coefficient in 1995 was 55 compared to 3 per cent in the mid-1970s (Figure 2). According to our estimates based on input-output tables for 1981 and 1991 (prepared by the Sri Lankan Ministry of Finance and Planning), export expansion (72 per cent) was the most important source of growth between these two years, followed by domestic demand expansion (45 per cent), with import substitution registering a negative (-17 per cent) contribution.

The export structure of Sri Lanka, as it evolved during the colonial era, was characterised by an extremely heavy reliance on a limited range of primary commodities (Snodgrass 1966). By the time of 1977 policy reform, the share of manufacturers (excluding petroleum products) in total merchandise exports was only 4 per cent (Table 1, last row). Since then, manufacturing exports have emerged as the most dynamic element in the export structure. By the mid-1990s their share in total merchandise exports was over 70 per cent.

Manufacturing exports from Sri Lanka are heavily concentrated in a single standard labour intensive consumer good, clothing. However, from the late 1980s, there has been a noticeable increase in export earnings in other labour intensive product areas such as electronics (included under the commodity category of 'machinery'), leather goods, footwear, toys, plastic products and diamond cutting and jewelry, and resource-based products based on the traditional agricultural exports (tea, rubber and coconut fiber). Reflecting this ongoing pattern of commodity diversification, the share of clothing in total manufacturing exports declined from 72 per cent in the early 1980s to 60 per cent in the mid 1990s (Table 1).

FDI has played a pivotal role in the expansion of manufacturing exports over the past two decades. During 1967-77, a total of 82 foreign manufacturing firms were set up in Sri Lanka. Of these, only 12 were export-oriented ventures (garments 8, gem cutting 2, ceramic-ware 1, wall-tiles 1) (Athukorala 1995). In contrast, during 1978-95 the Board of Investment (BOI)⁶

⁶ Formerly the Greater Colombo Economic Commission, GCEC

TABLE 1. MANUFACTURING EXPORTS: COMPOSITION, GROWTH AND SHARE
IN TOTAL EXPORTS 1965-1995(%)

SITC Category	Composition*						Growth [#]
	1969/70	1976/77	1979/80	1984/85	1989/90	1994/95	1978-95
Food manufactures	17.98	37.07	16.04	6.21	3.91	3.33	7.89
Fish products	15.52	33.23	13.83	5.34	2.72	2.26	6.03
Textiles	2.74	4.19	2.45	2.85	2.84	4.77	24.40
Clothing	18.97	39.37	71.92	75.16	64.61	60.28	19.73
Footwear	3.50	1.90	0.38	1.44	1.04	1.69	25.82
Pottery and ceramics	0.15	7.83	2.62	0.89	1.03	1.11	15.07
Non-metallic mineral products	8.49	2.58	14.41	8.21	19.36	8.49	22.23
Cut-and-polished diamond	0.00	0.00	0.01	0.20	1.10	0.62	23.46
Non-electrical machinery	0.00	1.96	1.29	1.17	1.03	1.29	20.39
Electrical machinery	0.79	0.65	0.30	0.43	0.71	1.62	30.01
Other manufacturing	5.09	2.86	1.81	3.68	3.74	6.54	20.38
Travel goods	0.00	0.14	0.04	0.05	0.06	1.52	40.08
Toys and sport goods	0.00	0.13	0.21	0.37	0.14	1.79	27.29
Jewelry	3.38	1.31	0.47	0.37	0.47	0.98	25.17
Total manufacturing exports	100	100	100	100	100	100	--
US\$ million	4.9	29.7	125.3	381.1	832.3	2372.7	20.21
Manufacturing share in total merchandise exports	1.48	4.58	12.25	27.21	47.96	67.65	--

Notes:

* Two-year averages. -- Not applicable.

Annual compound growth rate (in nominal SDR) estimated by fitting a logarithmic trend line.

All growth rates are statistically significant at the one per cent level.

Source: Central Bank, *Annual Report* (various years).

signed contracts (under the special incentive scheme for export-oriented firms) for setting up 1136 firms of which 835 were in operation by early 1995. In addition, there were a significant number of export-oriented firms (over 125) among foreign ventures approved under general incentive provisions.

During the post-reform period until about the late 1980s, manufacturing of clothing was the major area of attraction to foreign investors. However, since late 1980s there has been a noticeable increase in the number of foreign firms entering into other labour intensive product areas such as leather goods, footwear, toys, plastic products and diamond cutting and jewelry. During the early stages, the dominant factor behind the surge of FDI in the clothing industry was the quota restrictions imposed under the Multi Fiber Arrangement (MFA) by the major importing countries in the Western world on garment imports from the traditional developing-country producers in East Asia. This is clearly evident from the predominance of firms from Hong Kong (the major developing-country exporter of garments) in Sri Lanka's export-oriented garment industry. By about 1983, garment exports from Sri Lanka too had come under stringent quota restrictions. Since then most of the new ventures in the clothing industry are involved in the production of items which are not subject to MFA quotas. These investors, as well as investors in other product areas, have come to Sri Lanka primarily because of its attractiveness as a lower-cost export base in terms of both the availability of cheap and trainable labour and the favourable investment climate. Sri Lanka's overseas investment promotion campaign has placed heavy emphasis on courting assembly production in high-tech industries. Until the late 1980s, there were only two electronics assembly firms in the KEPZ-

TABLE 2. FOREIGN FIRMS' CONTRIBUTION TO THE EXPANSION OF MANUFACTURING EXPORTS, 1976-1992 (Three-year averages).

	Manufacturing exports*	Share of Foreign firms	
	US\$ Millions	All foreign firms(#)	FTZ firms (%)
1975-77	24.8	23.2	n.a.
1978-80	102.7	30.2	n.a.
1981-83	234.9	43.7	30.6
1984-86	421.2	47.4	35.5
1987-89	653.5	58.2	43.5
1990-92	1083.1	65.8	47.6
1993-95	1949.5	76.3	68.3

Notes:

*Excluding petroleum products

#Combined export share of GCEC and Non-FTZ firms.

n.a. Not applicable.

Source Athukorala (1995) (extended to 1995 using the same data sources)

a German firm (with an employment capacity of 225 workers) and a Japanese firm (275 workers). Since the late 1980s a number of Japanese, Korean, Swiss and Taiwanese electronics firms have set up production facilities.

Data on the relative contribution of foreign firms to manufacturing exports are given in Table 2. There is a close correlation between the growth of manufacturing exports and the share of foreign firms in these exports. The share of foreign firms in total exports of manufactures increased from 24 per cent in 1977 to 47 per cent in the mid-1990s and then to over 76 per cent by the mid-1990s. The contribution of foreign firms to the total increment in manufacturing exports has increased from 46 per cent between 1978 and 1985 to 85 per cent between 1985 and 1995. Apart from the 'direct' contribution captured in these data, there is evidence that the presence of foreign firms generates significant positive spillover effects on the export success of local export producing firms (Athukorala 1995).⁷

A crucial issue in the contemporary trade and industrial policy debate in developing countries is whether an import-substitution phase is a precondition for the successful transition to export orientation. Hard empirical evidence on this important issue can come only from a detailed firm level investigation. However, the available evidence on the commodity composition of exports fails to suggest any direct link between recent export growth and output expansion during the earlier import-substitution period. Before 1977 manufacturing exports from Sri Lanka were largely limited to exports by a handful of domestic-market oriented multinationals subsidiaries in food and beverages, pharmaceutical and chemical industries. These firms temporarily diverted some of their domestic sales to the world market in order to become eligible for import entitlements under the convertible rupee accounts (CRA) scheme. Most of these exporters virtually disappeared after the 1977 trade liberalisation [Athukorala and Jayasuriya, (1994, p.102)]. As in other countries such as Taiwan, Malaysia, Bangladesh

⁷ As the referee correctly pointed out, a common criticism of FDI-led export growth is that, given the 'enclave' (or 'foot loose') nature of the production activities involved, its economy-wide impact tends to be limited. This issue has been treated in detail in Athukorala (1995). For a general critique of the conventional 'linkages-based' approach to assessing the developmental impact of export-led industrialisation see Athukorala and Santosa (1996).

and Chile, manufacturing exports during the post-liberalisation period seem to have emerged *de novo* in response to the creation of new incentives [Helleiner (1994 and 1995, Riedel 1993)]. Most of the new exporting firms, both firms with FDI participation and pure local ones, seem to have developed initially as exporting ventures independently of the industrial base laid down in the earlier period. In the garment industry, a few firms established during the IS era have successfully ventured into export business. However, their new operations are largely based on know-how, managerial inputs and, to some extent even capital, obtained through foreign collaboration and/or marketing links established through international buying groups which came to the country following the trade policy reforms.

Determinants of Manufacturing Exports

The purpose of this section is to undertake an econometric analysis of the supply response of Sri Lankan manufacturing exports. An attempt is made to shed light on the link between export incentives (as measured by the real exchange rate) and export performance, while allowing for the impact of the overall shift in trade policy in favour of greater market orientation and the promotion of foreign direct investment. The use of a supply function (instead of a full demand-supply system) as the basis of our empirical analysis is based on the implicit assumption that foreign currency prices faced by Sri Lankan exporters are determined exogenously (the small-country assumption). This is not a restrictive assumption given the nature of manufactured goods exported by Sri Lanka (largely undifferentiated light manufactures) and Sri Lanka's small world market share in these product categories (Athukorala and Riedel 1996, Riedel and Athukorala 1995).

The estimated export supply equation is of the form:

$$QX = F(RER, PLBD, PCAP)$$

where,

QX real exports,

RER real exchange rate,

PLBD a pre-liberalisation dummy variable which takes value 1 for the years 1968–1977 and 0 otherwise, and

PCAP production capacity.

The regression coefficient of *PLBD* is expected to be negative, others positive. All variables except (*PLBD*) are measured as indices with 1990 as the base year.

The rationale behind the choice of explanatory variables is the following. As discussed, the *RER*, the key explanatory variable in the model, measures changes over time in the relative profitability of exporting and selling domestically. It brings together changes in the nominal exchange rate, the effective value of financial incentives, and domestic and world market prices. It is therefore a composite indicator of relative export profitability.⁸

The *RER* is expected to influence only the changes in real exports resulting from movement along the production possibility curve triggered by relative price changes. In

⁸ Of the two versions of *RER* discussed in Section 2, the results reported here are based on *RER2*. The results were found to be robust to the use of *RER1*.

practice even if *RER* remain unchanged, exports would still change depending on shifts in the country's production capacity. The net effect of changes in the *RER* on exports can therefore be meaningfully delineated only if the latter changes are taken into account. On these grounds, we use average of real manufacturing output in the three previous years as a proxy to account for the impact of the expansion of domestic production capacity on export expansion. The third explanatory variable *PLBD* is included to capture the distinction (if any) between pre- and post-trade liberalisation periods with regard to export performance which are not expressed in the *RER*. The literature suggests that the favourable impact of trade liberalisation on export performance is not limited to relative price aspects (which are captured in the *RER*). Various institutional changes embodied in the liberalisation package (such as access to imported inputs, increased flexibility in the exchange control mechanism, and a relatively more conducive atmosphere for private sector activity) may also contribute to improved export performance.

The model was estimated separately for total manufacturing goods (TMF), clothing exports and non-clothing manufacturing exports (total manufacturing exports less garments). In the latter category exports by non-GCEC firms are treated as a separate category. Clothing exports are treated as a separate category in order to allow for 'special' market conditions faced by garment exporters throughout the period due to the market quota system under the MFA.

The distinction between GCEC and non-GCEC firms within non-garments exports is made for the following reasons. The GCEC firms (of which over 90 per cent have FDI participation) are 'exporters by decree' and the factors that induce such firms in export decisions can be different to those governing other firms [See Athukorala, Jayasuriya and Ozkowski (1995)]. Various special incentives accorded to the GCEC firms (such as duty free concessions and subsidised infrastructure) are not captured in our *RER* estimates. Moreover, there are reasons to believe that foreign investors who set up plants in free trade zones generally place relatively more (or perhaps sole) emphasis on fundamentals governing international relocation of production bases (such as the availability and relative cost of labour and political and policy certainty) than on the nominal exchange rate and other domestic financial incentives. With regard to the cost of labour - a major consideration in international relocation of production - one can argue that perhaps the most important aspect is the relative wage *level* rather than the relative annual *changes* in wages. In the presence of vast wage differentials across investment locations, even a quite substantial increase in wages over time in a given investment location may not receive much weight in investment relocation decisions. For these reasons we expect exports by non-GCEC firms to be more sensitive to changes in the *RER* than the GCEC firms.

In estimating an export supply function, it is necessary to allow for possible time lags involved in the hypothesised relationships. For this, we make use of the error-correction method (ECM) which is considered a highly appropriate dynamic specification when one works with relatively short time series [Hendry (1995)]. Under the ECM method, the long-run (steady state) relationship being investigated is embodied within a dynamic specification including lagged dependent and independent variables, in order to minimise the possibility of estimating spurious relationships [see Appendix for details]. It is important to guard against the possibility of uncovering spurious relations when working with variables (real exports and production capacity in our case) which seem to have a strong trend component.

The ECM procedure has the added advantage of separating long-run relationships from the short-run impact in the estimated equation.

The sample period is 1968–1994. All variables (except of course *PLBD*) are used in log form so that the coefficients can be directly interpreted as elasticities.⁹ The results are reported in Table 3.

As expected, the real exchange rate (RER) is not a significant explicator of clothing exports (Equation 2). These exports are explained predominantly by exports in the previous year and production capacity. The results for total exports (Equation 1) are largely dictated by clothing. In this equation, the coefficient attached to the real exchange rate variable suggests an elasticity of 0.77, which does not attain statistical significance even at the 10 per cent level. For non-clothing exports we find a statistically significant real exchange rate elasticity of 1.06 per cent. When GCEC exports are netted from this category, the elasticity coefficient increases to 2.95 with the level of significance shifting from 5 per cent to 1 per cent. Thus there is strong statistical support for the hypothesis that non-GCEC manufacturing exports are much more sensitive to changes in overall financial incentives than exports by GCEC firms. This result is consistent with our conjecture that international location decisions of export-oriented production foreign firms are governed by various factors other than the domestic incentive structure of a given host country.

The coefficient on the dummy intercept variable used to represent regime shift (*PLBD*) is statistically significant at least at the ten-per cent level (five-per cent or better in three cases) with the expected (negative) sign. This result provides statistical support for the view that, quite apart from its impact operating through the incentives captured in RER, the liberalisation policy package has been instrumental in creating a conducive environment for export expansion. As we have already discussed, the key elements of the policy reform package such as trade liberalisation, foreign investment promotion and greater emphasis placed on the role of the private sector in the economy seems to have set the stage for the rapid expansion of manufacturing exports.

Concluding Remarks

The liberalisation reforms initiated in 1977 have led to far-reaching changes in the structure and performance of Sri Lanka manufacturing. The manufacturing sector has become increasingly export-oriented, and is no longer reliant on the fortunes of traditional primary export industries to obtain required imported inputs.

The view that an import-substitution phase is a precondition for the successful transition to export orientation receives no support from the Sri Lankan experience. We found no evidence of a direct link between recent export growth and output expansion during the earlier IS period. As in other countries such as Taiwan, Malaysia, Bangladesh and Chile, manufacturing exports largely emerged *de novo* in response to the creation of new incentives. Most of the new exporting firms were set up initially as exporting ventures, independently of the industrial base laid down in the earlier period.

⁹ In all cases the log-linear specification was preferable to linear specification in terms of the Ramsey RESET test for functional form misspecification.

TABLE 3. DETERMINANTS OF MANUFACTURING EXPORTS: REGRESSION RESULTS

(1) Total Manufacturing Exports

$$\Delta QX_t = -0.68 + 0.27RER_{t-1} - 0.27PLBD + 0.24PCAP_{t-1} \\ (0.65) \quad (0.93) \quad (2.16)^{**} \quad (1.10) \\ -0.35QX_{t-1} \\ (3.17)^{***}$$

Long-run elasticity of QX with respect to $RER = 0.77$ (1.24)

$$Adjusted-R^2 = 0.37 \quad F = 3.11 \quad SE = 0.26 \quad DW = 2.49$$

$$LM-F(1,20) = 1.23 \quad RESET(1,20) = 0.11 \quad JBN(2) = 44.27$$

$$HSC(1,24) = 0.04$$

(2) clothing exports

$$\Delta QX_t = 2.66 - 1.99PLBD + 0.23PCAP_{t-1} \\ (6.23)^{***} \quad (6.06)^{***} \quad (2.24)^{**} \\ -0.77QX_{t-1} \\ (757)^{***}$$

$$Adjusted-R^2 = 0.75 \quad F(3,22) = 21.92 \quad SE = 0.36 \quad DW = 1.97$$

$$LM-F(1,21) = 0.01 \quad RESET = 10.95 \quad JBN(2) = 0.23$$

$$HSC(1,24) = 0.24$$

(3) Other (non-clothing) exports

$$\Delta QX_t = -6.49 + 0.98\Delta RER_t + 0.75RER_{t-1} \\ (274)^* \quad (2.11)^{**} \quad (1.71)^* \\ -0.32PLBD + 1.39PCAP_{t-1} - 0.71QX_{t-1} \\ (1.35)^* \quad (3.36)^{***} \quad (3.68)^{***}$$

Long-run elasticity of QX with respect to $RER = 1.06$ (1.90)

$$Adjusted-R^2 = 0.52 \quad F = 3.98 \quad SE = 0.28 \quad DW = 1.76$$

$$LMS-F(1,17) = 0.84 \quad RESET-F(1,17) = 2.63 \quad JBN(2) = 17.93$$

$$HSC(1,26) = 11.88$$

(4) Other (non-clothing) exports by non-GCEC firms

$$\Delta QX_t = -1.89 + 1.03\Delta RER_t + 1.09RER_{t-1} - 0.86PLBD \\ (1.29) \quad (1.98)^{**} \quad (2.86)^{**} \quad (2.51)^{**} \\ + 1.03PCAP_{t-1} - 0.37QX_{t-1} \\ (1.34)^* \quad (3.63)^{**}$$

Long-run elasticity of QX with respect to $RER = 2.95$ (4.04)^{***}

$$Adjusted-R^2 = 0.50 \quad F = 4.4 \quad SE = 0.32 \quad DW = 2.01$$

$$LMS(1,17) = 0.05 \quad RESET(1,17) = 5.52 \quad JBN(2) = 15.29$$

$$HSC(1,22) = 2.44$$

* t -ratios of regression coefficients are given in brackets with the level of statistical significance (one-tailed test) denoted as, * 10 per cent, ** 5 per cent and *** ten per cent.

Test statistics

LMS Lagrange multiplier test for serial correlation; *RESET* Ramsey *RESET* test for functional form miss-specification; *JBN* Jarques-Bera test for the normality of residuals; *HSC* Test for heteroscedasticity based on squared residuals. Except *JBN* which is based on the χ^2 distribution, all other tests are based of the F -distribution. The degrees of freedom for the respective tests are given in brackets.

Source: Author's estimates based on data sources discussed in the text..

Our findings cast doubts on the popular structuralist prescription of using direct subsidies (as a substitute for genuine trade and macroeconomic reforms) as an export promotion tool. In the typical developing economy with a weak government revenue base the potential stimulus through subsidies is bound to be rather insignificant in a context of aggravating macroeconomic imbalance.

A key theme running through the paper is the importance of the concomitant liberalisation of both trade and investment policy regimes in determining the nature of export response to liberalisation reforms in small trade dependent countries like Sri Lanka. Internationalisation of production through FDI participation has been central to the rapid integration of developing countries in the global manufactured goods trade system. In this context there is limited room for a small developing economy to enter manufactured goods trade solely through local entrepreneurial initiatives. Foreign investment not only provides the initial stimulus for a rapid expansion in exports and the associated increase in employment, but is also a vehicle for forging links between local firms and international markets.

The results of our econometric exercise provide support for the view that maintaining a realistic real exchange rate is important for achieving a broad based manufacturing export structure with greater local capital participation. At the same time, there is evidence that the significant involvement of foreign firms in export-oriented manufacturing has contributed to a considerable weakening of the link between the real exchange rate and export performance. There is also strong statistical evidence that, quite apart from its impact operating through the incentives captured in *RER*, the liberalisation policy package has been instrumental in creating a business environment which was conducive for export expansion. Thus the overwhelming (or sole) emphasis placed on exchange rate and incentive policies (as in the current policy debate in Sri Lanka) in explaining export performance can lead to misleading inferences, and more attention needs to be paid to factors impacting on the overall investment climate.

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APPENDIX ERROR CORRECTION MODELING PROCEDURE

The error correction modeling (ECM) procedure is a estimation technique designed to minimise the possibility of estimating spurious relations while retaining long-run information when modeling with time series data (Hendry 1995). The estimation procedure starts with an autoregressive distributed lag (ADL) specification of an appropriate lag order:

$$Y_t = \alpha + \sum_{i=1}^m A_i Y_{t-i} + \sum_{i=0}^m B_i X_{t-i} + \mu_t \quad (1)$$

where α is a constant, Y_t is a ($n \times 1$) vector of endogenous variables, X_t is a ($k \times 1$) vector of explanatory variables, and A_i and B_i are ($n \times n$) and ($n \times k$) matrices of parameters.

Equation 1 is then reparameterised in terms of differences and lagged levels so as to separate the short-run and long-run multipliers of the system.

$$\Delta Y_t = \alpha + \sum_{i=1}^{m-1} A_i^* \Delta Y_{t-i} + \sum_{i=0}^{m-1} B_i^* \Delta X_{t-i} + C_0 Y_{t-m} + C_1 X_{t-m} + \mu_t \quad (2)$$

where

$$C_0 = -\left(I - \sum_{i=1}^m A_i\right) \quad C_1 = \left(\sum_{i=0}^m B_i\right)$$

and the long-run multipliers of the system are given by $C_0^{-1} C_1$.

Equation 2 constitutes the *maintained hypothesis* of our specification search. This general model is *tested down* (using OLS), by dropping statistically insignificant lag terms, and imposing data-acceptable restrictions on the regression parameters. The testing procedure continues until a parsimonious error correction representation is obtained which retains the *a priori* theoretical model as its long-run solution. To be acceptable, the final equation must satisfy various diagnostic tests relating to the OLS error process.

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