Trade Liberalisation and Poverty in South Asia

Edited by
Jayatilleke S. Bandara, Prema-chandra Athukorala and **Saman Kelegama**

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Trade Liberalisation and Poverty in South Asia

The link between trade liberalisation and poverty has arguably been one of the most discussed topics in development policy debate. Existing studies on the subject have primarily used multi-country cross-sectional data, and there is a growing concern about the limitations of this approach in providing a sound empirical basis for informing the policy debate. These limitations point to the need for undertaking in-depth analyses within individual countries over time.

In order to examine the connection between trade liberalisation and poverty, this book provides case studies of trade policy reforms and poverty reduction outcomes of seven countries in South Asia – Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. The South Asia region allows for an excellent comparative study given the widespread emphasis on liberalisation reforms in the region over the past two decades, as well as highlighting significant inter-country differences in terms of the timing and comprehensiveness of reforms, and the heavy concentration of world poverty in the region. This book is a useful contribution to studies on South Asia, as well as International Trade and Development Economics.

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Acronyms and abbreviations

ADB	Asian Development Bank
AGE	Applied General Equilibrium
AMDP	Accelerated Mahaweli Development Project
APTA	Asia-Pacific Trade Agreement
ASI	Annual Survey of Industries
BaU	Business as Usual
BEI	Bangladesh Enterprise Institute
BIMSTEC	Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation
BLSS	Bhutan Living Standard Survey
BMR	Balancing, Modernisation and Replacement
BOP	Balance of Payments
BST	Bhutan Sales Tax
CBS	Central Bureau of Statistics
CES	Constant Elasticity of Substitution
CET	Constant Elasticity of Transformation
CGE	Computable General Equilibrium
CIA	Central Intelligence Agency
CIF	Cost Insurance and Freight
CMI	Census of Manufacturing Industries
CMIE	Centre for Monitoring Indian Economy
COTI	Countries Other Than India
CSO	Central Statistical Office
DCS	Department of Census and Statistics
DGCI&S	Directorate General of Commercial Intelligence and Statistics
DPD	Dynamic Panel Data
EDB	Export Development Board
EOBI	Employees' Old-Age Benefits Institution
EPZ	Export Processing Zone
ESAF	Enhanced Structural Adjustment Facility
ESCAP	Economic and Social Commission for Asia and the Pacific
EU	European Union
EV	Equivalent Variation

FCBU	Foreign Currency Banking Units
FDI	Foreign Direct Investment
FISB	Foreign Investment Services Bureau
FL	Full Liberalisation
FOB	Free on Board
FTA	Free Trade Agreement
FTZ	Free Trade Zone
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariff and Trade
GCEC	Greater Colombo Economic Commission
GDP	Gross Domestic Product
GMM	Generalised Method of Moments
GSP	Generalised System of Preferences
GTAP	Global Trade Analysis Project
HCR	Head Count Ratio
HDI	Human Development Index
HIES	Household Income and Expenditure Survey
HO	Hechscher–Ohlin
HS	Harmonised Commodity Description and Coding System
IDRC	International Development Research Centre
IDSC	Infrastructure Development Surcharge
IFPRI	International Food Policy Research Institute
IGC	Integrated Gewog Centres
IMF	International Monetary Fund
IPO	Import Policy Order
IPS	Institute of Policy Studies of Sri Lanka
IS	Import Substitution
ISIC	International Standard Industrial Classification
ISO	International Organisation for Standardisation
JNU	Jawahalal Nehru University
JVP	Janatha Vimukthi Peramuna
LC	Letter of Credit
LDC	Least Developed Country
LES	Linear Expenditure System
LKR	Lanka Rupees
LSSP	Lanka Sama Samaja Party
MDG	Millennium Development Goal
MFA	Multi-Fibre Arrangement
MFN	Most Favoured Nation
MIMAP	Micro Impact of Macroeconomic Adjustment Policies
MMA	Maldives Monetary Authority
MPND	Ministry of Plain and National Development
MRP	Mixed Recall Period

NCEUS	National Commission for Enterprises in the Unorganised Sector
NFYP	Ninth Five Year Plan
NIC	National Industrial Classification
NLA	National Labour Academy
NSSO	National Sample Survey Organisation
NWFP	Non-wood Forest Products
OGL	Open General Licence
OTRI	Overall Trade Restrictiveness Index
PAM	Production, Access and Market
PAR	Poverty Analysis Report
PDS	Pakistan Development Studies
PIDE	Pakistan Institute of Development Economics
PL	Partial Liberalisation
PTC	Presidential Tariff Commission
QR	Quantitative Restrictions
R&D	Research and Development
REER	Real Effective Exchange Rate
RGOB	Royal Government of Bhutan
RMG	Ready-Made Garments
RNR	Renewable Natural Resource
SAARC	South Asian Association of Regional Cooperation
SAF	Structural Adjustment Facility
SAFTA	South Asian Free Trade Agreement
SAM	Social Accounting Matrix
SANEM	South Asia Network of Economic Modelling
SAP	Structural Adjustment Programme
SAPTA	South Asian Preferential Trade Area
SD	Supplementary Duties
SDG	SAARC Development Goals
SEZs	Special Economic Zones
SIE	Small Island Economy
SLFP	Sri Lanka Freedom Party
SPS	Sanitary and Phytosanitary Measures
SS	Stolper–Samuelson
TBT	Technical Barriers to Trade
TFYP	Tenth Five Year Plan
TOT	Terms of Trade
TTRI	Trade and Tariff Restrictiveness Index
UAE	United Arab Emirates
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNDP-RCC	United Nations Development Programme: Regional Centre Colombo

UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNP	United National Party
URP	Uniform Recall Period
VAT	Value Added Tax
WTO	World Trade Organisation

9 Sri Lanka

Deshal de Mel and Ruwan Jayathilaka

The relationship between trade and poverty has long been debated in academic and policy circles. The purpose of this chapter is to contribute to this debate through an in-depth study of the experience of Sri Lanka, the first country in South Asia to break away from the protectionist past by embarking on a decisive process of economic opening in 1977. During the first decade after independence in 1948, Sri Lanka continued with a liberal trade regime, until growing balance of payments problems induced a policy shift towards protectionist import substitution policies from the early 1960s. By the mid-1970s the Sri Lankan economy had become one of the most inward-oriented and regulated outside the group of centrally planned economies. In 1977, Sri Lanka responded to the dismal economic outcome of the closed-economy era by embarking on an extensive economic liberalisation process, becoming the first country in the South Asian region to do so. Despite major macroeconomic problems and political turmoil, market-oriented reforms have been sustained over the ensuing years. Sri Lanka is now classified as one of the few developing countries outside East Asia that have achieved a clear policy shift from the entrenched import-substitution era. This policy transition has brought about notable structural changes in the economy (Athukorala and Rajapatirana 2000; World Bank 2005b; Kelegama 2006). However, the impact of liberalisation reforms on the incidence of poverty and poverty reduction has not yet been systematically studied. Therefore, the main objective of this chapter is to systematically examine the link between trade liberalisation and poverty reduction through employment channels.

The chapter is arranged as follows: Section 2 provides an overview of trade policy shifts and the role of trade in the economy. Section 3 surveys the incidence and patterns of poverty. Section 4 examines key channels through which trade policy impacts on poverty. Section 5 examines some cross-cutting issues. Section 6 reports the results of an econometric analysis undertaken to examine the determinant of poverty at the household level with emphasis on the impact of trade policy. The chapter ends with a summary of key findings and policy inferences.

Policy context

After gaining independence in 1948, Sri Lanka initially continued with the economic structures inherited from the colonial era, characterised by dependence on the export-oriented plantation sector. However, the United National Party (UNP) government of the day fell out of favour as fiscal imbalances forced it to cut down on welfare expenditure, resulting in political unrest in the form of a general strike (*hartal*) in 1953, leading to the election in 1956 of a centre-left coalition government led by the Sri Lanka Freedom Party (SLFP). The government responded to the widening trade deficit by imposing exchange controls and limiting imports. In the early 1960s controls of foreign exchange expanded; there was a complete ban on the import of 49 products and most other imports were subject to licensing (Athukorala and Jayasuriya 1994). There were also restrictions on overseas travel and repatriation of profits. While ideological factors contributed to these changes, the protective policies were also influenced by the comparative ease of addressing the balance of payments problems by import controls as opposed to tackling the underlying fiscal excesses through spending cuts.

In 1965 a new UNP government was sworn into power. It made a tentative attempt at liberalisation which lacked the momentum and drive to carry on in a sustained manner. A standby arrangement with the IMF in 1965 generated greater confidence in the economy from the developed world. A moratorium on repatriation of profits was reversed and moves to encourage exports such as the bonus voucher scheme for non-traditional exports were introduced. In May 1968 there was a partial attempt at liberalisation with a dual exchange rate operating, with essential imports and major exports operating within the official exchange rate and non-essential items operating at a depreciated rate based on Foreign Exchange Entitlement Certificates. The latter exchange rate was to be determined by proxy (through prices of certificates) by market forces. This early step at liberalisation could not be pursued as the UNP government lost the election in 1970 as a result of high (particularly youth) unemployment, inflation, concerns about foreign debt and, tellingly, the reduction of the subsidised rice ration in an attempt to improve prices for farmers.

The first attempt at liberalisation was reversed when the 1970 election brought to power a left-wing coalition of the SLFP, the Lanka Sama Samaja Party (LSSP) and the Communist Party. The economy was under stress given deteriorating terms of trade, weak productivity of domestic agriculture, the first oil shock and a youth uprising led by the Marxist Janatha Vimukthi Peramuna (JVP) in 1971. This was addressed by increasing state control over the economy. Import licensing was required for all imports, and quantitative restrictions and exchange controls were reintroduced. Most of the plantations were taken over by the state; a Business Undertakings Acquisition Act allowed the government to take over any business firm if it was deemed to be in the national interest. High imported food prices resulted in rations being introduced for sugar and wheat, while rice rations were reduced and became more expensive. Overall expenditure on welfare and subsidies had to be curtailed. At the same time, prices of bus and rail fares and postal charges increased. An economic downturn coupled with authoritarian political actions resulted in government popularity plummeting and a massive victory for the opposition in the 1977 elections.

Liberalisation of the economy in 1977

The UNP won a massive majority and enjoyed a substantial political mandate for reform and liberalisation. Within the first three months of coming into power, several reforms were made to trade and economic policy with broad-based dismantling of state controls over the economy (Cuthbertson and Athukorala 1991; Athukorala and Rajapatirana 2000).

Quantitative restrictions were largely replaced by tariffs which offered less protection to import-substituting industries. A number of measures were introduced to promote FDI, including tax incentives and EPZs. Price controls were also by and large removed and universal food subsidies were replaced by food stamps which indicated low-income families (though in practice the scheme covered half the population). A unified exchange rate was implemented, the Sri Lankan rupee (LKR) was devalued by 45.5 per cent and a managed float came into practice. Some relaxation of capital controls occurred but the LKR was still not fully convertible. Repatriation of proceeds from sale of Sri Lankan shares was permitted and restrictions on release of foreign exchange for travel and education were eased. Foreign banks were allowed to set up branches in Sri Lanka and local commercial banks could operate Foreign Currency Banking Units (FCBU).

Export development became a policy priority and the Export Development Board (EDB) was set up in 1979. The EDB was engaged in direct cash transfers to certain export products, duty rebate schemes and medium- to long-term credit schemes, among others. The GCEC (Greater Colombo Economic Commission) was set up to organise and operate EPZs to attract FDI. Incentives included ten-year tax holidays on salaries and dividends, 100 per cent foreign ownership and duty exemption on machinery and certain production inputs.

However, the reform process lost momentum by 1982 as other concerns forced the government to cut back on the liberalisation agenda. Along with liberalisation the government was engaged in a large public investment programme, with the Accelerated Mahaweli Development Project (AMDP), a housing project and an urban development project being the key projects which accounted for approximately 75 per cent of public investment. The AMDP, a large-scale irrigation project that would provide hydroelectric power and boost agricultural activity in the dry zones, was the biggest of these and accounted for about 45 per cent of public investment. In this context, government finances were weakened as these projects had little or no short-term revenue-enhancing effect. Overall public expenditure was estimated at 35 per cent of GDP (Lakshman and Sri Lanka Association of Economists 1997). Much of this public expenditure was in part an attempt to provide a safety net for those sectors and individuals whose interests were undermined by the adverse impacts of trade liberalisation (sectors such as handloom weaving) by providing employment (AMDP, for instance, was to provide employment opportunities in its construction and in the agricultural jobs that would result from it) or direct income support for the poor (the Janasaviya poverty alleviation scheme) (Kelegama 2006).

The widening budget deficits forced the government to slow down the pace of tariff reduction and a Presidential Tariff Commission (PTC) was appointed to look into appeals on trade policy changes. While some tariffs were reduced based on the needs of reducing costs of imported inputs, the majority of cases resulted in tariffs being increased in response to calls for protection, which were readily accommodated given the revenue imperatives faced by the government. There was a surcharge of 10 per cent on all imports that had a tariff of over 50 per cent, which was intended to fund export development but had a protective element as well, indirectly undermining exports by forming a bias towards the import substitution sector.

Economic conditions deteriorated as the fiscal situation was undermined, inflation increased and between 1978 and 1983 there was a 62.3 per cent deterioration in the terms of trade. Economic growth stagnated and the current account deficit expanded, as shown in Table 9.1 below. Furthermore, in 1983, ethnic tensions that had been simmering over the past decade blew into a bloody civil war which would last 26 years. The war expenditure put further pressure on the fiscal situation and the weak investment climate undermined the ability of the private sector to fully exploit the opportunities provided by trade liberalisation.

The liberalisation process that took place between 1977 and 1982 was to a great extent incomplete. The weak macroeconomic conditions, coupled with conflict and deteriorating external conditions (global economic downturn in 1982, the second oil shock and adverse terms of trade for Sri Lanka), undermined the growth performance in Sri Lanka and true potential for trade liberalisation to have a substantial impact on growth and poverty was not fulfilled.

Contemporary trade policy

Over the past three decades Sri Lanka has become increasingly open to trade – undertaking unilateral, multilateral and regional trade liberalisation. Sri Lanka's applied tariffs are relatively low by the developing country standards. The simple average applied tariff as of 2006 was 11.2 per cent, while that of manufactured goods was 9.2 per cent and of agricultural goods was 23.8 per cent. Prior to 2005 applied rates were even lower, with the average applied rate between 2000 and 2004 being 9.5 per cent. Sri Lanka nonetheless

Table 9.1 Poverty headcount index (percentage) by district

District	*Poverty headcount index (percentage) by survey period*			
	1990/1	*1995/6*	*2002*	*2006/7*
Sri Lanka	26.1	28.8	22.7	15.2
Urban	16.3	14.0	7.9	6.7
Rural	29.5	30.9	24.7	15.7
Estate	20.5	38.4	30.0	32.0
District				
Colombo	16.2	12.0	6.4	5.4
Gampaha	14.7	14.1	10.7	8.7
Kalutara	32.3	29.5	20.0	13.0
Kandy	35.9	36.7	24.9	17.0
Matale	28.7	41.9	29.6	18.9
Nuwara Eliya	20.1	32.1	22.6	33.8
Galle	29.7	31.6	25.8	13.7
Matara	29.2	35.0	27.5	14.7
Hambantota	32.4	31.0	32.2	12.7
Batticaloa				10.7
Ampara				10.9
Kurunegala	27.2	26.2	25.4	15.4
Puttalam	22.3	31.1	31.3	13.1
Anuradhapura	24.4	27.0	20.4	14.9
Polonnaruwa	24.9	20.1	23.7	12.7
Badulla	31.0	41.0	37.3	23.7
Monaragala	33.7	56.2	37.2	33.2
Ratnapura	30.8	46.4	34.4	26.6
Kegalle	31.2	36.3	32.5	21.1

Source: DCS (2008).

maintains the lowest applied MFN tariffs in South Asia. Sri Lanka maintains a five-band tariff structure with rates of 0 to 2.5 per cent, 6 per cent, 15 per cent and 28 per cent in 2005. Agricultural products and finished manufactured goods receive higher levels of protection while raw materials and inputs into production receive lower levels of protection. Despite Sri Lanka's relative low applied tariff rates, since the year 2000 there has been an increasing tendency towards the imposition of *ad hoc* levies and surcharges on various items in response to calls for domestic protection, government policy changes on domestic production (dairy products being one example) where new government policy is towards encouraging domestic production and thereby levies on competing imports have increased. The special commodity levy on imported milk was increased from LKR 5 per kg to LKR 15 per kg 'with a view to encouraging local dairy production' (Ministry of Finance 2008) and revenue considerations. In more recent years Sri Lanka has implemented Free Trade Agreements with India and Pakistan and is party to the South Asian Free Trade Agreement, along with many other regional trade agreements including BIMSTEC and APTA. However, the impact of these initiatives on trade opening has so far been small compared to that of the process of unilateral liberalisation initiated in 1977 (World Bank 2005b).

Sri Lanka has experienced rapid growth of both exports and imports in recent years. Annual average import growth between 2003 and 2007 was 13.9 per cent, while annual average export growth was 10.6 per cent. Imports have increased at a faster rate than exports resulting in a widening trade deficit. A major cause for the faster rate of import growth is the increase in price and consumption of oil. In 2007, expenditure on petroleum imports accounted for 40 per cent of growth in import expenditure (CBSL 2007). Exports have grown rapidly as well, led by apparel exports and a resurgence of export earnings from agricultural commodities such as tea, buoyed by commodity price booms in 2007. A major concern in trade patterns in Sri Lanka is limited export diversification both geographically and in terms of products. As of 2007, 62 per cent of Sri Lanka's exports were destined for the USA and the EU. While this is an improvement from the past (in 2002, 82 per cent of exports were to these regions), there remains much room for increased diversification. In terms of products, garments made up 43 per cent of Sri Lanka's exports and tea made up 13.2 per cent of total exports. No other export product category contributed over 10 per cent of exports. Such a lack of diversification of products leaves Sri Lanka vulnerable to fluctuations in global market conditions in these product categories.

Trends and patterns of poverty

In this section, we examine recent historic trends in poverty and sectoral and regional disparities in poverty incidences as a backdrop to the discussion in the following section on the relationship between trade liberalisation and poverty.

Poverty in Sri Lanka is predominantly a rural phenomenon (Table 9.1).[1] Several studies have shown that poor households are more likely to be found in rural than in urban areas because of working members being employed in agriculture and other primary production activities (Datt and Gunewardena 1995). The incidence of poverty (as measured by the standard headcount ratio) at national level has shown a steady decline from 26.1 per cent in 1990/1 to 15.2 per cent in 2006/7. At the sectoral level, poverty in the rural sector, where 80 per cent of the population finds livelihood, also declined but at a slower rate, from 24.7 per cent to 15.7 per cent. Poverty in the estate sector[2] which accounts for about 5.5 per cent of the population increased from 30 per cent in 2002 to 32 per cent in 2006/7.

At the district level, Nuwara Eliya and the Monaragala districts, where the estate sector is concentrated, are the poorest. In these two districts the headcount poverty index was above 33 per cent in 2006/7. Nuwara Eliya district is the only district that reported an increase of poverty from 2002 to 2006/7 and the increase is alarming, rising almost 50 per cent from 22.6 per cent in 2002 to 33.8 per cent in 2006/7. Hambantota district, which was among the poorest districts between 1990/1 and 2002, has experienced an unprecedented drop of poverty incidence of over 60 per cent, from 32.2 per cent in 2002 to 12.7 per cent in 2006/7. This achievement has lifted Hambantota district above even Kalutara district of the Western Province, which has always reported the least incidence of poverty. However, Kalutara district has also gained a highly significant continuous reduction in the poverty headcount index from 32.3 per cent in 1990/1 and 20 per cent in 2002 to 13 per cent in 2006/7, and somewhat similar improvements in poverty reduction have been shown by Puttalam and Polonnaruwa districts.

The trade–poverty nexus

As discussed in Chapters 1 and 2 of this volume, the linkage between trade and poverty has been thoroughly examined in both theoretical and empirical research. The primary avenue by which trade affects poverty in the long run is through economic growth. Theory suggests that trade liberalisation results in economic growth and economic growth leads to poverty reduction. However, it has not been possible to completely substantiate this finding in the empirical literature.

Data on per capita income, trade and poverty incidence during the reform period are plotted in Figure 9.1. It can be seen that income and poverty have moved together and poverty has moved in the reverse direction during this period. However, the time period is too short to test econometrically the impact of trade on poverty incidence. What we aim to do in this section is simply to put together and analyse whatever available data relating to the various channels through which trade impacts on poverty in the context of trade policy reforms. In Sri Lankan trade, growth and poverty reduction have all moved in the same direction.

Trade, employment and poverty

A key link between trade and poverty is the impact of trade on employment opportunities because employment is the main, if not the only, source of

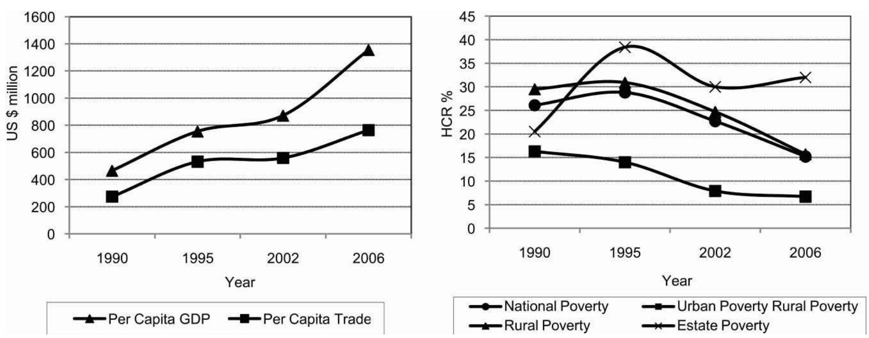

Figure 9.1 Trade, GDP and poverty

income for the poor. Sri Lanka is a useful case study to probe this link. In the period following the liberalisation of the economy in 1977, manufacturing took off substantially compared to the closed economy era. This was primarily due to the emergence of new export-oriented labour-intensive industries, in particular clothing, benefiting from concomitant liberalisation of trade and foreign investment regimes. Also, increased availability of imported inputs helped expansion of domestic-market oriented production with a time lag, following a significant output contraction immediately after the removal of import controls.

Between 1978 and 2003, manufacturing output grew at 8.2 per cent compared to 4.8 per cent in the period preceding reforms. The contribution of manufacturing to total exports in 1974 was 4 per cent and in 1977 was 6 per cent, but by 1984, seven years after liberalisation, this figure had reached 42 per cent, though it was dominated by the garment sector. The importance of export-oriented manufacture also increased substantially. The ratio of exports to gross manufacturing output increased from 12 per cent in 1976 to 24 per cent in 1981 (Athukorala 2006). In the post-liberalisation period, manufacturing in general and export-oriented manufacturing in particular also contributed significantly to employment creation. The manufacturing sector accounted for 36 per cent of employment creation between 1990 and 2001 and export-oriented manufacturing accounted for the bulk of this. Total local employment in export-oriented BoI firms increased from around 10,000 in the early 1980s to 416,000 in 2002 – 40 per cent of total manufacturing employment (Athukorala 2006). These figures need to be considered in the context of an incomplete reform process, with a weak investment climate resulting from conflict and macroeconomic stresses.

While sectors such as apparel and leather thrived through liberalisation, (apparel and leather sectors accounted for 44 per cent of employment creation in manufacturing between 1977 and 1980), there were sectors where employment declined while at the same time imports of these products had increased following liberalisation (Cuthbertson and Athukorala 1991). Examples include glass production, footwear and metal furniture. However, absolute declines had been relatively low. In the textile sector, trade liberalisation is estimated to have resulted in the loss of 40,000 jobs and the closure of some 30,000 small establishments. While there was job creation in other sectors such as garments, it has been argued that there is a mismatch between the industrial and geographic sectors where jobs have been lost and jobs have been created. Kelegama (2006) argues that job losses occurred largely in the rural sectors such as small handloom establishments while job creation occurred largely in the FTZs near Colombo. This mismatch could have contributed to exacerbating regional discrepancies in development.

Along with the positive impact of job creation through trade liberalisation, there were also employment opportunities created through the public investment by the government (AMDP and others) and the increase in employment opportunities abroad through external migration. Unemployment in 1971 was

18.7 per cent; in 1975 it was 19.8 per cent, in 1978/9 it was 14.8 per cent and in 1981/2 it was 11.7 per cent (Athukorala and Rajapatirana 2000). It should also be noted that the different unemployment figures are from different surveys and therefore variance in methodology undermines comparability over time.

Given the importance of livelihood creation for sustainable poverty reduction, the trade liberalisation episode had an important impact on long-term poverty reduction in Sri Lanka. The major examples of the trade–employment–poverty nexus in Sri Lanka's three decades as an open economy are tea, garments, tourism and export of labour (low-skill labour, movement of natural persons) particularly to the Middle East. The success of these has, however, been mixed.

Garment sector

This sector emerged almost entirely through the Multi-Fibre Arrangement (MFA), which ensured quotas for garment exports to developed markets from countries such as Sri Lanka. Since the 1970s, the garment sector has grown and as of 2007 made up 40.6 per cent of total exports from Sri Lanka. According to the latest census of industries in 2004, the garment sector provides employment to 382,000 workers, making up 37 per cent of total industrial employment in Sri Lanka. Of these workers, 87 per cent are women, and experiences with Grameen Bank in Bangladesh showed that income in the hands of women has a better impact on poverty reduction, since a greater proportion of the income is used for household consumption, health and education. Jenkins (2004) provides a similar example from Vietnam. The government of Sri Lanka undertook complementary policies, such as the 200 Garment Factory Programme of 1992, to ensure that investment in the garment sector was spread beyond the Western province, providing employment opportunities in rural areas to maximise the poverty impacts of such investments (Weerakoon and Thennakoon 2006). However, 72 per cent of garment industry firms and 65 per cent of employment in such firms has been within the Western province (World Bank 2005b). This is mainly due to easy access to the port, the higher standard of infrastructure and more reliable access to electricity in this region. Nonetheless, it should be noted that many of the workers migrate from rural areas to the Western Province to work in the garment sector – particularly to avoid stigmas associated with the sector (Rupasinghe 1985).

The same broad sector is often cited as an example of the negative side of trade reform. In Sri Lanka, the import of textiles was completely liberalised in 1997 to provide cheap inputs for production of garments (Yatawara and Handel 2007). As a result, much of the local textile industry was unable to compete with imported textiles. In 1993, there were 414 textile establishments with 25 or more people engaged, employing a total of 52,980 people. By 2002, the number of establishments of 25 or more people had fallen to 149, but 55,057 found employment in this sector (DCS 1994 and 2004b). Trade creates winners and losers: just as trade provides markets for export, import competition can undermine previously protected local industries, resulting in short- to medium-term unemployment. Computable General Equilibrium (CGE) model simulations by Naranpanawa (2005) suggest that import-competing industries catering to the domestic market, such as the food and beverage industry, paper and paper products and chemical industries, face contractions in output and employment in the face of trade liberalisation due to competition from imports. There is limited empirical work on trade related transitional unemployment and less so on the incidence of this among the poor. However, the work of Matusz and Tarr (1999)[3] on the adjustment costs resulting from trade liberalisation in the manufacturing sector suggests that transitional unemployment is limited and durations are relatively short. Nonetheless, safety nets and temporary income transfer schemes are critical in enabling the poor, who lack the financial assets to support themselves, to get through temporary unemployment that could result from trade liberalisation.

Tea

Tea has been Sri Lanka's major traditional export product between independence and the rise of the garment industry in the 1990s. However, this has been less of a success story given poverty rates in the estate sector. Even though significant employment is generated, the bulk of it is very low-skilled employment which yields low incomes. Wages in the tea sector were increased following industrial action in 2006. As of 2007, the average daily wage earned in the sector is Rs 378 for men and Rs 261 for women.[4] To be above the national poverty line requires expenditure of above Rs 2,924[5] per person per month as of April 2008. Thus, a female-headed household in the estate sector with four members including just one provider, who works a full 30 days, would have a per capita income of Rs 1,958, clearly below the poverty line.

There are several reasons for the high poverty in the region, including weak connective infrastructure, particularly transport and communications. A World Bank study[6] showed that even though 77 per cent of sampled estate households lived within 10 km of a road, 42 per cent of the sample households could not use the road year round. However, the study goes on to point out that the organisational structure in the estate sector – including the employment structure – is one of 'resident labour'. Given this dependent relationship, a normal employer–employee wage-bargaining relationship does not prevail. The study suggests that this has been compounded by unrepresentative and self-serving union leaders. Limited educational opportunities have historically provided few alternatives for employment in this sector. Furthermore, historical social exclusion of estate workers has left them marginalised. For instance, according to the World Bank Poverty Assessment only 13 per cent of the sampled estate population received Samurdhi benefits, while the Samurdhi coverage for the entire country is 40 per cent. The estate sector in Sri Lanka shows that trade will not yield results in terms of poverty reduction without human resource development through education and when the labour market does not function through normal market forces.

Trade and stability

A potential negative impact of trade on poverty operates through volatility in trade flows. The poor are less able to respond to shocks created by trade through the lack of financial resources and access to credit to smooth consumption. However, trade does not in its own right increase exposure to shocks. In fact, trade can allow smoother consumption by mitigating domestic shocks – and in theory global supply should be smoother than domestic supply. In Sri Lanka, for instance, rice imports are liberalised whenever domestic production shocks (such as drought) cause increases in domestic price (Jayanetti and Tillekeratne 2005). Trade can also result in changes in the consumption basket, and the poor can thus be exposed to volatility in prices of imported goods. While the wealthy can absorb temporary shocks in prices, the poor are less able to do so. An example of this is the consumption of milk food in Sri Lanka. The bulk of milk consumed is imported milk powder, while consumption of domestically produced liquid milk has declined. In 2007, the price of milk powder increased globally in the wake of supply shocks in major producers such as Australia. This had significant impacts on the poor since much reliance is placed on milk powder, particularly for consumption by infants. Attempts at price controls have failed in such instances, as hoarding and black market formation have been impossible to curb. In this context, the role of safety nets and temporary income transfers become more relevant given the lack of access to credit for the poor.

Trade and government revenue

In many developing countries, Sri Lanka included, tariff revenue plays an important role in government revenue. Tariff revenue, Rs 56.3 billion, made up 9.6 per cent of total government revenue in 2007. This figure excludes miscellaneous levies on imported products such as various cess charges and the Port and Airport Development Levy. Government revenue is in turn used to fund state programmes aimed at poverty reduction and income distribution. In 2007, Rs 110.9 billion was spent on current transfers to households and other transfers (including subsidies such as those for kerosene and fertiliser, used extensively by the poor, particularly farmers and fishermen). The Samurdhi scheme is the major income transfer scheme aimed at supporting poor households directly, and in 2007 Rs 7.2 billion was spent on the Samurdhi programme.

The impact of trade liberalisation on tariff revenue is an empirical question. The outcomes depend greatly on the relevant position on the Laffer curves and the average elasticities of products being liberalised. Greenway and Milner (1991) showed that in the post Structural Adjustment Policy (SAP) economies of Mauritius, Kenya and Jamaica, revenues increased through changes in export/import bases following liberalisation of trade. Ebril *et al.* (1999) showed that, between 1980 and 1992, countries that did not reduce tariffs did not suffer significantly lower revenue as a proportion of GDP compared to those that did.

In Sri Lanka, average Most Favoured Nation (MFN) tariffs have increased in recent years, effectively a reverse of trade liberalisation. Between 2000 and 2004, the average MFN tariff was 9.5 per cent, continuing a trend of falling tariffs where between 1995 and 1999 the average MFN tariff was 19.5 per cent.[7] See Figure 9.2.

In the immediate aftermath of significant tariff reductions in the late 1990s, tariff revenue did fall to an extent. However, this does not necessitate a negative impact on poverty as other forms of levies can be imposed to maintain overall government revenue at a stable level. In Sri Lanka, it can be seen that overall government revenue did fall as a proportion of GDP[8] but later stabilised and increased latterly. Various *ad hoc* levies have been imposed on imports at different stages. For instance, in the year 2000 an across-the-board 40 per cent surcharge on imports was imposed; this was later brought down to 20 per cent. Today, there are several duties such as the Port and Airport Development Levy, cesses and the Regional Infrastructure Development Levy, among others. These have helped shore up government revenue even if tariffs have declined. For instance, between 2003 and 2006, average tariffs fell from 5.3 per cent to 4.5 per cent, while total government revenue increased from 15.7 per cent to 17 per cent in the same period. Furthermore, even if total revenue were to fall, the impact on poverty could be minimised if a government could reduce expenditure in other unnecessary areas and maintain expenditure on the poor.

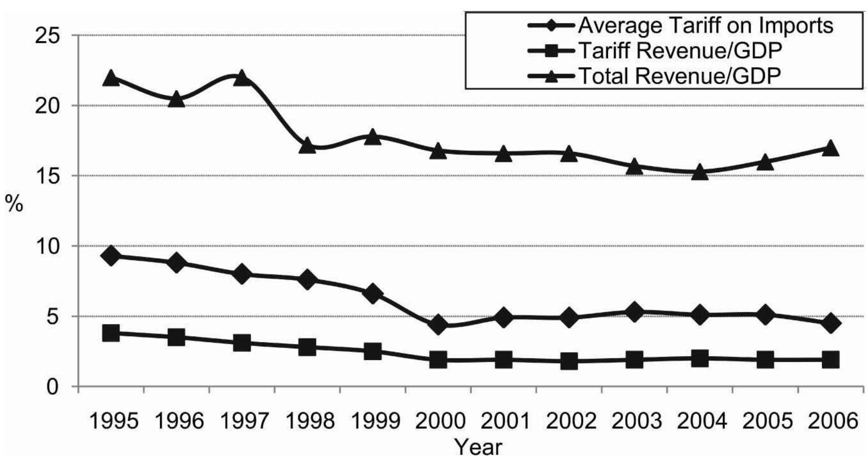

Figure 9.2 Government revenue and tariffs
Source: Produced using Central Bank of Sri Lanka data

Cross-cutting issues

Transaction costs

The actual effects of trade on poverty are contingent on certain conditions. The two main conditions are the transmission of price shocks that arise from trade and the ability of the poor to respond to these shocks. Transmission of price shocks refers to the possibility of a change of price at the border, resulting from trade being not completely transmitted to the poor household. This could occur through high transaction costs – where, for instance, the benefit of a cheaper imported price may be nullified by high transport costs, or an increase in imported price could be magnified by high transaction costs. This could also undermine the cost advantage that a rural producer may have, since high transaction costs could negate the competitiveness of her exports in the international market. This is certainly a problem in Sri Lanka, where the gateway to the international market is in Colombo, through the major port and airport. Naturally, the best infrastructure has developed around this gateway, in terms of financial markets, transport networks and major business services. As a result, Colombo (poverty headcount of 5.4 per cent), and the surrounding Western province, has developed substantially and has succeeded in reducing poverty. However, provinces like Uva and Sabaragamuwa have not been able to reduce poverty to the same extent, influenced by lack of quality transport infrastructure connecting them to the more developed parts of the country such as the Western province.

While it is not essential for all rural regions to have access to international markets, it is important for rural regions to at least have access to local markets that have benefited from international markets. Sri Lanka is a prime example of this. In Figure 9.3, driving distance to Colombo is correlated with

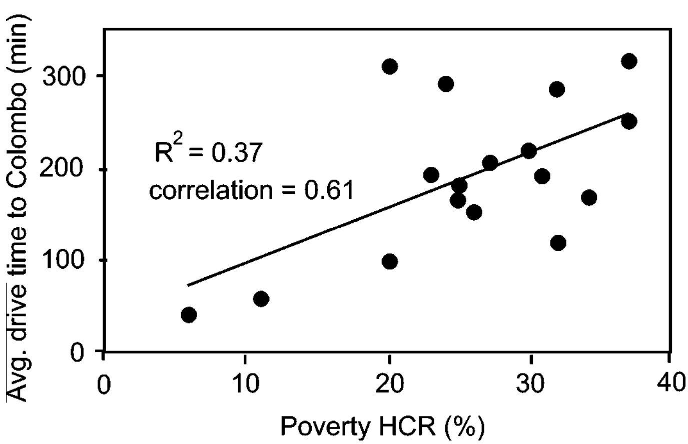

Figure 9.3 Relationship between poverty and driving distance to Colombo
Source: *Sri Lanka Poverty Assessment* (World Bank 2007c)

poverty headcounts, showing that the probability of a household being poor falls by almost 3 per cent with a unit increase in accessibility index of that district, while controlling for factors that affect the probability of the household being poor. Other transaction costs, such as delays in customs clearance and bureaucratic costs, have potential impacts on poverty and need to be addressed in this regard. See Figure 9.4.

Responding to price shocks

As mentioned earlier, trade creates winners and losers, but if the poor lack the resources to respond to price shocks, potential winners will not be able to gain from trade and losers could slip further into poverty. In order to benefit from a positive price shock, an exporter needs to be able to increase production accordingly – therefore requiring access to factors of production. Imperfections in credit markets and land markets and lack of information undermine the ability of poor exporters to do so. As mentioned earlier, access to information by the poor in Sri Lanka has improved significantly, led by mobile telephony. A study by De Silva and Zainudeen (2007) showed that 94 per cent of Bottom of the Pyramid (BoP) users in Sri Lanka had some access to telephony, regardless of ownership of a phone. While this has benefited many users at the BoP, such as trishaw drivers (in getting hires), farmers and fishermen (in obtaining price information) and, in general, reduction of transaction costs (making a call instead of taking a bus to get information), there remains untapped potential for the use of telecom in business transactions. The study suggests that one reason for this is the maintenance of incoming call charges in Sri Lanka, which increase the cost of mobile phone usage.

Access to land is also a problem in Sri Lanka because of state controls on land usage, particularly rice in the interest of domestic food security. According to Jenkins (2004), in Vietnam exports of rice increased following liberalisation, greatly benefiting poor farmers. The result was that, of the poorest households in 1992, 98 per cent had higher incomes six years later and poverty dropped from 75 per cent in 1988 to 37 per cent in 1998. In Vietnam, trade opened up markets for the products of the poor. In the case of Sri Lanka, the poor working in agriculture face rigidities in markets for land. The Land Development Ordinance (1935) governs most land used for agriculture and stipulates in most cases the type of crop that can be cultivated; it also limits usage of land as collateral and prevents the user from selling the land if he wants to shift to a different sector. This limits the ability of farmers to change production in order to respond to market signals. Furthermore, stringent agricultural protection in Sri Lanka also limits incentives to move beyond supplying the domestic market. Such perverse incentives steer farmers away from potential export agriculture, keeping them in the production of rice for the domestic market.

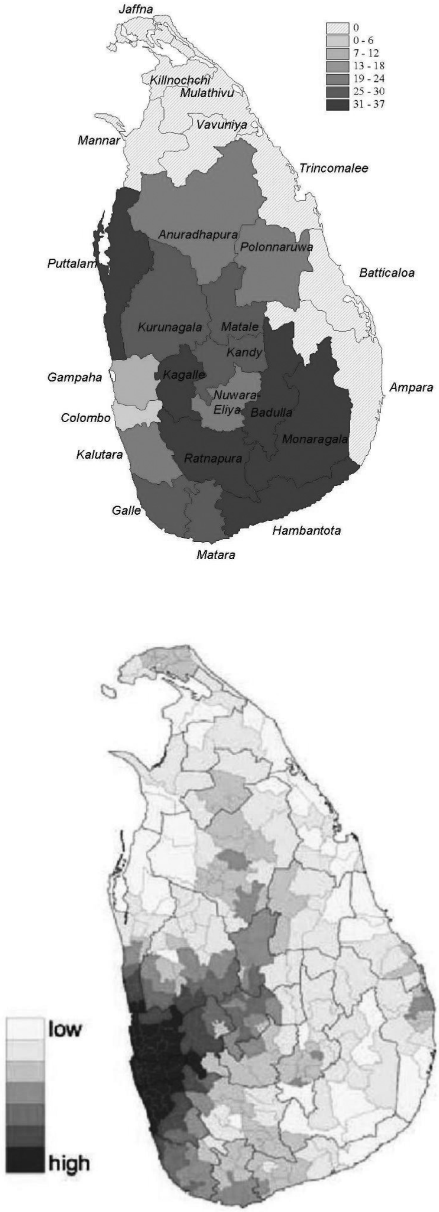

Figure 9.4 Poverty headcount index and accessibility by province and district, 2002
Source: Authors' illustration using Department of Census and Statistics data and World Bank *Development Policy Review* (World Bank 2006b)

Access to credit has also been cited as a problem in rural Sri Lanka. Credit is essential to be able to respond to market shocks by increasing production. According to an ADB and World Bank (2005b) study, 59 per cent of entrepreneurs identified access to credit as a severe constraint or a constraint to enterprise performance and growth. A previous ADB (2003) survey found that 64 per cent of SMEs felt that availability of credit was a major constraint in expanding their business. Rural firms very rarely obtain finance from private commercial banks – mainly because of collateral requirements. Limited access to formal credit inhibits ability of firms to respond effectively to trade-related shocks by making the necessary investments to increase production.

The trade–poverty nexus: econometric analysis

Although there are different channels through which trade liberalisation affects poverty, as discussed in the previous section the employment channel has been prominent in Sri Lanka. Therefore, the purpose of this section is to undertake an econometric analysis of the impact of trade policy on poverty, with emphasis on the employment–income–poverty nexus.

Methodology

In order to examine the link between trade and poverty, we estimate a simultaneous-equation model, consisting of a poverty equation and an income determination equation, using a panel dataset extracted from the unpublished returns to the household income surveys of 1995, 2002 and 2005 conducted by the Department of Statistics, Sri Lanka Household Income and Expenditure Survey (HIES) 1995/6, 2002 and 2005. The model is estimated using the generalised method of moments (GMM) introduced by Hansen (1982) and further developed by Arellano and Bond (1991), Blundell and Bond (1998) and Hansen (2002). This estimation method has a number of advantages over other econometric techniques: (1) it permits exploiting time-series variation in data, accounting for unobserved individual specific effects, allowing for the inclusion of lagged dependent variables as repressors and, therefore, providing better control for endogeneity of all explanatory variables (Beck *et al.* 2000); (2) it brings efficiency gains in the presence of heteroscedasticity; and (3) it provides a straightforward test of the appropriateness of the specification of the proposed model.

The formal structure of the simultaneous equations system is as follows:

Equation 1. Poverty:

$$POV = \alpha_0 + \alpha_1 COMM_{i,t} + \alpha_2 TRAN_{i,t} + \alpha_3 INCOME_{i,t} + \mu_i + \varepsilon_{i,t}$$

Equation 2. Income:

$$INCOME_{i,t} = \beta_0 + \beta_1 EDU_{i,t} + \beta_2 DEP_{i,t} + \beta_3 UNEMP_{i,t} + \beta_4 EXPINDU + \nu_i + \xi$$

where *POV* is a poverty incidence variable which was calculated as follows.

$$POV = \frac{Expenditure_{i,t} - Poverty\ line_t}{sd(Expenditure_t)}$$

To calculate poverty incidence (POV), the study uses the official poverty lines which were calculated by the Department of Census and Statistics (DCS). In the POV index i represents the households and t represents the years 1995, 2002 and 2005. In Sri Lanka, people living in households whose real per capita monthly total consumption expenditure is below Rs 1,817 in year 2005, Rs 1,423 in year 2002 and Rs 833 in year 95/6 are considered poor.[9] This poverty incidence variable produces positive numbers to non-poor households and negative numbers to poor households which are based on the standard deviation of per capita household monthly expenditure. This index is more logical to measure the poverty depth of the household, rather than taking the dichotomous variable to indicate the poverty status. As for the explanatory variables, after controlling for each year's poverty line, the variable of export adjusted per capita income *(INCOME)* is included, because income growth is an important driving force for alleviation of poverty (Dollar and Kraay 2002; World Bank 2002a). This *INCOME* variable is measured by the ratio of total exports to total number of households of each year and multiplied by the household's per capita income, to work as a proxy for the export earnings of the households.

In addition, a number of poverty-related control variables are used to delineate the hypothesised line between employment, income and poverty incidence. The variable communication expenditure *(COMM)* is introduced and measured by the ratio of communication expenditure to total household expenditure. The variable transport expenditure *(TRAN)* is also introduced, measured by the ratio of transport expenditure to total household expenditure, and export-adjusted per capita income *(INCOME)* is calculated and introduced, to minimise the omitted variables of the poverty channel.

The benefit of education in improving the quality of life of people, increasing the productivity of their labour, enhancing earnings, reducing mortality and morbidity, raising fertility control and leading to higher overall welfare has been central to the literature on eradicating poverty (Haveman and Wolfe 1894; Psacharopoulos and Woodhall 1985). Most of the households' main decision-maker would be the person who has the highest education level. In addition, if the proportion of dependency or the proportion of unemployment in a household is high, a relatively small number of income earners will be supporting a large number of dependants. Therefore, there is a stronger likelihood that such a household may become poor. Based on this logic, the study used the variables of highest education level in the household *(EDU)*, proportion of dependency of the household *(DEP)* and unemployment rate of the household *(UNEMP)* as controlling the poverty channel of the model.

Using the simultaneous equations system here, Equation (1) models the determinants of poverty, in which the *POV* is the dependent variable. As for the explanatory variables, the variables of *COMM, TRAN* and *INCOME* are introduced to control the situation of poverty. After controlling for the initial level of export earning, a variable for *EDU* is introduced to capture the education effects of export earnings, and *DEP* and *UNEMP* are included in the regression to capture the impact of changing dependency ratios and unemployment ratios on Sri Lanka's poor. The number of household members engaged in export-oriented manufacturing people *(EXPINDU)* were calculated and introduced to measure the impact of poverty by the export-oriented manufacturing employment. Equation (2) models the determinants of household income, in which the export earning (*INCOME*) is used as the dependent variable. After controlling for the initial level of export earning, a variable for *EDU* is introduced to capture the education effects of export earnings, and *DEP, UNEMP* and *EXPINDU* are included in the regression to capture the impact of changing dependency ratios, unemployment ratios and export-oriented manufacturing employment.

For each regression of GMM, the specification of equation is tested with the Hansen test of over-identifying restrictions, and then with the Arellano–Bond test for the second-order serial correlation. The test results show that all the GMM regressions satisfy the specification tests, which indicates that the instruments are valid and there exists no evidence of second-order serial correlation in the GMM regressions.

Data

To implement the model presented in the above section, data from three micro-level large household surveys in Sri Lanka – the Household Income and Expenditure Survey (HIES) for the years 1995/6, 2002 and 2005 – are used in this study. An HIES is conducted every five years by the DCS. The HIES of 1995/6 was the fourth series and was conducted during the period from November 1995 to October 1996, and the HIES of 2001/2 was conducted during the period from January 2002 to December 2002. The 2005 HIES survey was a special survey which was conducted to take into account income and expenditure patterns of the country after the tsunami disaster of December 2004. This HIES of 2005 was conducted within the three-month period from September to November 2005. These three surveys covered all provinces in the country excluding the Northern and Eastern provinces, which were omitted because of the unavailability of a proper sampling frame and because the civil disturbances in those areas prevented data collection. However, the 1995/6 survey covered 21,220 housing units (19,682 households), the 2002 survey covered 20,100 housing units (16,924 households) and the 2005 survey covered 5,380 housing units (4,576 households).

Results

In this section, results obtained from the model described in the previous section are used to examine the effect on poverty, particularly via the trade–employment–poverty channel. The estimated results of the poverty determinant model and income-earning model related to sectoral and income group differences are provided in Tables 9.2 and 9.3, respectively. As expected, income is negatively related to poverty in both sets of equations related to sectoral differences. The results indicate that the sectoral difference in poverty impact depends on communication and general access to international markets.

However, the result shown in Table 9.2, that manufacturing employment has a positive impact on income in the urban sector, is consistent with the descriptive narrative presented in the background section. This suggests that employment seems pro-poor through generation of income, but the impact is concentrated largely in the urban sector.

In addition to the expansion of export-oriented manufacturing, there are other variables which play some significant role in reducing poverty according to the results presented in Table 9.2. These results demonstrate that the communication expenditure plays a significant role in reducing poverty in urban and estate sectors. In relation to the rural sector, the results show that transport expenditure is a significant determinant of rural poverty.

It seems that in the case of the urban and estate sector, communication expenditure is a significant factor in determining poverty, and for the rural sector transport expenditure is the significant factor in determining rural poverty. The results of the income-earning equation suggest that industrial employment is a significant determinant of household income in the urban sector. Therefore, it is clear that trade creates employment and employment generation reduces poverty in the urban sector.

Table 9.3 reports the estimated results for the poorest 40 per cent and richest 20 per cent of the poverty-determinant and income-earning models. These results also suggest that industrial employment is a significant determinant of household income in the poorest 40 per cent decile. The empirical results are in line with the narrative discussed in earlier sections and suggest that industrial employment contributes to poverty reduction through the generation of income, but this impact is concentrated largely in the urban sector.

Overall, the results of the econometric estimations presented in this section are consistent.

Policy implications and conclusion

Several policy implications can be drawn from the outcomes of this study from a Sri Lankan perspective. An important finding of the econometric analysis and broader observation of the outcomes of trade liberalisation on industrial employment in Sri Lanka is that trade liberalisation has resulted in significant employment creation and, accordingly contributed to poverty reduction, since industrial employment is a significant determinant of household income in the poorest decile. However, this relationship holds primarily

Table 9.2 Determinants of poverty and household income

	(Dependent variable = POV)							
	Sri Lanka		*Urban*		*Rural*		*Estate*	
COMM	−0.021	−0.28	0.572 [a] 0.210[a]	5.15	−0.58	−1.02	−0.19 [c]	−1.80
TRAN	0.003	0.07	−0.058	−0.91	−0.19 [b]	1.77	−0.04	−0.56
INCOME	1.7E−04	3.34	−1.4E−05	−0.59	−1.4E−04 [a]	3.03	6.0E−05 [b]	2.17
Year_2002	−0.022	−0.27	−0.213 [a]	−2.90	−0.03	−0.46	0.03	0.53
Year_2005	−1.575 [a]	−5.41	0.104	0.10	−1.40 [a]	−4.17	−0.19	−0.58
Constant	0.485 [a]	3.85	0.538 [a]	5.41	0.25 [b]	1.81	0.41 [a]	3.19
Observations		1,500		1,374		1,500		1,113
Centred R^2		0.6485		0.4459		0.1029		0.2232
Uncentred R^2		0.4684		0.0928		0.7750		0.1830
Hansen test of over−identifying restrictions	χ^2=7.773 Probability χ^2=1.000		χ^2=37.099 Probability χ^2=1.000		χ^2=21.541 Probability χ^2=1.000		χ^2=4.021 Probability χ^2=1.000	
Arellano–Bond test for second order serial correlation	Z= −0.26 Probability>Z=0.719		Z= −0.21 Probability>Z=0.715		Z= −0.29 Probability>Z=0.728		Z= −0.26 Probability>Z=0.721	

Table 9.2 (continued)

	(Dependent variable = INCOME)							
	Sri Lanka		*Urban*		*Rural*		*Estate*	
EDU	2.284 [a]	5.81	1.122	1.46	1.956 [a]	3.03	1.826 [a]	2.60
DEP	−0.020	−1.15	0.132 [a]	3.87	−0.074 [a]	−2.87	−0.003	−0.07
UNEMP	−0.167	−1.13	0.056	0.68	0.136	1.07	−0.130	−1.03
EXPINDU	0.470	0.91	6.070 [b]	2.54	−0.283	−0.34	5.111	0.80
Year_2002	−0.809	−0.13	−0.097	−0.03	−0.725	−0.41	−2.337	−0.54
Year_2005	8.244 [a]	8.08	46.287 [a]	13.55	12.013 [a]	7.42	7.711	1.58
Constant	24.240 [a]	−4.92	21.247 [b]	−2.17	−17.776 [b]	−2.22	−13.961[b]	−1.99
Observations		1500		1368		1500		1113
Centred R^2		0.3979		0.4600		0.0735		0.4124
Uncentred R^2		0.4305		0.4092		0.1007		0.4140
Hansen test of over−identifying restrictions	χ^2=9.289 Probability χ^2=1.000		χ^2=22.285 Probability χ^2=1.000		χ^2=16.945 Probability χ^2=1.000		χ^2=11.637 Probability χ^2=1.000	
Arellano–Bond test for second order serial correlation	Z= −0.32 Probability>Z=0.638		Z= −0.24 Probability>Z=0.708		Z= −0.40 Probability>Z=0.337		Z= −0.16 Probability>Z=0.654	

Notes

For all regressions, t−statistics values are presented in parentheses.

a, b and c represent significance at the 1 per cent, 5 per cent and 10 per cent levels, respectively.

Table 9.3 Estimated equations – poorest 40 per cent and richest 20 per cent

	(Dependent variable = POV)			
	Poorest 40%t		*Richest 20%*	
COMM	0.005 [a]	0.52	−1.31	−0.86
TRAN	0.002	0.55	1.10	0.80
INCOME	−5.3E−04 [a]	−1.537	3.2E−04	1.25
Year_2002	0.097 [a]	7.93	0.764	0.63
Year_2005	0.288 [a]	7.15	−5.90	−1.34
Constant	−0.108 [a]	−9.62	0.541	0.30
Observations		600		300
Centred R^2		0.1354		0.3237
Uncentred R^2		0.1251		0.1178
Hansen test of over−identifying restrictions		χ^2=12.836		χ^2=9.376
Arellano–Bond test for second order serial correlation		Z= −0.72		Z= −0.76
	(Dependent variable = INCOME)			
	Poorest 40 percent		*Richest 20 percent*	
EDU	0.383 [b]	2.26	1.886	1.01
DEP	0.017 [a]	3.32	−0.106	−1.26
UNEMP	−0.003	−0.10	−0.031	−0.10
EXPINDU	0.295 [c]	1.87	2.379	1.14
Year_2002	0.185	0.06	−3.109	−0.68
Year_2005	1.364 [a]	4.50	23.110 [a]	5.84
Constant	−5.433 [a]	−2.79	−21.264	−0.87
Observations		600		300
Centred R^2		0.5267		0.1528
Uncentred R^2		0.5162		0.2153
Hansen test of over−identifying restrictions		χ^2=12.624		χ^2=8.657
Arellano–Bond test for second order serial correlation		Z= −0.70		Z= −0.72

Notes

For all regressions, t−statistics values are presented in parentheses.

a, b and c represent significance at the 1 per cent, 5 per cent and 10 per cent levels, respectively.

in the urban sector. This finding is consistent with the uneven growth between regions under liberalisation reforms. As has been stressed throughout the chapter, Colombo and the surrounding Western province have developed rapidly due in part to access to international markets through the port and airport. Poverty in the Western province has fallen sharply, while more rural regions have not had as much success in reducing poverty. This example stresses the importance of improving access to international markets in order to benefit from trade. Transport infrastructure in particular is essential to enable the poor to access international gateways without encountering substantial transaction costs. The districts bordering Colombo have benefited from this – particularly Kalutara, Kurunegala, Puttalam and Gampaha, all of which have substantially reduced poverty. However, districts such as Nuwara-Eliya, Badulla, Monaragala and Ratnapura have not been able to do so.

The role of safety nets is also important in the Sri Lankan case. The necessity for safety nets is derived primarily from two sources – first, the possibility of losing employment through frictions in output caused by trade liberalisation (the textile sector in Sri Lanka) and the negative consumption shocks that can occur because of imported food (milk powder in Sri Lanka). The first best solution would naturally be for the poor to have greater access to credit in order to smooth consumption in the event of such negative shocks. It is important for such safety nets to be of a temporary nature for the duration of the relevant trade-related shock. In Sri Lanka, there is much room for improvement in terms of performance of safety-net schemes. The Samurdhi programme, the major welfare scheme in the country, covers 45 per cent of the total population. However, 40 per cent of the population in the poorest consumption quintile is excluded and 44 per cent of Samurdhi expenditure is spent on the richest three quintiles. It is clear that targeting is weak and the benefits are spread too thinly. For instance, it was found that 'The average monthly Samurdhi grant in 2005 was Rs 393 per family, which translated to less than $1 per capita per month for a typical family of four'.[10]

Furthermore, access to credit is important in terms of taking advantage of the opportunities presented by trade. For instance, increasing production to meet an increase in export prices would require greater expenditure on inputs, which may often require credit. Development of the financial sector should therefore take into account the need for credit among the poor. Access to information is equally important in terms of taking advantage of opportunities provided through international trade. The role of international trade in telecommunications services is important in terms of enabling the poor to have access to telecommunications services and at an affordable rate.

Given the importance of the trade–employment–poverty nexus, it is clear that there is a need for synergy between trade and investment policy. Trade liberalisation alone will not create the necessary conditions to boost investment and industrial production. Domestic firms may not have the required capacity and buyer linkages to fulfil potential for exploiting export opportunities created through trade liberalisation. In Sri Lanka's trade liberalisation experience, a large proportion of export value arose from foreign firms established in the country. In fact, over 80 per cent of the total increment in export value between 1980 and 1995 came from foreign firms.[11] Encouraging FDI can therefore support trade policy in terms of helping create employment opportunities.

All in all, the Sri Lankan case study provides several useful insights which add to the literature on the trade–poverty nexus. The positive relationship between trade, industrial employment and poverty reduction is an important finding, and equally important is the fact that this relationship holds primarily in urban areas. This stresses the importance of connectivity to key markets for this relationship between trade and poverty to hold. The contrasting impact of trade on poverty in two of Sri Lanka's major export sectors, garments and tea, is particularly revealing. The continued poverty in the estate sector provides a useful case of how trade does not necessarily lead to poverty reduction without necessary conditions in the relevant labour markets. The rise of the garment sector highlights the importance of complementary FDI policy in making trade work for the poor. The Sri Lankan case also highlights the importance of other complementary policies, including the role of safety nets, human resource development, access to credit and communications infrastructure, in order to maximise the impact of trade liberalisation on poverty reduction.

Notes

1 Residential areas, which do not belong to urban sector or estate sector, are considered as rural sector.
2 Plantation areas which are more than 20 acres in extent and have no fewer than ten residential labourers are considered as estate sector.
3 This involved a survey of over 50 studies on adjustment costs resulting from trade liberalisation in the manufacturing sector.
4 Central Bank *Annual Report* (CBSL 2007).
5 While this is the national poverty line, the poverty lines for estate areas such as Nuwara Eliya (Rs 2,953) and Badulla (Rs 2,807) are not significantly lower.
6 *Sri Lanka Poverty Assessment* (World Bank 2007).
7 *Sri Lanka Trade at a Glance* (World Bank 2007).
8 The fall in government revenue was not primarily due to a fall in tariff revenue. During this period the entire domestic tax regime was also reformed with a shift from BTT to GST, with the latter being lower than was required to maintain revenue neutrality. Furthermore, other levies such as the Defence Levy, National Security Levy and so on were dispensed with.
9 The official poverty line for June 2009 is Rs 2,957 at current prices and now it has increased to more than Rs 2,957.
10 *Sri Lanka Poverty Assessment* (World Bank 2007: Box 2–2, p. 20).
11 Athukorala (2006).

Appendix 1
Estimates of the labour demand function

	Constant	*LY*	*LW*	*LXO*	*LMO*
Food manufacturing	2.06 (1.48)	0.78*** (0.17)	−0.73*** (0.12)	−0.11 (0.15)	
	1.48* (0.51)	0.65*** (0.06)	−0.74*** (0.11)		0.08 (0.15)
Beverage industry	1.22 (1.62)	0.74*** (0.13)	−0.59* (0.21)	0.15 (0.09)	
	−1.22 (0.85)	0.80*** (0.12)	−.85*** (0.14)		−0.02 (0.02)
Tobacco manufacturing	0.68 (1.08)	0.31** (0.13)	−1.21*** (0.11)	−0.09 (0.06)	
	1.02 (1.16)	0.40*** (0.13)	−1.12 (0.09)		0.009 (0.03)
Textile manufacturing	3.25* (1.57)	0.63*** (0.16)	−0.69*** (0.07)	**0.31* (0.09)**	
	3.19 (2.11)	0.65** (0.21)	−0.72*** (0.09)		−0.001 (0.01)
Wearing apparel	−1.21*** (0.45)	0.99*** (0.02)	−0.82*** (0.08)	**0.03*** (0.01)**	
	1.61** (0.51)	0.99*** (0.02)	−0.87*** (0.11)		−0.002 (0.02)
Leather and its products	−7.85*** (1.64)	0.91*** (0.18)	−1.96*** (0.21)	0.08 (0.18)	
	−6.71*** (1.05)	0.83*** (0.14)	−1.90*** (0.16)		**0.04* (0.02)**
Footwear except rubber	0.22 (0.49)	0.85*** (0.06)	−0.79*** (0.11)	**0.16*** (0.02)**	
	−1.88*** (0.61)	1.03*** (0.08)	−0.82*** (0.18)		0.004 (0.03)
Wood and cork products	−2.46*** (1.09)	0.75*** (0.18)	−1.41*** (0.31)	0.03 (0.07)	
	−2.51*** (0.83)	0.88*** (0.17)	−1.29*** (0.24)		**0.07** (0.03)**
Furniture manufacturing	1.31** (0.70)	0.36*** (0.08)	−0.94*** (0.16)	0.005 (0.03)	
	1.29* (0.68)	0.36*** (0.07)	−0.95*** (0.16)		0.01 (0.02)
Paper and its products	2.58** (1.25)	0.74*** (0.14)	−0.25** (0.10)	**−0.03** (0.01)**	
	1.69 (1.38)	0.83*** (0.15)	−0.34*** (0.11)		−0.006 (0.016)
Printing and publishing	−0.50 (0.59)	0.90*** (0.06)	−0.86*** (0.11)	−0.02 (0.03)	
	−0.42 (0.59)	0.93*** (0.04)	−0.82*** (0.11)		−0.007 (0.01)
Drugs and pharmaceuticals and	−1.29 (1.01)	1.08*** (0.09)	−0.46** (0.19)	0.006 (0.01)	
other chemicals	0.85 (0.93)	0.74*** (0.12)	−0.49** (0.14)		**−0.72*** (0.18)**

(Continued on next page)

(continued)

	Constant	*LY*	*LW*	*LXO*	*LMO*
Industrial chemicals	1.58 (1.05)	0.69*** (0.13)	−0.77*** (0.21)	0.07 (0.06)	
	2.26* (1.12)	0.52*** (0.12)	−0.87*** (0.19)		0.02 (0.016)
Petroleum refining	7.17*** (0.23)	−0.08*** (0.02)	0.03 (0.04)	**0.02*(0.01)**	
	7.34*** (0.23)	−0.12*** (0.02)	0.02 (0.03)		−0.015 (0.02)
Miscellaneous petroleum products	−5.36*** (1.85)	0.47* (0.26)	−1.81*** (0.21)	0.09 (0.06)	
	−4.39** (1.83)	0.23 (0.26)	−1.66 (0.20)		**−0.10** (0.04)**
Rubber products	0.53 (0.59)	0.79*** (0.08)	−0.69*** (0.06)	0.03 (0.02)	
	0.79 (0.61)	0.73*** (0.08)	−0.67*** (0.07)		0.02 (0.01)
Plastic products	0.99 (1.34)	0.58*** (0.05)	−0.78*** (0.25)	**0.06** (0.03)**	
	−1.26* (0.73)	0.59*** (0.05)	−1.16*** (0.17)		0.02 (0.02)
Pottery and chinaware	2.98** (1.22)	1.01*** (0.12)	0.048 (0.21)	0.0003 (0.03)	
	2.86** (1.03)	1.02*** (0.07)	0.02 (0.22)		0.02 (0.03)
Glass and its products	2.78** (1.12)	0.64*** (0.13)	−0.40** (0.14)	0.04 (0.03)	
	2.35** (1.14)	0.64*** (0.14)	−0.43** (0.15)		−0.007 (0.02)
Non-metallic mineral products	−2.77** (1.20)	0.99*** (0.19)	−1.05*** (0.17)	0.027 (0.07)	
	−3.05** (1.23)	0.99*** (0.18)	−1.07*** (0.17)		−0.02 (0.04)
Iron and steel basic industries	5.71*** (0.94)	0.17 (0.12)	−0.50*** (0.09)	−0.01 (0.027)	
	5.63*** (0.97)	0.21 (0.13)	−0.49*** (0.09)		0.03 (0.19)
Non-ferrous metal industry	4.34*** (1.12)	0.52*** (0.12)	−0.49 (0.23)	0.05 (0.06)	
	3.59*** (0.72)	0.49*** (0.12)	−0.63*** (0.16)		−0.002 (0.02)
Fabricated metal products	9.69*** (1.14)	−0.25* (0.14)	−0.15 (0.11)	0.02 (0.03)	
	8.89*** (0.99)	−0.18 (0.14)	−0.19 (0.10)		**−0.014* (0.02)**
Non-electrical machinery	5.88*** (1.99)	−0.21 (0.22)	−0.99*** (0.21)	−0.03 (0.08)	
	5.17*** (1.58)	−0.11 (0.17)	−0.88*** (0.17)		**−1.18*** (0.358)**
Electrical machinery	0.28 (1.04)	0.41** (0.17)	−1.27*** (0.19)	−0.04 (0.05)	
	1.96(0.74)	0.50*** (0.11)	−0.65*** (0.18)		**−0.92*** (0.18)**
Transport equipment	1.11 (1.92)	0.44 (0.31)	−0.31** (0.17)	−0.03 (0.04)	
	0.82 (2.08)	0.51 (0.33)	−0.26** (0.13)		−0.005 (0.04)
Scientific, precision, etc., plus	2.52 (2.34)	0.15 (0.36)	−1.02*** (0.06)	0.053 (0.035)	
photographic and optical goods	2.31 (2.44)	0.14 (0.38)	−1.03*** (0.06)		0.02 (0.02)

Source: Census of manufacturing industries in Bangladesh (1978–2000).

Appendix 2

Trade in relation to GDP growth, composition and revenue

Item		*GDP growth %*	*Trade as % of GDP*	*Main export items share %*		*Government revenue (Rs million)*
		2006–7	*2007*	*1990*	*2007*	*2007*
GDP Growth	Real GDP	2.6				
	Agriculture	0.9				
	Non-agriculture	4.1				
Trade	Total trade		35.1			
	Exports		8.5			
	Imports		26.6			
	Trade balance		–18.2			
Trade composition	Woollen carpets			45.0	9.2	
	Ready-made garments			27.1	8.6	
	Pashminas			0.0	1.6	
	Vegetable ghee			0.0	6.8	
	Pulses			4.1	1.3	
	Thread			0.0	6.7	
	Textiles			0.0	5.0	
	Zinc sheet			0.0	5.9	
Government revenue	Total revenue					87,712
	Tax revenue					71,168
	Trade taxes					38,829
	Trade/total revenue (%)					44.3
	Trade/tax revenue (%)					54.6

Appendix 3

Descriptive statistics of indicators of economic growth, employment, openness and human capital

	1973–80	*1981–5*	*1986–90*	*1991–5*	*1996–2000*	*2001–5*	*2006–7*	*1973–2007*
N Economic growth rate	8.68 (8)	4.06 (5)	9.82(5)	5.03 (5)	3.91 (5)	5.90 (5)	6.30 (2)	5.38 (35)
Indicators of openness of economy								
Exports–GDP ratio	11.67 (8)	11.44 (5)	13.78 (5)	16.73 (5)	15.67 (5)	15.68 (5)	13.98 (2)	13.94 (35)
Imports–GDP ratio	16.56 (8)	18.72 (5)	17.12 (5)	17.81 (5)	17.01 (5)	16.82 (5)	23.17 (2)	17.60 (35)
Trade–GDP ratio (openness)	30.72 (8)	35.54 (5)	33.63 (5)	36.73 (5)	33.98 (5)	32.18 (5)	37.42 (2)	33.45 (35)
Share of primary goods in total exports	40.13 (8)	33.40 (5)	28.40 (5)	14.80 (5)	12.80 (5)	11.20 (5)	11.00 (2)	24.17 (35)
Share of capital goods in total imports	32.75 (8)	30.60 (5)	36.00 (5)	38.00 (5)	32.20 (5)	31.00 (5)	36.00 (2)	33.51 (35)
Real exchange rate	8.89 (8)	11.13 (5)	17.37 (5)	26.10 (5)	42.84 (5)	60.14 (5)	57.67 (2)	27.84 (35)
Average duty on imports	8.89 (8)	11.13 (5)	17.37 (5)	25.78 (5)	16.70 (5)	9.15 (5)	7.61 (2)	27.84 (35)
Remittances–GDP ratio	5.50 (3)	8.42 (5)	5.14 (5)	2.84 (5)	1.86 (5)	3.78 (5)	2.80 (2)	4.41 (30)
FDI–GDP ratio	0.12 (8)	0.26 (5)	0.47 (5)	0.89 (5)	0.83 (5)	1.07 (5)	1.38 (2)	0.61 (35)

(continued)

	1973–80	*1981–5*	*1986–90*	*1991–5*	*1996–2000*	*2001–5*	*2006–7*	*1973–2007*
				Other macro-economic indicators				
Inflation rate	1.76 (8)	1.74 (5)	2.31 (5)	5.80 (5)	5.91 (5)	6.33 (5)	9.12 (2)	4.08 (35)
Unemployment rate	3.63 (8)	3.64 (5)	3.20 (5)	5.42 (5)	6.53 (5)	7.65 (5)	5.66 (2)	4.93 (35)
Growth rate of labour force	1.44 (5)	3.22 (5)	2.17 (5)	2.17 (3)	1.43 (5)	3.04 (5)	2.05 (2)	1.43 (35)
Growth rate of employment	2.71 (8)	3.14 (5)	2.00 (5)	1.24 (5)	3.61 (5)	3.07 (5)	0.39 (2)	2.51 (35)
				Indicators of human capital				
Literacy rate	24.73 (3)	27.90 (2)	32.08 (5)	38.42 (5)	45.38 (5)	52.62 (5)	55.50 (2)	40.13 (27)
Growth rate of enrolment at higher level	8.68 (8)	4.06 (5)	4.82 (5)	5.87 (5)	9.33 (5)	2.98 (5)	11.85 (2)	5.37 (35)
				Indicators of poverty and income distribution				
Poverty	37.97 (2)	25.87 (1)	20.66 (3)	25.49 (3)	31.80 (2)	30.07 (3)	22.30 (1)	27.0 (15)
Rural poverty	37.97 (2)	25.87 (1)	20.66 (3)	27.71 (3)	33.40 (2)	35.35 (3)	27.00 (1)	29.78 (15)
Urban poverty	29.79 (2)	21.17 (1)	17.59 (3)	20.27 (3)	26.45 (2)	20.01 (3)	13.10 (1)	21.36 (15)
Gini coefficient	35.50 (2)	37.00 (1)	34.67 (3)	40.67 (3)	40.50 (2)	—	—	37.37 (11)
Income share of the lowest 20 percent of the population	7.65 (2)	7.30 (1)	7.83 (3)	6.13 (3)	7.10 (2)	—	—	7.11 (11)
Income share of the highest 20 percent of the population	44.00 (2)	45.00 (1)	43.77 (3)	48.23 (3)	45.85 (2)	—	—	45.52 (11)

Note: The number of observations is reported in parentheses.

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