Chapter Six

6.0 Conclusions

This study has attempted to ascertain the relationship between construction and economy of Sri Lanka. It has used three different tools in finding this relationship. It employed a econometric methodology of Granger Causality to estimate the time lag between construction activity and economic activity. This is more useful for prediction than input-out technique, which is a static method, provides the changes in intersectoral relationship over a particular period of time. Though the input –output technique describes the relationship at a particular time it enables to analyze the changes over a period of time by comparing two or more snapshots of the economy at different moments. This avoids the static nature of the method to some extent. Further, it enables to find out the interdependence of different economic activities by considering direct and indirect effect of each industry. It provides a comprehensive and consistent account of an economy. In testing the Granger Causality, the stationarity of the variables were tested using the most common procedures of Dickey Fuller (DF), augmented Dickey Fuller (ADF), and Phillips Perron unit root tests. In addition, this research aimed at finding the above relationship in a changing economics policy environment. These are very useful for the policy makers as they often use construction industry as the regulator of the economy.

In general, Sri Lankan economy has a strong construction industry contributing around 7-9% of GDP during the last five decades (constant prices). It provides over half of the fixed capital (45-60% -current prices) investment that is 13% of GDP. The industry is also a major employer of labour, from the unskilled to the high-technology professional. In Sri Lanka, construction provides around 5% of total employment. However, in developing countries, a large percentage of construction activity is executed within the informal sector of the construction industry. It is therefore omitted from the national statistics. In addition, the employment in the industry is periodic, subject to seasonal fluctuations, and it is often causal in nature. This is attributed to the lowest contribution than most of the industrialized countries. Inflation effect is one

of the serious issues in developing country. Therefore, it is important to differentiate the inflationary effect from real effect. This particular study has used both current and constant prices due to unavailability of data.

The Granger causality proves that the causal relationship between construction investment and economic development is uni-directional. That is construction investment causes economic development and not vice-versa. It takes one year for construction investment to channel through and to realize its effect on the economy as the physical construction takes one year on average. This supports the findings of Ofori (1990), Chan's (2001), and Hillebrandt's (1985) while it contradicts with Tse and Ganesan (1997). It could be argued for a developing country like Sri Lanka as it is essential to have high rate of investment for rapid economic growth, and as construction constitutes around 50% of this investment, it is expected that if there is a growth it must be accompanied by a rapid expansion of activity in the construction sector.

Though the construction clients varied from individuals who invest in housing, proprietors and partnership or limited liability companies (private/public) are investors in commercial and industrial buildings, and government is the main investor in socio-economic investment & infrastructure they invest in construction as one off product due to its special features of high capital investment, risk, and time taken for the production. Thus the demand for construction investment is pre determined based on the anticipation of economic situation of the country, finance availability, and marketability etc. This nature explains that the construction investment takes place before the other activities. This could be attributed to uni-directional causal relationship between construction and economy.

As it is discussed under chapter 3 summary, the relationship between construction and GDP is not predetermined, and might be influenced by the factors like the structure of the economy, time period for which the test is applied, and indicators used. In this regard, the Sri Lankan economy is considered as a typical economy with consistent structure comprising of major sectors such as agriculture, manufacturing, services, construction, and mining and quarrying. However, it is more volatile in nature.

Further, the relationship was tested for two different time frames, and both give same conclusion. These aspects further strengthen the conclusion.

In Sri Lanka every major political change has witnessed the birth of a new set of policies, often substantially different from earlier ones. These policy regimes had a significant impact on the economic growth and construction growth. When policies are "interventionist cluster" type it showed less economic growth and construction growth. This can be argued that when the government involved is high in economic activities, they neither supported construction sector nor the overall economy. On the other hand, when the government involvement is less and the Non-interventionist general type could be attributed to high performance in both construction sector and economy. This is true because when government controls like taxes, regulatory measures are lose, it attracts private sector investors and thereby it favored construction sector and the overall economy. Unlike the granger causality policy archetypes show the different type of relationship. It should be noted when the policies are non-interventionist both construction and economy recorded high growth while the interventionist showed low growth in both. Thus, construction is more susceptible to economic policy change.

In Sri Lankan economy the period of 1956-1965, and 1970-1977 characterized as interventionist cluster type caused very low growth in construction. It could be summarized that following were the policies responsible for lowest growth in the above regimes; reduction in import of raw materials due to tight foreign exchange controls, cutback of government investment in construction due to inflationary effects, due to reduction of incentives given for contractors and house builders, elimination and reduction of tax holidays, lesser number of large scale development projects undertaken by government, lower foreign aid allocation for infrastructure activities, and minor emphasis on construction as an important sector in the development.

The period of 1965-1970 showed highest growth in both construction and economy due to implementation of major developments such as Maskeli oya hydropower, many roads developments, and public housing schemes. In addition, increase loan limit, number of land acquisitions also caused increased growth. The period of 1948-1956 agriculture based economy with less government involvement (non-interventionist

sector) recorded high growth in construction due to the significant amount of public investment in irrigation, colonization schemes, government buildings such as schools, hospitals and other projects related to development of economic and social infrastructure.

The periods of 1977-1989 and 1989-1994 characterized as non-interventionist General type also recorded high growth in economy as well as in construction sector. In terms of performance the period of 1977-1994 could be divided into three distinct phases as 1977-1983, 1983-1989, and 1989-1994. The introduction of open economic policies in 1977 showed significant changes almost in all sectors of the economy. However, it could be sustained until 1983, during 1983-1989 Sri Lanka encountered many obstacles to growth. The beginning of militarization of country's long-standing ethnic problem together with severe drought condition mainly affected the many important sectors of the economy. The country gradually recovered in the first half of the decade with market-oriented reforms under a structural adjustment facility from IMF. The policies which contributed to increase growth in construction sector can be summarized as follows; relief from income tax, wealth tax and capital gain in respect of new constructions, removal of obstacles in the expansion of private enterprises and investments, increased bank credits to private sector, availability of imported raw materials and removal of restrictions on importation, removal of impediments that in the way of the flow of foreign private capital to country, government's policy of obtaining foreign aids for infrastructure development, increased financial incentives for private sector, rationalization of the fiscal system and removal of bureaucratic constraints, government funded redevelopment schemes, and increased government expenditure on industrial activities.

Input-output analysis is another tool, which identifies the relationship based on interdependence of sectors in the economy. The 48-sector economy of Sri Lanka for year 2000 shows that total backward linkage indicator of construction is 1.641, which is above average and can be considered as a 'key sector'. It ranks sixth in terms of backward linkages. This shows that construction is heavily depended on other sectors for its inputs. The high backward linkages of construction have the potential to trigger off production in many sectors, which are linked to it.

The forward linkage indicator is comparatively low (1.595) and rank sixteenth. Nevertheless, it is also above average showing its significance in the overall economy. An international comparison also shows that Forward Linkage Indicator is less than the Backward Linkage Indicator in industrialized countries. The reason for low forward linkages is that construction mainly produces for the final demand. Only the repairs and maintenance sub sector is considered as intermediate input which is insignificant compared to new construction due to the limited physical capital stock of the country.

Five-sector aggregation of the economy shows that construction dependence is highest on manufacturing followed by services. The dependence on agriculture is marginal. This observation is true throughout the three decades except in 1995 as shown by the trend analysis. The share of the manufacturing sector decreases while that of services increases slightly over time until 1995. Even though the magnitude is small, the agricultural inputs increases up to 1986 and suddenly drops to zero in 1995.This shows the changing nature of technology used in construction. Construction outputs are mainly used by services as intermediate inputs in all years except 1995.

The analysis shows that the impact due to Rs.1.00 change in final demand for the goods and services of construction on the output of all sectors is Rs.1.641 while that of Rs.1.00 change in primary inputs available to construction on the input of all industries is 1.595. It is also identified construction as key sector in terms of both backward and forward linkages. It helps the policy makers to determine the impacts flowing from the stimulations of this key sector on other sectors of the economy.

Further, it was shown that the trend of the input and output profiles of construction are correlated to the economic policy regime in operation. The backward and forward linkages of construction with the services sector seem susceptible to changing economic policies compared to other sectors. It demonstrated that input and output profiles of construction not only mirror the type of technology utilized for production, but also the economic policy in operation. This clearly shows the relationship between construction and the economy.

6.1 Further Research

This study has proved that the causal relationship between construction investment and the economy is uni-directional. That is construction investment causes economic growth not vice-versa. Sometimes the relationship between construction value added (CVA) and GDP may be vice-versa of construction investment or bi-directional. Therefore. the study should be extended to examine the causal relationship between construction and GDP using other measures such as construction value added, construction output, building planning approvals of construction performance and GDP per capita.

This study has analyzed the relationship between economy and construction sector using six different Policy Archetypes, as it was purely qualitative attempt covering the whole policies as one set. This relationship could be ascertained by considering the changes policy variables such as taxes and subsidies, regulations, and international trade rules over a period of time and the respective change in construction sector and economic growth (Sherer and Ross, 1990; Rebelo, 1991). Policies for economic development could be categorized under six areas such as Macro demand management policies, Industrial policy, distribution policy, regional development policy, manpower and education policy, and research and development policy (Lchimura, 1998). It is clear that the performance of construction sector is such that it could be influenced by the change of policies under above categories. It is suggested to analyze the relationship in above ways.

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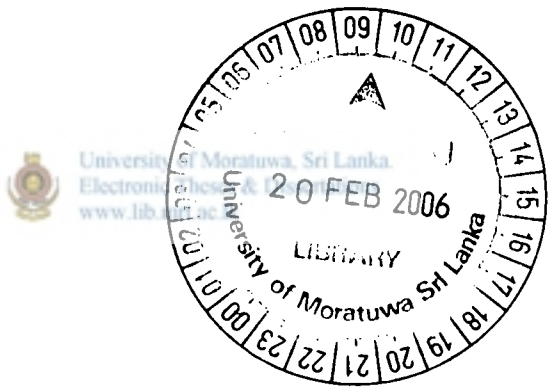

Annexure

Appendix A: Aggregation scheme used between 1970 -2000

48 sectors - 2000	47 sectors - 1995	24 sectors - 1986
1. Tea growing -High elevation	1. Tea growing -High elevation	1. Tea
2. Tea growing -Medium elevation	2. Tea growing -Medium elevation	2. Rubber
3. Tea growing - Low elevation	3. Tea growing - Low elevation	3. Coconut
4. Rubber growing	4. Rubber growing	4. Paddy
5. Coconut and toddy	5. Coconut and toddy	5. Other Agriculture
6. Paddy	6. Paddy	6. Mining & Quarrying
7. Vegetables	7. Vegetables	7. Rice Milling
8. Fruits	8. Fruits	8. Flour milling
9. Highland Crops	9. Highland Crops	9. Textile
10. Potatoes	10. Potatoes	10. Garments
11. Minor export Crops	11. Minor export Crops	11. Transport Equipment
12. Tobacco	12. Tobacco	12. Electric equipment
13. Betel and Areca nuts	13. Betel and Areca nuts	13. Other machinery
14. Miscellaneous agricultural products	14. Miscellaneous agricultural products	14. Light engineering
15. Livestock	15. Livestock	15. Food processing
16. Plantation development	16. Plantation development	16. Agro chemicals
17. Firewood	17. Firewood	17. Structural clay
18. Forestry	18. Forestry	18. Other manufacturing
19. Fisheries	19. Fisheries	19. Basic metal
20. Mining and Quarrying	20. Mining and Quarrying	20. **Construction**
21. Tea processing	21. Tea processing	21. Petroleum
22. Rubber processing	22. Rubber processing	22. Electricity
23. Coconut processing	23. Coconut processing	23. Trade & Transport
24. Rice Milling	24. Rice Milling	24. Other services
25. Flour Milling	25. Flour Milling	
26. Food, Beverages and other	26. Food, Beverages and other	
27. Textiles, Footwear and leather products	27. Textiles and clothing	
28. Garment Industry	28. Wood and wood products	
29. Wood and wood products	29. Paper and paper products	
30. Paper and paper products	30. Chemicals and Fertilizer	
31. Chemicals and Fertilizer	31. Petroleum industry	
32. Petroleum industry	32. Plastic and Rubber products	
33. Plastic and Rubber products	33. Nonmetallic and other mineral products	
34. Nonmetallic and other mineral products	34. Basic metal products	
35. Basic metal products	35. Fabricated metal products	
36. Fabricated metal products	36. Other manufacturing	
37. Other manufacturing	37. Electricity, Gas and water	
38. Electricity, Gas and water	38. **Construction**	
39. **Construction**	39. Wholesale and retail trade	
40. Wholesale and retail trade	40. Hotels and restaurants	
41. Hotels and restaurants	41. Tourist shops and travel agents	
42. Tourist shops and travel agents	42. Transport	
43. Transport	43. Post and communication	
44. Post and communication	44. Banking, insurance and real estate	
45. Banking, insurance and real estate	45. Ownership of dwellings	
46. Ownership of dwellings	46. Public administration and defence	
47. Public administration and defence	47. Other personal services	
48. Other personal services		

Appendix A: Aggregation scheme used between 1970 -2000

24 sectors - 1981	44 sectors - 1976	48 sectors - 1970
1. Tea	1. Tea	1. Tea
2. Rubber	2. Rubber	2. Rubber
3. Coconuts	3. Coconut	3. Coconuts
4. Paddy	4. Paddy	4. Paddy
5. Other agriculture	5. Livestock	5. Livestock
6. Mining and quarrying	6. Fishing	6. Fishing
7. Rice milling	7. Logging & Firewood	7. Logging & firewood
8. Flour milling	8. Other Agriculture	8. Other Agriculture
9. Textile	9. Mining & Quarrying	9. Mining & Quarrying
10. Garments	10. Rice Milling	10. Rice Milling
11. Transport equipment	11. Wheat Flour Milling	11. Flour Milling
12. Electrical equipment	12. Dairy product	12. Dairy Products
13. Other machinery	13. Bread	13. Bread
14. Light engineering products	14. Bakery product & confectionary	14. Other bakery products
15. Food processing	15. Copra & Desiccated Coconut	15. Carbonated beverages
16. Chemical and fertilizer	16. Other Processed food	16. Desiccated coconut
17. Structural clay product	17. Alcoholic Beverages	17. Other processed food
18. Other manufacturing	18. Tobacco	18. Distilling
19. Basic metals	19. Textile	19. Tobacco
20. **Construction**	20. Weaving Apparel	20. Textiles
21. Petroleum	21. Wood	21. Wood products
22. Electricity	22. Paper	22. Paper
23. Trade and transport	23. Leather	23. Leather
24. Other services	24. Rubber Products	24. Rubber
	25. Other Chemical Products	25. Chemicals
	26. Soap/oleo products	26. Oils & Fats
	27. Oil & Fat	27. Coconut fiber and Yarn
	28. Coconut Fiber & Yarn	28. Petroleum and coal
	29. Petroleum Products	29. Structural clay
	30. Structural Clay Product	30. Ceramics
	31. Non Metallic Mineral Products	31. Cement
	32. Cement & Asbestos Cem.prod	32. Basic metals
	33. Basic Metal	33. Light Engineering
	34. Light Engineering Product	34. Transport equipment
	35. Electrical Goods	35. Machinery, other equipment
	36. Transport Equipments	36. Other manufacturing
	37. Machinery	37. **Construction**
	38. Other manufactured goods	38. Electricity
	39. **Construction**	39. Road passenger transport
	40. Electricity & Water	40. Rail transport
	41. Transport & Communication	41. Wholesale trade
	42. Rail transport	42. Retail trade
	43. Trade	43. Other transport
	44. Services	44. Communication
		45. Hotels and restaurants
		46. Professional services
		47. Dwellings
		48. Other services

Country	USA [1]						Japan [2]						
	1947	1958	1963	1967	1972	1977	1960	1965	1970	1975	1980	1985	1990
Share of construction in GNP	0.098	0.135	0.130	0.115	0.115	0.103	0.176	0.179	0.196	0.203	0.204	0.154	0.185
Share of construction in NI	0.050	0.069	0.067	0.062	0.064	0.056	0.061	0.073	0.080	0.095	0.093	0.072	0.092
Construction backward linkage indicators	0.590	0.580	0.570	0.560	0.540	0.580	0.680	0.620	0.620	0.560	0.570	0.573	0.539
Construction output multipliers	2.220	2.204	2.156	2.127	2.085	2.208	2.700	2.350	2.420	2.360	2.420	2.327	2.153
Construction forward linkage indicators	0.240	0.170	0.170	0.170	0.163	0.250	0.090	0.080	0.080	0.070	0.070	0.095	0.077
Construction input multipliers	1.500	1.365	1.350	1.340	1.295	1.415	1.190	1.170	1.160	1.150	1.160	1.180	1.151
Direct construction inputs from manufacturing	0.380	0.382	0.370	0.365	0.350	0.365	0.520	0.422	0.448	0.363	0.376	0.359	0.307
Total construction inputs from manufacturing	0.660	0.690	0.690	0.670	0.635	0.69	1.120	0.860	0.950	0.790	0.850	0.770	0.623
Direct construction inputs from services	0.063	0.062	0.064	0.074	0.073	0.076	0.064	0.082	0.093	0.101	0.114	0.115	0.149
Total construction inputs from services	0.150	0.170	0.180	0.200	0.190	0.210	0.150	0.170	0.200	0.230	0.250	0.270	0.322

1. Miller and Blair, 1985
2. Bon and Yashiro,1996
3. Bon et.al, 1999
4. Bon and Pietroforte,1990
5. Bon and Pietroforte,1991
6. Pietroforte and Gregori, 2003
7. Pietroforte and Gregori, 2003
8. Pietroforte and Gregori, 2003
9. Bon and Pietroforte,1990
10. Pietroforte and Gregori, 2003
11. Pietroforte and Gregori, 2003
12. Kang Su, Lin and Wang, 2003

Country	Turkish [3]				Italy [4]						Finland [5]						
	1973	1979	1985	1990	1959	1965	1969	1972	1978	1982	1959	1963	1965	1970	1980	1982	1985
Share of construction in GNP	0.085	0.100	0.087	0.125	0.138	0.135	0.146	0.125	0.115	0.123	0.146	0.170	0.142	0.147	0.122	0.126	0.117
Share of construction in NI	0.045	0.038	0.042	0.055	0.076	0.082	0.088	0.078	0.073	0.075	0.088	0.098	0.084	0.088	0.071	0.075	0.074
Construction backward linkage indicators	0.477	0.631	0.532	0.564	0.510	0.470	0.470	0.462	0.475	0.488	0.440	0.482	0.470	0.472	0.502	0.465	0.440
Construction output multipliers	1.793	2.071	1.922	1.937	2.130	2.010	2.020	2.000	2.150	2.200	1.700	1.780	1.810	1.860	1.930	1.860	1.780
Construction forward linkage indicators	0.024	0.020	0.022	0.010	0.100	0.100	0.100	0.121	0.152	0.152	0.080	0.080	0.092	0.121	0.100	0.092	0.092
Construction input multipliers	1.034	1.030	1.032	1.016	1.140	1.160	1.167	1.210	1.275	1.260	1.130	1.135	1.136	1.180	1.180	1.150	1.170
Direct construction inputs from manufacturing	0.368	0.384	0.397	0.388	0.385	0.345	0.340	0.320	0.360	0.340	0.250	0.285	0.284	0.300	0.350	0.310	0.280
Total construction inputs from manufacturing	0.530	0.625	0.592	0.582	0.720	0.660	0.660	0.640	0.690	0.670	0.360	0.420	0.440	0.475	0.560	0.500	0.450
Direct construction inputs from services	0.025	0.010	0.008	0.028	0.056	0.064	0.066	0.068	0.050	0.048	0.010	0.012	0.024	0.034	0.034	0.038	0.036
Total construction inputs from services	0.050	0.041	0.033	0.061	0.110	0.130	0.130	0.130	0.140	0.140	0.040	0.050	0.060	0.082	0.110	0.120	0.110

Country	Australia [6]				Canada [7]					Denmark [8]				
	1968	1974	1985	1988	1971	1976	1981	1985	1989	1972	1977	1980	1984	1989
Share of construction in GNP	0.168	0.133	0.134	0.129	0.164	0.152	0.149	0.122	0.124	0.121	0.095	0.082	0.065	0.062
Share of construction in NI	0.122	0.083	0.082	0.081	0.112	0.115	0.106	0.094	0.095	0.119	0.085	0.077	0.061	0.058
Construction backward linkage indicators	0.480	0.558	0.510	0.535	0.572	0.540	0.550	0.540	0.550	0.510	0.570	0.550	0.592	0.592
Construction output multipliers	2.040	2.230	2.090	2.060	2.360	2.230	2.160	2.160	2.220	2.200	2.330	2.280	2.280	2.260
Construction forward linkage indicators	0.160	0.140	0.080	0.055	0.140	0.145	0.170	0.170	0.150	0.150	0.210	0.250	0.295	0.295
Construction input multipliers	1.280	1.250	1.130	1.080	1.280	1.280	1.310	1.310	1.290	1.320	1.460	1.510	1.545	1.530
Direct construction inputs from manufacturing	0.345	0.415	0.364	0.350	0.397	0.345	0.304	0.310		0.340	0.388	0.370	0.340	0.300
Total construction inputs from manufacturing	0.630	0.760	0.640	0.598	0.730	0.640	0.570	0.590	0.630	0.660	0.755	0.715	0.655	0.605
Direct construction inputs from services	0.005	0.019	0.050	0.062	0.048	0.064	0.084	0.079	0.090	0.079	0.082	0.096	0.135	0.179
Total construction inputs from services	0.060	0.079	0.175	0.180	0.112	0.139	0.175	0.175	0.196	0.145	0.165	0.175	0.232	0.285

Country	France [9]					Germany [10]				Netherland [11]			
	1972	1977	1980	1984	1989	1978	1985	1987	1989	1972	1977	1981	1985
Share of construction in GNP	0.145	0.129	0.120	0.102	0.104	0.088	0.073	0.071	0.069	0.100	0.084	0.075	0.069
Share of construction in NI	0.093	0.081	0.770	0.067	0.069	0.068	0.058	0.055	0.053	0.089	0.080	0.073	0.069
Construction backward linkage indicators	0.520	0.535	0.545	0.525	0.550	0.525	0.530	0.550	0.580	0.550	0.570	0.575	0.575
Construction output multipliers	2.085	2.095	2.105	2.040	2.160	2.180	2.185	2.250	2.320	2.120	2.220	2.265	2.240
Construction forward linkage indicators	0.043	0.045	0.050	0.060	0.060	0.145	0.150	0.160	0.160	0.270	0.300	0.300	0.320
Construction input multipliers	1.100	1.110	1.120	1.125	1.115	1.320	1.350	1.380	1.390	1.400	1.480	1.495	1.515
Direct construction inputs from manufacturing	0.310	0.305	0.225	0.210	0.210	0.350	0.342	0.350	0.362	0.282	0.271	0.282	0.271
Total construction inputs from manufacturing	0.565	0.555	0.450	0.415	0.430	0.705	0.700	0.710	0.740	0.570	0.620	0.630	0.600
Direct construction inputs from services	0.134	0.154	0.160	0.165	0.195	0.090	0.120	0.128	0.139	0.030	0.390	0.042	0.045
Total construction inputs from services	0.237	0.264	0.291	0.300	0.390	0.232	0.290	0.315	0.343	0.079	0.106	0.125	0.129

Country	Taiwan [12]											
	1964	1966	1969	1971	1976	1981	1986	1989	1991	1994	1996	1999
Share of construction in GNP	0.071	0.072	0.080	0.076	0.094	0.087	0.062	0.074	0.076	0.084	0.077	0.065
Share of construction in NI	0.031	0.035	0.044	0.038	0.058	0.051	0.038	0.044	0.043	0.048	0.046	0.038
Construction backward linkage indicators	0.675	0.637	0.607	0.665	0.621	0.647	0.639	0.638	0.664	0.665	0.655	0.658
Construction output multipliers	2.504	2.365	2.256	2.463	2.578	2.747	2.624	2.558	2.664	2.612	2.543	2.555
Construction forward linkage indicators	0.106	0.082	0.078	0.083	0.063	0.081	0.179	0.124	0.147	0.144	0.156	0.154
Construction input multipliers	1.185	1.144	1.146	1.158	1.118	1.146	1.282	1.204	1.257	1.236	1.255	1.251
Direct construction inputs from manufacturing	0.457	0.467	0.437	0.504	0.452	0.493	0.474	0.479	0.486	0.472	0.446	0.432
Total construction inputs from manufacturing	0.916	0.869	0.807	1.013	1.050	1.120	1.090	1.040	1.080	1.030	0.940	0.930
Direct construction inputs from services	0.044	0.066	0.076	0.072	0.083	0.081	0.092	0.092	0.118	0.130	0.145	0.159
Total construction inputs from services	0.261	0.181	0.171	0.171	0.202	0.239	0.251	0.253	0.326	0.356	0.369	0.386

Country	Sri Lanka					
	1970	1976	1981	1986	1995	2000
Share of construction in GNP	0.120	0.080	0.137	0.089	0.078	0.050
Share of construction in NI	0.084	0.060	0.097	0.061	0.072	0.067
Construction backward linkage indicators	0.239	0.278	0.279	0.327	0.336	0.314
Construction output multipliers	0.265	0.231	0.396	0.247	0.353	0.382
Construction forward linkage indicators	0.364	0.451	0.403	0.383	0.306	0.457
Construction input multipliers	1.496	1.582	1.570	1.502	1.439	1.641
Direct construction inputs from manufacturing	0.033	0.040	0.164	0.146	0.093	0.398
Total construction inputs from manufacturing	1.037	1.050	1.210	1.184	1.116	1.595
Direct construction inputs from services	0.207	0.289	0.221	0.222	0.118	0.149
Total construction inputs from services	0.273	0.353	0.242	0.262	0.177	0.205