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I. INTRODUCTION

The performance of the export-oriented textile and clothing sector has been one of the most notable success stories in South Asia, as countries like Bangladesh, India and Pakistan witnessed a phenomenal growth of textile and apparel exports in over the last two decades. South Asia's share in global trade in textiles and clothing sector rose from 1.5 percent in 2002 to 4.4 percent in 2007. The importance of the sector to the region is also reflected from the share of the sector in total exports of all its major economies. In 2007, textiles and clothing constituted around 80 percent of total exports of Bangladesh, 55 percent of Pakistan and around 12 percent of India.

The textile and clothing (T&C) sector is of great importance in South Asia in terms of direct and indirect employment generation, women employment and empowerment, contribution to export earnings and economic growth. Over the last decades, this sector was the important contributor to the South Asian countries' economy. Though the importance of T & C sector is crucial for all South Asian countries but South Asia cannot be treated as homogeneous group as far as T&C sector is concerned. The emergence, structure, performance and growth of this industry are different for the South Asian countries. Based on emergence, structure as well as performance of the T & C sector, South Asian countries can be divided into three categories: (1) India and Pakistan: strong structure, highly competitive and holding strong position in world T&C market; (2) Bangladesh and Sri Lanka: emergence resulted from MFA quota restrictions, moderately competitive and extremely good performance even after MFA phase out and (3) Maldives and Nepal: emergence resulted from MFA quota restrictions, least competitive and poor performance after MFA phase out.

In the first category, India and Pakistan are the most competitive in global textile and clothing market among South Asian countries. In 2008, India captured 3.5 percent of global T&C export while share for Pakistan was 1.81 percent. The share in global T&C export for Pakistan was decreasing over last 3-4 years while India was able to hold its position in global market. This happened for India because of its strong vertically integrated production structure with up to 98.5 percent of value addition taking place within the country itself, well diversified exportable products and market, and government supportive measures. In the second category, Bangladesh surprised the world with her growth performance in the last 3 decades. Though the emergence of T&C sector in Bangladesh was largely governed by MFA quota restrictions, the country continued to grow even after the abolishment of quota restriction. This is argued that the growth after the MFA phase out was due to the safeguard measure imposed by USA on import from China so export from Bangladesh didn't have to compete with China. In the third category, Maldives and Nepal are the least competitive in T&C sector among all South Asian countries. The T&C industry in these 2 countries was the result of quota restriction under MFA and the phase out of MFA adversely affected the export performance of both countries. Maldives failed to report any export in this sector in 2006 and Nepal has been experiencing decline in export in this sector since 2003.

In this context, this study undertakes an analysis of the estimation of backward and forward linkages of the textile and clothing sectors in India, Bangladesh and Pakistan. The study constructed/updated Social Accounting Matrices (SAM) of these three South Asian countries and used them in the SAM multiplier model to estimate the backward and forward linkages of these sectors.

II. SAM MULTIPLIER MODEL

The shift from a ‘data’ SAM structure to a SAM Multiplier Module requires the introduction of assumptions and the separation of the SAM accounts into ‘exogenous’ and ‘endogenous’ components.

Table 1: General SAM Modular Structure

		1a-PA	1b-CM	2-FP	3a-HH-OI	4-KHH-OI	5-ROW	TDD
1a	PA		$T_{1a, 1b}$		0			Y_{1a}
1b	CM	$T_{1b, 1a}$			$T_{1b, 3}$	$T_{1b, 4}$	$T_{1b, 5}$	Y_{1b}
2	FP	$T_{2, 1a}$					$T_{2, 5}$	Y_2
3	HH-OI	$T_{3, 1a}$	$T_{3, 1b}$	$T_{3, 2}$	$T_{3, 3}$		$T_{3, 5}$	Y_3
4	KHH-OI	$T_{4, 1a}$			$T_{4, 3a}$		$T_{4, 5}$	Y_4
5	ROW		$T_{5, 1b}$	$T_{5, 2}$	$T_{5, 3}$	0	0	Y_5
	TSS	E_{1a}	E_{1b}	E₂	E₃	E₄	E₅	

Where: by definition $Y_i = E_j$ and **1 Production (1a PA = Production Activities and 1b CM = Commodities)**; **2 FP = Factors of Production**; **3 HH-OI = Households and Other Institutions (incl. Government)**; **4 KHH-OI = Capital Account Households and Other Institutions (incl. government)**; **5 ROW = Rest of the World (Current and capital account)**. **Blank entries** indicate that there are no transactions by definition.

The separation is needed to gain entry into the system, allowing some variables within the SAM structure to be manipulated exogenously (via injection instruments) to assess the subsequent impacts on the endogenous accounts as well as on the exogenous accounts.

Generally, accounts intended to be used as policy instruments are classified as exogenous and accounts specified *a priori* as objectives (or targets) are classified as endogenous.

Three accounts are designated as endogenous accounts: (1) *Production (Production Activities and Commodities) account*, (2) *Factors of Production account*, (3a) *Households and Other Institutions (excl. the Government)*.

The exogenous accounts comprises (3a) *Government (expenditure, transfer, remittances)*; (4) *Capital account of institutions (savings and demand for houses, investment demand, infrastructure and machinery and equipment)*; and (5) *ROW transfers, remittances, export demand and capital*. The SAM Flows and the categorization into endogenous and exogenous accounts are shown below.

Table 2: Endogenous and Exogenous Accounts

		1a-PA	1b-CM	2-FP	3a-HH-OI	3b-Gov	4-KHH-OI	5-ROW	TDD
1a	PA		$T_{1a, 1b}$		0				Y_{1a}
1b	CM	$T_{1b, 1a}$			$T_{1b, 3a}$	$T_{1b, 3b}$	$T_{1b, 4}$	$T_{1b, 5}$	Y_{1b}
2	FP	$T_{2, 1a}$						$T_{2, 5}$	Y_2
3a	HH-OI			$T_{3a, 2}$	$T_{3a, 3a}$	$T_{3a, 3b}$		$T_{2, 5}$	Y_3
3b	Gov	$T_{3b, 1a}$	$T_{3b, 1b}$		$T_{3b, 3a}$	$T_{3b, 3b}$		$T_{3a, 5}$	
4	KHH-OI	$T_{4, 1a}$			$T_{4, 3}$			$T_{4, 5}$	Y_4
5	ROW		$T_{5, 1b}$	$T_{5, 2}$	$T_{5, 3a}$	$T_{5, 3b}$	$T_{5, 4}$	0	Y_5
	TSS	E_{1a}	E_{1b}	E₂	E_{3a}	E_{3b}	E₄	E₅	

Where Endogenous: **1 Production (1a PA = Production Activities and 1b CM = Commodities)**; **2 FP = Factors of Production**; **3a HH = Households and Other Institutions (excl. Government)**;

Where Exogenous: **3b** Government; **4 KHH-OI** = Capital Account of Households and of Other Institutions (incl. government); **5 ROW** = Rest of the World (Current and capital account).
Blank entries indicate that there are no transactions by definition.

Table 3: Endogenous and Components of Exogenous Accounts

	PA	CM	FP	3a HH&OI	EXO	INCOME	Exogenous Accounts (EXO) used as injections Column Vectors
1a PA		$T_{1a,1b}$		0	X_{1a}	Y_{1a}	$X_{1a} = 0$
1b CM	$T_{1b,1a}$			$T_{1b,3a}$	X_{1b}	Y_{1b}	X_{1b} = Government Consumption Subsidies - Taxes + Exports + Gov. Investment (capital formation in infrastructure and machinery and equipment) + Gross Capital Stock formation
2 FP	$T_{2,1a}$				X_2	Y_2	X_2 = Factor Remittances from ROW
3a HH&OI			$T_{3a,2}$	$T_{3a,3a}$	X_{3a}	Y_{3a}	X_{3a} = Factor Remittances from ROW
3b Leaks	L_{1a}	L_{1b}	L_2	L_{3a}	$L_{3b} = X_{3b}$	Y_{3b-5}	$3b$ = Aid to Government from ROW
EXPN	E_{1a}	E_{1b}	E_2	E_{3a}	E_{3b-5}		Where $E_i = Y_j$
L_{1a} = Activity Tax					L_{3a} = Income Tax + Household Savings + Corporate Savings		
L_{1b} = Commodity Tax + Import Duty + Imports					L_{3b-5} X_{3b-5} and Y_{3b-5} falls out of the model		
L_2 = Factor Remittances to ROW					Blank entries indicate that there are no transactions by definition.		

Note on Injection: For any given injection into the exogenous accounts X_i (i.e. instruments) of the SAM, influence is transmitted through the interdependent SAM system among the endogenous accounts. The interwoven nature of the system implies that the incomes of factors, institutions and production are all derived from exogenous injections into the economy via a multiplier process. Multiplier models may also be built on the input-output frameworks. The main shortcoming of the IO model is that the feedback between factor income generation (value added) and demand by private institutions (households) does not exist. In this case the circular economic flow is truncated. The problem can be partly tackled by endogenising household consumption within the I-O framework; this is typically referred to as a 'closed I-O model'. In this case, the circular economic flow is only partially truncated. A better solution is to extend the I-O to a SAM framework which captures the full circular economic flow

SAM coefficient (A_{ij}) are derived from payments flows by endogenous accounts to themselves (T_{ij}) and other endogenous accounts as to the corresponding outlays ($E_i = Y_j$); similarly, the leak coefficients (B_{ij}) derived from flows reflecting payments from endogenous accounts to exogenous accounts. They are derived below.

Table 4: Coefficient Matrices and Vectors of the SAM Model

Account	1a - PA	1b - CM	2 - FP	3a - HH&OI	3b ... 5 EXO	Income
1a - PA		$A_{1a,1b} = T_{1a,1b} / Y_{1b}$			X_{1a}	Y_{1a}
1b - CM	$A_{1b,1a} = T_{1b,1a} / Y_{1a}$			$A_{1b,3a} = T_{1b,3a} / Y_{3a}$	X_{1b}	Y_{1b}
2 - FP	$A_{2,1a} = T_{2,1a} / Y_{1a}$				X_2	Y_2
3a - HH&OI			$A_{3a,2} = T_{3a,2} / Y_2$	$A_{3a,3a} = T_{3a,3a} / Y_{3a}$	X_{3a}	Y_{3a}

3b ... 5 Leaks	B_{1a} = L_{1a} / Y_{1a}	B_{1b} = L_{1b} / Y_{1b}	B_2 = L_2 / Y_2	B_{3a} = L_{3a} / Y_{3a}		
Expenditure	$E_{1a} = Y_{1a}$	$E_{1b} = Y_{1b}$	$E_2 = Y_2$	$E_3 = Y_{3a}$		

The multiplier analysis using the SAM framework helps to understand the linkages between the different sectors and the institutional agents at work within the economy. Accounting multipliers have been calculated according to the standard formula for accounting (impact) multipliers, as follows:

$$Y(t) = A Y(t) + X(t) = (I - A)^{-1} X(t) = M_a X(t)$$

Where:

t is time

Y is a vector of incomes of endogenous variables

X is a vector of expenditures of exogenous variables

A is the matrix of average expenditure propensities for endogenous accounts

$M_a = (I - A)^{-1}$ is a matrix of aggregate accounting multipliers (generalized Leontief inverse).

The aggregate accounting multiplier (M_a) will be further decomposed to separately examine the direct and induced effect. In order to generate the direct and induced effects the M_a multiplier will be decomposed using both multiplicative and additive forms. These are shown below.

Multiplicative Multipliers for three endogenous accounts (Production (Act-Com), FP, HH-OI) are the following:

$$M_a = M_3 M_2 M_1 = [I - A^{*3}]^{-1} \cdot (I + A^{*2} + A^{*1}) \cdot (I - A_0)^{-1}$$

The corresponding additive multipliers are the following:

$$M_a = I + T + O + C = I + (M_1 - I) + (M_2 - I) \cdot M_1 + (M_3 - I) \cdot M_2 \cdot M_1$$

The direct and induced effects will be captured by multipliers (I + T) and (O+C) respectively. More specifically, there are represented as:

Table 5: Multiplier Types capturing Direct and Induced Effects

Multiplier Types	Additive Form	Multiplicative Form
Intra Transfer $M_a =$	I + T	$I + (M_1 - I)$
Induced $M_a =$	O + C	$(M_2 - I) \cdot M_1 + (M_3 - I) \cdot M_2 \cdot M_1$

Variations in any one of the exogenous account (i.e. in this case ΔX due to ΔI) will produce total impacts (ΔY) of endogenous entries via the multipliers. The total impact will be decomposed by direct and induced impacts for capturing the strengths of the transmission channel. More specifically they are expressed as:

$$\text{Intra Transfer Impacts } \Delta Y(t) = \text{Direct } M_a \times \Delta X(t).$$

$$\text{Induced Impacts } \Delta Y(t) = \text{Induced } M_a \times \Delta X(t).$$

The total effect is thus $\Delta Y(t) = \text{Intra Transfer } \Delta Y(t) + \text{induced } \Delta Y(t)$. The total effect must equal to $\Delta Y(t) = M_a \times \Delta X(t)$

Thus $\Delta Y(t)$ captures the total impacts (intra transfer + indirect) on the four endogenous accounts namely: (i) gross output; (ii) activity; (iii) factor returns and (iv) household.

Table 6: Description of the Endogenous and Exogenous Accounts and Multiplier Affects

Endogenous (y)	Exogenous (x)
The activity (gross output multipliers) , indicates the total effect on the sectoral gross output of a unit-income increase in a given account <i>i</i> in the SAM, and is obtained via the association with the commodity production activity account <i>i</i> .	
The consumption commodity multipliers , which indicates the total effect on the sectoral commodity output of a unit-income increase in a given account <i>i</i> in the SAM, is obtained by adding the associated commodity elements in the matrix along the column for account <i>i</i> .	Intervention into through activities ($x = i + g + e$), where $i = \text{GFC} + \text{ST (GFCF)}$ Exports (e) Government Expenditure (g) Investment Demand (i) Inventory Demand (i)
The value added or GDP multiplier , giving the total increase in GDP resulting from the same unit-income injection, is derived by summing up the factor-payment elements along account <i>i</i> 's column.	Factor Income Remittances from RoW.
Household income/Corporation multiplier shows the total effect on household and enterprise income, and is obtained by adding the elements for the household groups along the account <i>i</i> column.	Intervention via households ($x = r + gt + ct$), where Remittance (r) Government Transfers (gt) Corporation Transfers (ct)

The economy-wide impacts of infrastructure investments are examined by changing the total exogenous injection vector (especially Government Expenditure (g), Government Investment (expenditures on infrastructure, machinery and equipment) and Investment Demand (i). More specifically, the total exogenous account is manipulated to estimate their effects on output (through an output multiplier), value-added or GDP, (through the GDP multiplier), and household income (through household income multiplier).

III. SOCIAL ACCOUNTING MATRICES FOR INDIA, BANGLADESH AND PAKISTAN

A Social Accounting Matrix (SAM) is a generalization of the production relations and extends this information beyond the structure of production to include: (a) the distribution of value added to institutions generated by production activities; (b) formation of household and institutional income; (c) the pattern of consumption, savings and investment; (d) government revenue collection and associated expenditures and transactions; and (e) the role of the foreign sector in the formation of additional incomes for household and institutions. In particular, the accounting matrix of a SAM identifies the economic relations through six accounts: (1) total domestic supply of commodities; (2) activity accounts for producing sectors; (3) main factors of productions (e.g. labour types and capital); (4) current account transactions between main institutional agents such as-households and unincorporated capital, corporate enterprises, government and the rest of the world and the use of income by the representative households; (5) the rest of the world; and (6) one consolidated capital account

(domestic and rest of the world) to capture the flows of savings and investment by institutions and the rest of the world respectively.

Social accounting matrices can serve two basic purposes: (i) as a comprehensive and consistent data system for descriptive analysis of the structure of the economy and (ii) as a basis for macroeconomic modeling. As a data framework, a SAM is a snapshot of a country at a point in time (Pyatt and Thorbecke, 1976). To provide as comprehensive a picture of the structure of the economy as possible, a particular novelty of the SAM approach has been to bring together macroeconomic data (such as national accounts) and microeconomic data (such as household surveys), within a consistent framework. The second purpose of a SAM is the provision of a macroeconomic data framework for policy modeling. The framework of a SAM can often help in establishing the sequence of interactions between agents and accounts which are being modeled. A SAM provides an excellent framework for exploring both macroeconomic and multi-sectoral issues and is useful starting point for more complex models (Robinson, 1989).

SAM data sets for India, Bangladesh and Pakistan are constructed or updated for the year 2007 to maintain consistency in analysis. Main features of SAM data sets by countries are reported below.

3.1. Construction of 2007 India SAM

The 2007 SAM for India identifies the economic relations through **eight accounts**: (1) total domestic supply of 130 commodities; (2) production accounts for 130 activities; (3) 4 factors of productions-2 labour types and 2 capital categories; (4) current account transactions between 4 current institutional agents- households and unincorporated capital, corporate enterprises, government and the rest of the world; household account includes 9 representative groups (5 rural and 4 urban); and (8) one consolidated capital account. The classifications for SAM 2007 have been derived from the classifications of the existing 2006 SAMs constructed by Khondker and Raihan and the Input-output table of 2006-07. The India SAM 2007 is thus represented by 281 accounts – activity (130); commodity (130); factors of production (4); indirect tax account (1); household (9); corporation (1); rest of the world (1); and consolidated (1). The structure of the India SAM is described in Table 7.

Table 7: Description of India SAM Accounts for 2007

Set	Description of Elements
Activity (130)	
Agriculture, Forestry & Fishing (26)	Paddy, Wheat, Jowar, Bajra, Maize, Gram, Pulses, Sugarcane, Groundnut, Coconut, Other oilseeds, Jute, Cotton, Tea, Coffee, Rubber, Tobacco, Fruits, Vegetables, Other crops, Milk and milk products, Animal services(agricultural), Poultry & Eggs, Other liv.st. product & Gobar Gas, Forestry and logging, Fishing
Mining & Quarrying (11)	Coal and lignite, Natural gas, Crude petroleum, Iron ore, Manganese ore, Bauxite, Copper ore, Other metallic minerals, Lime stone, Mica, Other non metallic minerals
Manufacturing (68)	Sugar, Khandsari, boora, Hydrogenated oil(vanaspati), Edible oils other than vanaspati, Tea and coffee processing, Miscellaneous food products, Beverages, Tobacco products, Khadi, cotton textiles(handlooms), Cotton textiles, Woolen textiles, Silk textiles, Art silk, synthetic fiber textiles, Jute, hemp, mesta textiles, Carpet weaving, Readymade garments, Miscellaneous textile products, Furniture and fixtures-wooden, Wood and wood products, Paper, paper prods. & newsprint, Printing and publishing, Leather footwear, Leather and leather products, Rubber products, Plastic products, Petroleum products, Coal tar products, Inorganic heavy chemicals, Organic heavy chemicals, Fertilizers, Pesticides, Paints, varnishes and lacquers, Drugs and medicines, Soaps,

Set	Description of Elements
	cosmetics & glycerin, Synthetic fibers, resin, Other chemicals, Structural clay products Cement, Other non-metallic mineral prods., Iron, steel and ferro alloys, Iron and steel casting & forging, Iron and steel foundries, Non-ferrous basic metals, Hand tools, hardware, Miscellaneous metal products, Tractors and agri. Implements, Industrial machinery(F & T), Industrial machinery(others), Machine tools, Other non-electrical machinery, Electrical industrial Machinery, Electrical wires & cables, Batteries, Electrical appliances, Communication equipments, Other electrical Machinery, Electronic equipments(incl.TV), Ships and boats, Rail equipments, Motor vehicles, Motor cycles and scooters, Bicycles, cycle-rickshaw, Other transport equipments, Watches and clocks, Medical, precision & optical instrument, Jems & jewelry, Aircraft & spacecraft, Miscellaneous manufacturing
Construction (01)	Construction
Electricity, and Water Supply (02)	Electricity, Water supply
Trade, Hotels, Transport & Communication (09)	Railway transport services, Land tpt including via pipeline, Water transport, Air transport, Supporting and aux. tpt activities, Storage and warehousing, Communication, Trade, Hotels and restaurants
Financial, Real Estate & Business Services (03)	Banking, Insurance, Ownership of dwellings
Community, Social & Personal Services (10)	Education and research, Medical and health, Business services, Computer & related activities, Legal services, Real estate activities, Renting of machinery & equipment a O.com, social-personal services, Other services, Public administration
Commodity (73)	Same as activity classification.
Factors of Production (9)	
Labour (2)	Labour: Unskilled
	Labour: Skilled
Capital (2)	Capital and Land
Institutions (5)	
Households (9)	Rural non-agricultural self employed, Rural agricultural labour, Rural other labour, Rural agricultural self employed and Rural other households
	Urban self employed, Urban salaried class, Urban casual labour and Urban other households
Other Institutions (4)	Government; Corporation; Rest of the World and Capital

The year 2007 was chosen as the base year to construct/update the India SAM as most of data of the key components of activity-commodity (i.e. the input-output 2007) and institutional accounts are available for the year 2007. Unlike other available Indian SAMs, the important feature the SAM 2007 is the inclusion of the newly constructed input-output table 2007 reflecting the new inter-industry transaction matrix for the base year. The consistent activity-commodity accounts (i.e. as contained in the input-output 2007) then formed the base on which the factors and institutional accounts were disaggregated to derive the India SAM 2007.

The construction of 2007 SAM is based on several data sets drawn from diverse sources. They are listed below.

1. The Input-output Table 2007
2. An Extended Social Accounting Matrix for India for 2006 by Raihan and Khondker (2010)
3. Social Accounting Matrix 2004 by Saluja and Yadav (2006)
4. Social Accounting Matrix 2004 by Ojha et al (2009)
5. Basanta K. Pradham, M. R. Saluja and Shalabh K. Singh (2006) edited "Social Accounting Matrix for India: Concepts, Construction and Applications"
6. Main Economic Aggregates and Population (1999-2000 to 2006-2007)
7. Relationship: National Income and Other Aggregate (1999-2000 to 2006-2007)

8. Consolidated Account of Nation-National Disposable Income and Its Appropriation (At Current Prices) in India (1999-2000 to 2006-2007)
9. Consolidated Account of Nation - Capital Finance (At Current Prices) in India (1999-2000 to 2006-2007)
10. Consolidated Account of Nation - External Transactions (At Current Prices) in India (1999-2000 to 2006-2007)
11. Consolidated Account of Nation - Gross Domestic Product and Expenditure (At Current Prices) in India(1999-2000 to 2006-2007)
12. Consolidated Account of Nation - National Disposable Income and Its Appropriation (At Current Prices) in India (1999-2000 to 2006-2007)
13. Performance of Public Sector (At Current Prices) in India (1999-2000 to 2006-2007)
14. Consolidated Account of Nation - Gross Domestic Product and Expenditure (At Current Prices) in India (1999-2000 to 2006-2007)
15. Macro Economic Aggregates and Population (At Current Prices) in India (1999-2000 to 2006-2007)

The updating/construction procedure proceeded in two steps. In the first step, a ‘proto-SAM’ was constructed using the IOT 2007 and other data collected from diverse sources. Since the data came from different sources, in line with the expectation, the estimated ‘proto-SAM’ was unbalanced especially in the ‘institutional accounts’. In the second step, the SAM was balanced by adjusting the household accounts (i.e. private consumption, savings).

The constructing/updating a SAM is not only an exercise in putting together a complete data set, but also an estimation process on the basis of insufficient and partly inconsistent data. In this current exercise, the first step to generate a consistent and balanced SAM is to build a macroeconomic SAM (i.e. the Macro SAM). The main objective of the Macro SAM is to summarize and to show the circular flow in the economy in general and inter-dependence between commodity, activity, consumption, and flow-of-funds without sectoral or institutional detail. Thus, in the second step a preliminary disaggregated SAM (i.e. also referred to as the Micro SAM) is constructed using available disaggregated information drawn from various data producing agencies. Subject to data availability, the disaggregated SAM segregates most of the Macro SAM accounts to desired sectoral and institutional breakdowns. While ensuring balance between the receipts and outlays for all accounts, the disaggregated or micro SAM must reproduce the control totals of the macro SAM. The correspondence between accounts of the aggregated micro SAM and macro SAM thus ensure its desired consistency with the national account data.

The complete Macro SAM for 2007 containing the national accounts and other data including transfers, taxes and foreign transactions is shown in Table 8. The macro SAM for the year 2007 contains 31 non-zero entries. The India macro SAM is “anchored” primarily to the ‘Input-output table 2007’, ‘National Accounts’ data and other macro aggregates provided by the India Bureau of Statistics, India Economic Review and the Central Board of Excise and Customs.

Table 8: India Macro SAM 2007

(Billion Indian Rupees)

SAM Accounts	SNA Accounts	Code	Activity	Commodity	Factors				Domestic Institutions			Capital	Rest of the	Total of		
			1	2	3			4			5	Word	Income A/C			
					Labour	Capital	Land	Indirect Tax	Household	Government	Corporation					
Activity A/C	Activities	1	0	775702	0	0	0	0	0	0	0	0	0	775702		
Production A/C	Commodities	2	396696	0	0	0	0	0	227021	41321	0	140800	91506	897345		
Distribution of Primary Income	Income Generation by Institutions	3	Compensation To Employees	197401	0	0	0	0	0	0	0	0	0	0	197401	
			Operating Surplus	161796	0	0	0	0	0	0	0	0	0	0	0	161796
			Land Return	19809	0	0	0	0	0	0	0	0	0	0	0	19809
			Indirect Tax	0	15073	0	0	0	0	0	0	0	0	0	0	15073
Use of Income	Primary Income of Institutions	4	Household	0	0	197401	129259	19809	0	0	20201	0	0	14560	381231	
			Government	0	0	0	7291	0	15073	9874	0	16840	0	0	0	49082
			Corporation	0	0	0	25245	0	0	0	0	0	0	0	0	25245
Consolidated Capital AC	Capital Account	5	0	0	0	0	0	0	144332	-12440	8405	0	502	140800		
Rest of World	Rest of the World-Imports (current)	6	0	106569	0	0	0	0	0	0	0	0	0	106569		
Total of Expenditure A/C			775702	897345	197401	161796	19809	15073	381231	49082	25245	140800	106569	2770055		

Note: Based on the SNA-SAM Relationship

3.2. Construction of 2007 Bangladesh SAM

For the purpose this exercise, a SAM for 2006/07 for Bangladesh has been constructed. SAM 2006/07 is composed of 109 accounts. The distributions of 109 accounts are: (i) activity-41; (ii) commodity-41; (iii) factors of production-4; (iv) current institutions-11; and (v) capital institutions-2. Data on various components of the demand side have been collected from Bangladesh Bureau of Statistics (BBS). In particular, data on public consumption by 41 commodities, gross fixed capital formation by 41 commodities, and private consumption by 41 commodities have been obtained from BBS. The vector of private consumption data is further distributed among the eight representative household groups using the unit record data of Household Income and Expenditure Survey (HIES) of 2005. Data on exports of goods and services are collected from the Export Promotion Bureau and Bangladesh Bank (i.e. the central bank of Bangladesh). Supply side composed of value added and imports of goods and services. We used disaggregated BBS data to derive the value added vector for the 41 activities. Data on imports of goods and services are collected from Bangladesh Bank and National Board of Revenue. Information on direct and indirect taxes and subsidies has been collected from National Board of Revenue and the Finance division, Ministry of Finance. Input-output flow matrix for 2006/07 has been derived by using newly conducted surveys for few selected activities and updating the previous technology vectors using secondary information. More specifically, out of the 41 activities, technology vectors of five important activities such as paddy, livestock, poultry, pharmaceuticals and information technology (ICT) have been derived using the field survey data. The technology vectors of the remaining 36 activities are updated using secondary information.

The 2006/07 SAM identifies the economic relations through *four types of accounts*: (i) production activity and commodity accounts for 41 sectors; (ii) 4 factors of productions with 2 different types of labour and 2 types of capital; (iii) current account transactions between 4 main institutional agents; household-members and unincorporated capital, corporation, government and the rest of the world; and (iv) two consolidated capital accounts distinguished by public and private origins to capture the flows of savings and investment. The disaggregation of activities, commodities, factors and institutions in the SAM is given in Table 9.

Table 9: Disaggregation and Description of Bangladesh SAM Accounts

Set	Description of Elements
Activities (86)	
Agriculture (20)	Paddy Cultivation, Wheat Cultivation, Other Grain Cultivation, Jute Cultivation, Sugarcane Cultivation, Potato Cultivation, Vegetable Cultivation, Pulses Cultivation, Oilseed Cultivation, Fruit Cultivation, Cotton Cultivation, Tobacco Cultivation, Tea Cultivation, Spice Cultivation, Other Crop Cultivation, Livestock Rearing, Poultry Rearing, Shrimp Farming, Fishing, Forestry
Manufacturing (39)	Rice Milling, Grain Milling, Fish Process, Oil Industry, Sweetener Industry, Tea Product, Salt Refining, Food Process, Tanning and Finishing, Leather Industry, Baling, Jute Fabrication, Yarn Industry, Cloth Milling, Handloom Cloth, Dyeing and Bleaching, RMG, Knitting, Toiletries M, Cigarette Industry, Bidi Industry, Saw and Plane, Furniture Industry, Paper Industry, Printing and Publishing, Pharmaceuticals M, Fertiliser Industry, Basic Chemical, Petroleum R, Earth ware Industry, Chemical Industry, Glass Industry, Clay Industry, Cement M, Basic Metal M, Metal M, Machinery and Equipments, Transport Equipments, Miscellaneous Industry
Construction (6)	Urban Building, Rural Building, Power Plant Building, Rural Road Building, Port Road Railway Building, Canal Dyke Other Buildings
Services (21)	Electricity and Water Generation, Gas Extraction and Distribution, Mining and Quarrying, Wholesale Trade, Retail Trade, Air Transport, Water Transport, Land

Set	Description of Elements
	Transport, Railway Transport, Other Transport, Housing Service, Health Service, Education Service, Public Administration and Defense, Bank Insurance and Real estate, Professional Service, Hotel and Restaurant, Entertainment, Communication, Other Services, Information Technology and ECom
Commodities (86)	
Agriculture (20)	Paddy Cultivation, Wheat Cultivation, Other Grain Cultivation, Jute Cultivation, Sugarcane Cultivation, Potato Cultivation, Vegetable Cultivation, Pulses Cultivation, Oilseed Cultivation, Fruit Cultivation, Cotton Cultivation, Tobacco Cultivation, Tea Cultivation, Spice Cultivation, Other Crop Cultivation, Livestock Rearing, Poultry Rearing, Shrimp Farming, Fishing, Forestry
Manufacturing (39)	Rice Milling, Grain Milling, Fish Process, Oil Industry, Sweetener Industry, Tea Product, Salt Refining, Food Process, Tanning and Finishing, Leather Industry, Baling, Jute Fabrication, Yarn Industry, Cloth Milling, Handloom Cloth, Dyeing and Bleaching, RMG, Knitting, Toiletries M, Cigarette Industry, Bidi Industry, Saw and Plane, Furniture Industry, Paper Industry, Printing and Publishing, Pharmaceuticals M, Fertiliser Industry, Basic Chemical, Petroleum R, Earth ware Industry, Chemical Industry, Glass Industry, Clay Industry, Cement M, Basic Metal M, Metal M, Machinery and Equipments, Transport Equipments, Miscellaneous Industry
Construction (6)	Urban Building, Rural Building, Power Plant Building, Rural Road Building, Port Road Railway Building, Canal Dyke Other Buildings
Services (21)	Electricity and Water Generation, Gas Extraction and Distribution, Mining and Quarrying, Wholesale Trade, Retail Trade, Air Transport, Water Transport, Land Transport, Railway Transport, Other Transport, Housing Service, Health Service, Education Service, Public Administration and Defense, Bank Insurance and Real estate, Professional Service, Hotel and Restaurant, Entertainment, Communication, Other Services, Information Technology and ECom
Factors of Production (4)	
Labour (2)	Labour Unskilled, and Labour Skilled
Capital (2)	Capital and Land
Current Institutions (11)	
Households (8)	Rural: landless, Agricultural marginal, Agricultural small, Agricultural large, Non-farm poor and Non-farm non poor Urban: Households with low educated heads, and households with high educated heads
Others (3)	Government, Corporation and Rest of the World
Capital Institutions (2)	
Public Capital	Public Capital
Private Capital	Private Capital

In that context the Bangladesh SAM 06/07 captures:

- The sources of income and expenditure destination of all accounts.
- Breakdown of sectoral GDP (value addition) by labour and capital factors.
- Income generation and distribution of the institutions in general and household groups in particular.
- Patterns of expenditure by institutions including Household groups.
- The inter-dependence between activities and institutions with respect to income generation and final demand creation.
- Inter-dependence among institutions regarding transfer receipts and transfer payments.
- Role of institutions in capital formation.
- Relationship of the domestic economy with the Rest of the World or external sector.

The complete Macro SAM for 2007 containing the national accounts and other data including transfers, taxes and foreign transactions is shown in Table 1010. The Bangladesh macro SAM is “anchored” primarily to the ‘Input-output table 2007’, ‘National Accounts’ data and other macro aggregates.

Table 10: Bangladesh Macro SAM 2007

(Million Indian Rupees)

SAM Accounts	SNA Accounts	Code	Activity	Commodity	Factors				Domestic Institutions			Capital	Rest of the	Total of			
			1	2	3			4			5	Word	Income A/C				
					Labour	Capital	Land	Indirect Tax	Household	Government	Corporation						
Activity A/C	Activities	1	0	775702	0	0	0	0	0	0	0	0	0	0	775702		
Production A/C	Commodities	2	396696	0	0	0	0	0	0	227021	41321	0	140800	91506	897345		
Distribution of Primary Income	Income Generation by Institutions	3	Compensation To Employees	197401	0	0	0	0	0	0	0	0	0	0	0	197401	
			Operating Surplus	161796	0	0	0	0	0	0	0	0	0	0	0	0	161796
			Land Return	19809	0	0	0	0	0	0	0	0	0	0	0	0	19809
			Indirect Tax	0	15073	0	0	0	0	0	0	0	0	0	0	0	15073
Use of Income	Primary Income of Institutions	4	Household	0	0	197401	129259	19809	0	0	20201	0	0	14560	381231		
			Government	0	0	0	7291	0	15073	9874	0	16840	0	0	49082		
			Corporation	0	0	0	25245	0	0	0	0	0	0	0	25245		
Consolidated Capital AC	Capital Account	5	0	0	0	0	0	0	144332	-12440	8405	0	502	140800			
Rest of World	Rest of the World-Imports (current)	6	0	106569	0	0	0	0	0	0	0	0	0	0	106569		
Total of Expenditure A/C			775702	897345	197401	161796	19809	15073	381231	49082	25245	140800	106569	2770055			

Note: Based on the SNA-SAM Relationship

3.3. Updating 2007 Pakistan SAM

The latest SAM available for Pakistan is 2001-02 which is dated for this exercise. Thus, for the purpose this exercise, a SAM for 2006/07 for Pakistan has been updated using the available price and quantity information. Updating of 2007 SAM is based on several data sets drawn from diverse sources. They are listed below.

1. The Social Accounting Matrix for Pakistan for 2001-02 by IFPRI
2. Pakistan Economic Survey (2007-08) - GDP or Value Added data for 2007 by Different Sectors and Aggregate.
3. Pakistan Economic Survey (2007-08) – Private Consumption, Government Consumption, Export, Gross Fixed Capital Formation and Stock Change for 2007.
4. Pakistan Economic Survey (2007-08) – Gross Fixed Capital Formation in Private, Public and General Government Sectors by Economic Activity.
5. Pakistan Economic Survey (2007-08) – Imports, Exports, Direct and Indirect Tax Data for 2007 by different sectors and aggregate.

SAM 2006/07 contains 117 accounts. The distributions of 117 accounts are: (i) activity-34; (ii) commodity-33; (iii) factors of production-27; (iv) current institutions-22; and (v) one capital institution. Data on various components of the demand side have been collected from Economic Survey of Pakistan. In particular, data public consumption, gross fixed capital formation, and private consumption by commodities adopted by the Federal Bureau of Statistics (FBS) have been obtained from Economic Survey of Pakistan. The vector of private consumption data is further distributed among the 19 representative household groups using the information contained in SAM 2001-02. Data on exports of goods and services are also collected from Pakistan Economic Survey. Supply side composed of value added and imports of goods and services. We used disaggregated FBS data to derive the value added vector for the 34 activities. Data on imports of goods and services are collected from Pakistan Economic Survey. Information on direct and indirect taxes and subsidies has been collected from Federal Board of Revenue and Pakistan Economic Survey.

The 2006/07 Pakistan SAM identifies the economic relations through *four types of accounts*: (i) production activity and commodity accounts for 34 and 33 sectors respectively; (ii) 27 factors of productions with 10 different types of labour, 12 different types of land, and 5 types of capital; (iii) current account transactions between 4 main institutional agents; household-members and unincorporated capital, corporation, government and the rest of the world; and (iv) one consolidated capture the flows of savings and investment. The disaggregation of activities, commodities, factors and institutions in the SAM is given in Table 11.

Table 11: Disaggregation and Description of Pakistan SAM Accounts

Set	Description of Elements
Activities (34)	
Agriculture (13)	Wheat I, Wheat N, Paddy I, Paddy B, Cotton, Cane, Other Crop, Horticulture, Cattle, Poultry, Forestry, Fish, Vegetable
Mining (1)	Mining
Manufacturing (13)	Wheat F, Rice I, Rice B, Sugar, Other Food, Yarn, Textile, Leather, Wood, Chemical, Cement, Petroleum, Manufacturing
Construction (1)	Construction
Services (6)	Energy, Trade, Transport, Housing, Private Service, Public Service

Set	Description of Elements
Commodities (33)	
Agriculture (12)	Paddy Cultivation, Grains, Jute Cultivation, Sugarcane Cultivation, Vegetables, Commercial Crops, Other Crop Cultivation, Livestock Rearing, Poultry Rearing, Shrimp Farming, Fishing, and Forestry
Mining (1)	
Manufacturing (13)	Wheat, Paddy I, Paddy B, Cotton, Cane, Other Crop, Horticulture, Cattle, Poultry, Forestry, Fish, Vegetable
Construction (1)	Construction
Services (6)	Utility, Trade, Transport, Social Services, Financial services, Public Administration and Defense, Professional Services, and Other Services
Factors of Production (4)	
Labour (10)	flab_Agri, flab_Manuf 1, flab_Manuf 2, flab_Manuf 3, flab_Self 1, flab_Self 2, flab_Self 3, flab_Agw, flab_SKU, flab_SKU
Land (15)	flan_LG1, flan_LG2, flan_LG3, flan_MD1, flan_MD2, flan_MD3, flan_SM1, flan_SM2, flan_SM3, flan_DR1, flan_DR2, flan_DR3
Capital (5)	Water, Capital Livestock, Capital Agriculture, Capital Formal, Capital Informal
Current Institutions (11)	
Households (8)	h_LF1, h_LF2, h_LF3, h_MF1, h_MF2, h_MF3, h_SF1, h_SF2, h_SF3, h_0F1, h_0F2, h_0F3, h_AGW1, h_AGW2, h_AGW3, h_NFNP, h_NFP, h_URNP, h_URPR
Others (3)	Government, Corporation and Rest of the World
Capital Institution (1)	
Capital	Consolidated Capital

In that context the Pakistan SAM 2007 captures:

- The sources of income and expenditure destination of all accounts.
- Breakdown of sectoral GDP (value addition) by labour and capital factors.
- Income generation and distribution of the institutions in general and household groups in particular.
- Patterns of expenditure by institutions including Household groups.
- The inter-dependence between activities and institutions with respect to income generation and final demand creation.
- Inter-dependence among institutions regarding transfer receipts and transfer payments.
- Role of institutions in capital formation.
- Relationship of the domestic economy with the Rest of the World or external sector.

Chapter 4: Backward Linkages of Textile Activities: India, Bangladesh and Pakistan

Each of the columns of the matrix of accounting multipliers, as indicated before show the effects of each corresponding exogenous injection on the incomes of endogenous accounts. Analogously to the I-O model the sum total of a column or a row can be calculated and they will be equivalent to the backward and forward income or expenditure linkages. In SAM models within account sums of columns or rows is calculated for each of the four endogenous accounts as well as the total column and row sums of all the endogenous accounts taken together. The former can be called “partial backward or forward linkages” or within account backward or forward linkages and the latter “total backward or forward linkages”. As shown in the earlier section, partial backward linkages can also be named after their corresponding account multipliers such as backward and forward linkages for activity, factors, households and basic needs³. Therefore in conclusion we can say that the basic idea of backward linkages is to trace the output increases which occur in supplying sectors or accounts when there is a change in the sector or account using their outputs as inputs, just as with forward linkages we trace the output increases which occur or might occur in using industries or accounts when there is a change in the sector or account supplying inputs.⁴

Within the SAM context given an exogenous injection into the system (e.g. government expenditure on education activity) the first effect will be to increase income of the corresponding account (i.e. activity), in turn the increase will trigger off effects on the incomes of all other endogenous accounts (i.e. factors, households and basic-needs), the sum of all these effects constitutes its total backward linkage.

The injection may be viewed as an exogenous increase in the demand e.g. exports; government expenditures and inventory. For analytical purpose of this study only textile activities were selected to assess the strength of multipliers and backward linkages. The selected textiles activities by each of these countries are listed below:

India	Bangladesh	Pakistan
Cotton textiles	Cloth Milling	Yarn
Woolen textiles	Handloom Cloth	Textile
Silk textiles	Dyeing and Bleaching	
Art silk, synthetic fiber textiles	Readymade garments	
Carpet weaving	Knitting	
Readymade garments		

³ The interpretation of partial (within account) backward and forward linkages within a SAM framework is also similar to that of I-O models. Although the sum of all the elements, in any column (row) of the accounting multipliers matrix, could be read as the backward (forward) linkages of the expenditure-injection multipliers, the interpretation in SAM is not so straight forward because the linkages are composites of the effects of several kinds of accounts.

⁴ Bulmer – Thomas, v. (1982) “Input – Output Analysis in Developing Countries”, John Wiley & Sons Ltd., New York.

Table 9: Impact Analysis of Injection into Textile Activities by Countries

Country/Textile Sectors	Multiplier				Total
	Production	Commodity	Factor/GDP	Household	
India					
Cotton textiles	3.8625	3.1188	1.7128	1.5780	10.2722
Woolen textiles	3.5522	2.8445	1.5411	1.3938	9.3315
Silk textiles	3.1764	2.5295	1.3852	1.2486	8.3397
Art silk, synthetic fiber textiles	3.4070	2.8080	1.2816	1.1554	8.6520
Carpet weaving	3.2832	2.5825	1.5336	1.4073	8.8065
Readymade garments	3.6715	2.9536	1.5804	1.4481	9.6537
Bangladesh					
Cloth Milling	3.6780	3.1568	1.7063	1.6114	10.1526
Handloom Cloth	3.8641	3.3367	1.7310	1.6372	10.5690
Dyeing and Bleaching	3.8708	3.3216	1.8044	1.6997	10.6964
Readymade garments	3.9683	3.4099	1.8269	1.7210	10.9261
Knitting	3.2238	2.7487	1.5663	1.4749	9.0137
Pakistan					
Yarn	3.1461	2.5191	1.2894	0.8927	7.8472
Textile	3.1832	2.5484	1.2175	0.8174	7.7665

The overall impact on all accounts added together (known as total BL) due to a unit injection into Cotton textiles, Woolen textiles, Silk textiles, Art silk, synthetic fiber textiles, Carpet weaving and Readymade garments activities in India according to the 2007 structure are 10.272, 9.332, 8.334, 8.652, 8.807 and 9.654 respectively. This implies that, a unit injection in Cotton textile yields 10.272 units of income in the economy and the same implication for the other textile activities in India. In the case of Bangladesh, highest total backward linkage is found for Ready-made garment (10.926) followed by Dyeing and Bleaching (10.696), Handloom Cloth (10.569), Cloth Milling (10.153) and Knitting (9.014) respectively. According to the classification of the Pakistan SAM 2007 only two activities represent the textile sector namely Yarn and textile. The total backward linkages of these two activities are respectively 7.847 and 7.767.

The sizes of total as well as partial backward linkages vary across countries and activities reflecting differences in structure of production (i.e. technology), relationship between value-added and intermediate consumption (i.e. generally the higher the share of value-added in an activity in comparison to intermediate cost, the lower is the value of the multiplier and hence backward linkage), presence of different types of indirect and direct taxes (i.e. indicating size of leakages from the system-the higher the tax rate the lower is the value of multipliers and backward linkages), and savings propensities (i.e. another of leak at the institutional level) of the representative household groups.

Decomposition of total backward linkages among its constituent suggest that highest backward linkages are found for activity or production, followed by commodity (i.e. reflecting the decline at this stage due to the presence of indirect taxes on commodities), factors and household groups (i.e. the drop in backward linkage from factor to household groups reflect the presence of personal income tax and savings propensity at the household level). The decomposition of the total BL into the four “within endogenous” accounts is discussed below.

Production Account: It is observed that gross output multipliers are the highest backward linkages among all the four multipliers. This is due to the fact that production activities have to meet the increase in commodity demand as well as intermediate demand. This dual

impulse for the production activity accounts translates into the highest values of the gross output multipliers.

The impact on all production accounts as measured by the Gross Output Multiplier for Indian textile activities are 3.862 units, 3.552 units, 3.176 units, 3.407 units, 3.283 units and 3.672 units respectively indicating reasonable variations in their production structures. The composition of Gross Output BL for each of the textile activities and by the 130 sectors is presented in Table 10. Almost all of these textile activities are relatively strongly integrated with sectors such as Trade (0.28-0.35), Land transport (0.16-0.30), Banking and Insurance (0.10-0.14), Electricity (0.8-0.14), Housing (0.10) and Paddy (0.06). Furthermore, except for the cotton textile activity, all other five textile activities show strong integration with fabric sector in the range of 0.8 to 0.9 units. Integration of Cotton textile activity with Cotton is high at around 0.2815.

Table 10: Production backward linkage-India

	47	48	49	50	52	53
Production backward linkage: India	Cotton textiles	Woolen textiles	Silk textiles	Art silk, synthetic fiber textiles	Carpet weaving	Readymade garments
Paddy	0.0683	0.0532	0.0453	0.0416	0.0502	0.0537
Wheat	0.0464	0.0364	0.0310	0.0285	0.0344	0.0367
Jowar	0.0028	0.0022	0.0019	0.0018	0.0021	0.0023
Bajra	0.0027	0.0022	0.0018	0.0017	0.0021	0.0022
Maize	0.0045	0.0036	0.0031	0.0028	0.0034	0.0036
Gram	0.0067	0.0054	0.0045	0.0042	0.0050	0.0054
Pulses	0.0154	0.0126	0.0109	0.0101	0.0122	0.0129
Sugarcane	0.0183	0.0153	0.0136	0.0127	0.0150	0.0158
Groundnut	0.0034	0.0028	0.0024	0.0022	0.0026	0.0028
Coconut	0.0025	0.0021	0.0018	0.0017	0.0020	0.0021
Other oilseeds	0.0082	0.0068	0.0058	0.0054	0.0064	0.0068
Jute	0.0009	0.0041	0.0004	0.0005	0.0059	0.0008
Cotton	0.2815	0.0100	0.0207	0.0096	0.0139	0.0603
Tea	0.0009	0.0008	0.0007	0.0006	0.0008	0.0008
Coffee	0.0010	0.0009	0.0008	0.0007	0.0009	0.0009
Rubber	0.0020	0.0017	0.0015	0.0022	0.0025	0.0021
Tobacco	0.0010	0.0008	0.0007	0.0007	0.0008	0.0008
Fruits	0.0260	0.0221	0.0195	0.0182	0.0220	0.0230
Vegetables	0.0321	0.0274	0.0241	0.0224	0.0273	0.0284
Other crops	0.0522	0.0509	0.0322	0.0306	0.0358	0.0394
Milk and milk products	0.0594	0.0511	0.0456	0.0422	0.0511	0.0530
Animal services(agricultural)	0.0234	0.0062	0.0057	0.0047	0.0062	0.0089
Poultry & Eggs	0.0078	0.0066	0.0058	0.0054	0.0065	0.0068
Other liv.st. produ. & Gobar Gas	0.0146	0.0889	0.0139	0.0105	0.0140	0.0128
Forestry and logging	0.0117	0.0095	0.0085	0.0100	0.0095	0.0108
Fishing	0.0146	0.0126	0.0112	0.0104	0.0126	0.0131
Coal and lignite	0.0140	0.0130	0.0105	0.0143	0.0094	0.0099
Natural gas	0.0040	0.0030	0.0024	0.0039	0.0026	0.0033
Crude petroleum	0.0234	0.0187	0.0162	0.0206	0.0160	0.0178
Iron ore	0.0004	0.0006	0.0002	0.0003	0.0004	0.0004
Manganese ore	0.0001	0.0001	0.0000	0.0000	0.0001	0.0001
Bauxite	0.0002	0.0002	0.0001	0.0002	0.0002	0.0002
Copper ore	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other metallic minerals	0.0002	0.0003	0.0002	0.0002	0.0002	0.0002
Lime stone	0.0002	0.0002	0.0003	0.0003	0.0002	0.0002
Mica	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other non metallic minerals	0.0009	0.0007	0.0008	0.0008	0.0007	0.0009
Sugar	0.0098	0.0082	0.0073	0.0070	0.0080	0.0085
Khandsari, boora	0.0043	0.0036	0.0033	0.0031	0.0036	0.0038
Hydrogenated oil(vanaspati)	0.0027	0.0022	0.0020	0.0018	0.0022	0.0023
Edible oils other than vanaspati	0.0167	0.0140	0.0116	0.0107	0.0128	0.0136
Tea and coffee processing	0.0030	0.0026	0.0023	0.0021	0.0026	0.0027
Miscellaneous food products	0.0623	0.0524	0.0469	0.0440	0.0522	0.0547
Beverages	0.0191	0.0162	0.0153	0.0142	0.0162	0.0168
Tobacco products	0.0093	0.0079	0.0070	0.0065	0.0079	0.0082
Khadi, cotton textiles	0.0019	0.0083	0.0225	0.0069	0.0139	0.0628

	47	48	49	50	52	53
Production backward linkage: India	Cotton textiles	Woolen textiles	Silk textiles	Art silk, synthetic fiber textiles	Carpet weaving	Readymade garments
(handlooms)						
Cotton textiles	1.1298	0.0381	0.0656	0.0302	0.0528	0.2296
Woolen textiles	0.0019	1.1168	0.0015	0.0025	0.0349	0.0027
Silk textiles	0.0007	0.0019	1.0286	0.0016	0.0016	0.0052
Art silk, synthetic fiber textiles	0.0409	0.0798	0.0798	1.1858	0.0907	0.0833
Jute, hemp, mesta textiles	0.0023	0.0188	0.0017	0.0023	0.0261	0.0029
Carpet weaving	0.0003	0.0067	0.0002	0.0002	1.0004	0.0003
Readymade garments	0.0072	0.0738	0.0050	0.0066	0.0430	1.0330
Miscellaneous textile products	0.0142	0.0183	0.0120	0.0223	0.0474	0.0429
Furniture and fixtures-wooden	0.0011	0.0009	0.0009	0.0009	0.0010	0.0011
Wood and wood products	0.0057	0.0057	0.0059	0.0092	0.0074	0.0100
Paper, paper prods. & newsprint	0.0120	0.0115	0.0135	0.0315	0.0138	0.0162
Printing and publishing	0.0080	0.0068	0.0067	0.0065	0.0065	0.0073
Leather footwear	0.0032	0.0027	0.0025	0.0025	0.0027	0.0028
Leather and leather products	0.0022	0.0022	0.0017	0.0018	0.0038	0.0050
Rubber products	0.0127	0.0097	0.0075	0.0084	0.0140	0.0104
Plastic products	0.0157	0.0179	0.0214	0.0510	0.0201	0.0235
Petroleum products	0.1490	0.1191	0.1027	0.1309	0.1017	0.1129
Coal tar products	0.0012	0.0010	0.0011	0.0011	0.0009	0.0012
Inorganic heavy chemicals	0.0150	0.0103	0.0192	0.0397	0.0126	0.0122
Organic heavy chemicals	0.0082	0.0076	0.0922	0.0505	0.0094	0.0110
Fertilizers	0.0323	0.0157	0.0131	0.0117	0.0144	0.0174
Pesticides	0.0089	0.0029	0.0041	0.0036	0.0029	0.0039
Paints, varnishes and lacquers	0.0086	0.0065	0.0058	0.0145	0.0059	0.0059
Drugs and medicines	0.0091	0.0080	0.0072	0.0066	0.0080	0.0081
Soaps, cosmetics & glycerin	0.0169	0.0143	0.0125	0.0119	0.0140	0.0169
Synthetic fibers, resin	0.0154	0.0197	0.0233	0.1704	0.0270	0.0362
Other chemicals	0.0165	0.0148	0.0159	0.0397	0.0158	0.0327
Structural clay products	0.0020	0.0015	0.0014	0.0014	0.0014	0.0021
Cement	0.0024	0.0019	0.0017	0.0017	0.0018	0.0025
Other non-metallic mineral prods.	0.0033	0.0027	0.0025	0.0028	0.0026	0.0034
Iron, steel and ferro alloys	0.0137	0.0219	0.0091	0.0103	0.0168	0.0162
Iron and steel casting & forging	0.0034	0.0071	0.0022	0.0027	0.0052	0.0044
Iron and steel foundries	0.0038	0.0036	0.0027	0.0028	0.0033	0.0041
Non-ferrous basic metals	0.0059	0.0088	0.0045	0.0051	0.0071	0.0068
Hand tools, hardware	0.0030	0.0028	0.0019	0.0020	0.0023	0.0024
Miscellaneous metal products	0.0093	0.0109	0.0070	0.0073	0.0106	0.0111
Tractors and agri. implements	0.0009	0.0006	0.0005	0.0004	0.0006	0.0006
Industrial machinery(F & T)	0.0108	0.0591	0.0035	0.0080	0.0243	0.0227
Industrial machinery(others)	0.0016	0.0016	0.0017	0.0026	0.0017	0.0016
Machine tools	0.0019	0.0038	0.0012	0.0017	0.0250	0.0060
Other non-electrical machinery	0.0107	0.0093	0.0065	0.0069	0.0085	0.0084
Electrical industrial Machinery	0.0046	0.0051	0.0029	0.0035	0.0036	0.0036
Electrical wires & cables	0.0029	0.0024	0.0020	0.0020	0.0022	0.0027
Batteries	0.0037	0.0029	0.0024	0.0023	0.0027	0.0029
Electrical appliances	0.0058	0.0050	0.0045	0.0041	0.0050	0.0052
Communication equipments	0.0050	0.0048	0.0043	0.0037	0.0048	0.0052
Other electrical Machinery	0.0038	0.0038	0.0028	0.0032	0.0038	0.0033
Electronic equipments(incl.TV)	0.0090	0.0085	0.0079	0.0070	0.0088	0.0084
Ships and boats	0.0002	0.0002	0.0002	0.0001	0.0002	0.0002
Rail equipments	0.0016	0.0015	0.0012	0.0013	0.0013	0.0013
Motor vehicles	0.0100	0.0076	0.0064	0.0062	0.0069	0.0076
Motor cycles and scooters	0.0052	0.0046	0.0043	0.0038	0.0047	0.0048
Bicycles, cycle-rickshaw	0.0006	0.0006	0.0006	0.0005	0.0005	0.0006
Other transport equipments	0.0002	0.0001	0.0002	0.0001	0.0001	0.0001
Watches and clocks	0.0006	0.0005	0.0004	0.0004	0.0005	0.0005
Medical, precision & optical instrument	0.0003	0.0002	0.0004	0.0003	0.0006	0.0003
Jems & jewelry	0.0010	0.0008	0.0017	0.0007	0.0011	0.0009
Aircraft & spacecraft	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Miscellaneous manufacturing	0.0072	0.0054	0.0065	0.0057	0.0195	0.0081
Construction	0.0622	0.0489	0.0451	0.0440	0.0455	0.0664
Electricity	0.1434	0.1016	0.0884	0.1122	0.0682	0.0823
Water supply	0.0019	0.0012	0.0012	0.0012	0.0011	0.0013
Railway transport services	0.0218	0.0199	0.0164	0.0181	0.0174	0.0177
Land tpt including via pipeline	0.2996	0.2148	0.1620	0.1679	0.1846	0.2084
Water transport	0.0061	0.0052	0.0045	0.0048	0.0047	0.0050
Air transport	0.0032	0.0029	0.0023	0.0021	0.0026	0.0037

	47	48	49	50	52	53
Production backward linkage: India	Cotton textiles	Woolen textiles	Silk textiles	Art silk, synthetic fiber textiles	Carpet weaving	Readymade garments
Supporting and aux. tpt activities	0.0262	0.0181	0.0122	0.0145	0.0141	0.0165
Storage and warehousing	0.0019	0.0021	0.0017	0.0020	0.0018	0.0022
Communication	0.0350	0.0346	0.0305	0.0247	0.0311	0.0389
Trade	0.3020	0.3246	0.2710	0.3253	0.2825	0.3507
Hotels and restaurants	0.0558	0.0479	0.0442	0.0404	0.0480	0.0501
Banking	0.0939	0.1053	0.1344	0.0915	0.1088	0.0992
Insurance	0.0288	0.0190	0.0500	0.0243	0.0242	0.0280
Ownership of dwellings	0.0657	0.0618	0.0566	0.0524	0.0643	0.0651
Education and research	0.0358	0.0330	0.0301	0.0277	0.0332	0.0340
Medical and health	0.0392	0.0336	0.0299	0.0275	0.0334	0.0347
Business services	0.0145	0.0144	0.0141	0.0277	0.0125	0.0123
Computer & related activities	0.0047	0.0152	0.0275	0.0079	0.0055	0.0121
Legal services	0.0023	0.0034	0.0077	0.0020	0.0035	0.0040
Real estate activities	0.0014	0.0012	0.0011	0.0011	0.0013	0.0013
Renting of machinery & equipment	0.0007	0.0019	0.0026	0.0007	0.0010	0.0006
O.com, social & personal services	0.0570	0.0199	0.0181	0.0171	0.0216	0.0354
Other services	0.0056	0.0120	0.0163	0.0067	0.0216	0.0069
Public administration	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Activity Backward	3.8625	3.5522	3.1764	3.4070	3.2832	3.6715

In the case of Bangladesh, the impact on all production accounts as measured by the Gross Output Multiplier for five textile activities (Cloth Milling, Handloom Cloth, Dyeing and Bleaching, Readymade garments and Knitting) are 3.678 units, 3.864 units, 3.871 units, 3.968 units, and 3.224 units respectively reflecting some variations in their production structures. Among these activities, highest production backward linkage is found the RMG (3.968) while lowest is observed for knitting (3.224) envisaging relatively greater dependence of RMG on raw materials compared to the Knitting in its production process. In other words, share of value added in total production is higher for Knitting compared to RMG.

The composition of Gross Output BL for each of the textile activities and by the 86 sectors is presented in Table 11. All of these textile activities are relatively strongly integrated with sectors such as Whole sale trade (0.13-0.19) and Retail trade (0.22-0.34), Land transport (0.18-0.25), Banking and Insurance (0.04), Housing (0.14-0.17) and Rice milling (0.22-0.24). Furthermore, Cloth milling activity shows strong integration with activities such as Cloth Milling (0.22), Dyeing and Bleaching (0.286), and Readymade garments (0.23).

Table 11: Production backward linkage-Bangladesh

	34	35	36	37	38
Production backward linkage: Bangladesh	Cloth Milling	Handloom Cloth	Dyeing and Bleaching	Ready Made Garment	Knitting
Paddy Cultivation	0.1925	0.1961	0.2039	0.2060	0.1767
Wheat Cultivation	0.0054	0.0056	0.0058	0.0058	0.0050
Other Grain Cultivation	0.0072	0.0073	0.0075	0.0077	0.0065
Jute Cultivation	0.0005	0.0046	0.0005	0.0006	0.0005
Sugarcane Cultivation	0.0061	0.0062	0.0064	0.0065	0.0056
Potato Cultivation	0.0203	0.0206	0.0215	0.0217	0.0186
Vegetable Cultivation	0.0230	0.0234	0.0243	0.0246	0.0211
Pulses Cultivation	0.0203	0.0207	0.0215	0.0217	0.0186
Oilseed Cultivation	0.0063	0.0064	0.0066	0.0067	0.0057
Fruit Cultivation	0.0170	0.0173	0.0180	0.0182	0.0156
Cotton Cultivation	0.0020	0.0005	0.0005	0.0005	0.0045
Tobacco Cultivation	0.0006	0.0006	0.0006	0.0006	0.0005
Tea Cultivation	0.0019	0.0020	0.0020	0.0021	0.0018
Spice Cultivation	0.0062	0.0063	0.0065	0.0066	0.0056
Other Crop Cultivation	0.0093	0.0094	0.0098	0.0099	0.0085
Livestock Rearing	0.0593	0.0603	0.0627	0.0635	0.0544

	34	35	36	37	38
Production backward linkage: Bangladesh	Cloth Milling	Handloom Cloth	Dyeing and Bleaching	Ready Made Garment	Knitting
Poultry Rearing	0.0428	0.0435	0.0447	0.0461	0.0390
Shrimp Farming	0.0171	0.0174	0.0180	0.0184	0.0157
Fishing	0.1121	0.1140	0.1186	0.1200	0.1029
Forestry	0.0350	0.0346	0.0358	0.0360	0.0306
Rice Milling	0.2396	0.2441	0.2539	0.2565	0.2200
Grain Milling	0.0352	0.0360	0.0372	0.0376	0.0323
Fish Process	0.0029	0.0029	0.0031	0.0031	0.0026
Oil Industry	0.0220	0.0224	0.0233	0.0236	0.0202
Sweetener Industry	0.0088	0.0089	0.0093	0.0094	0.0080
Tea Product	0.0021	0.0021	0.0022	0.0022	0.0019
Salt Refining	0.0017	0.0017	0.0018	0.0018	0.0016
Food Process	0.0754	0.0766	0.0797	0.0807	0.0692
Tanning and Finishing	0.0034	0.0035	0.0036	0.0037	0.0031
Leather Industry	0.0063	0.0064	0.0066	0.0067	0.0057
Baling	0.0000	0.0000	0.0000	0.0001	0.0000
Jute Fabrication	0.0000	0.0000	0.0000	0.0000	0.0000
Yarn Industry	0.0064	0.0175	0.0023	0.0029	0.0150
Cloth Milling	1.2235	0.0689	0.2806	0.2266	0.0162
Handloom Cloth	0.0453	1.0462	0.0478	0.0483	0.0414
Dyeing and Bleaching	0.0083	0.1913	1.1917	0.0090	0.0076
RMG	0.0113	0.0115	0.0120	1.0436	0.0104
Knitting	0.0122	0.0124	0.0129	0.0130	1.0171
Toiletries M	0.0010	0.0014	0.0011	0.0012	0.0010
Cigarette Industry	0.0245	0.0249	0.0259	0.0262	0.0224
Bidi Industry	0.0061	0.0062	0.0064	0.0065	0.0056
Saw and Plane	0.0027	0.0028	0.0028	0.0029	0.0025
Furniture Industry	0.0083	0.0086	0.0088	0.0089	0.0076
Paper Industry	0.0029	0.0030	0.0027	0.0031	0.0025
Printing and Publishing	0.0004	0.0005	0.0004	0.0005	0.0004
Pharmaceuticals M	0.0210	0.0214	0.0221	0.0225	0.0192
Fertilizer Industry	0.0017	0.0017	0.0018	0.0018	0.0015
Basic Chemical	0.0004	0.0010	0.0010	0.0005	0.0004
Petroleum R	0.0145	0.0151	0.0143	0.0170	0.0149
Earth ware Industry	0.0039	0.0040	0.0042	0.0042	0.0036
Chemical Industry	0.0050	0.0051	0.0053	0.0054	0.0046
Glass Industry	0.0022	0.0022	0.0023	0.0024	0.0020
Clay Industry	0.0001	0.0002	0.0001	0.0001	0.0001
Cement M	0.0005	0.0006	0.0005	0.0006	0.0005
Basic Metal M	0.0051	0.0052	0.0056	0.0065	0.0044
Metal M	0.0181	0.0174	0.0207	0.0243	0.0151
Machinery and Equipments	0.0069	0.0072	0.0070	0.0084	0.0059
Transport Equipments	0.0066	0.0067	0.0065	0.0072	0.0059
Miscellaneous Industry	0.0156	0.0159	0.0163	0.0171	0.0142
Urban Building	0.0020	0.0026	0.0021	0.0024	0.0020
Rural Building	0.0017	0.0023	0.0018	0.0020	0.0017
Power Plant Building	0.0000	0.0000	0.0000	0.0000	0.0000
Rural Road Building	0.0000	0.0000	0.0000	0.0000	0.0000
Port Road Railway Building	0.0007	0.0007	0.0006	0.0008	0.0006
Canal Dyke Other Buildings	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity and Water Generation	0.0207	0.0209	0.0227	0.0240	0.0183
Gas Extraction and Distribution	0.0041	0.0044	0.0050	0.0045	0.0038
Mining and Quarrying	0.0061	0.0072	0.0128	0.0067	0.0054
Wholesale Trade	0.1641	0.1663	0.1305	0.1875	0.1346
Retail Trade	0.2934	0.2977	0.2331	0.3352	0.2406
Air Transport	0.0008	0.0009	0.0009	0.0010	0.0008
Water Transport	0.0291	0.0294	0.0233	0.0332	0.0239
Land Transport	0.2195	0.2226	0.1830	0.2483	0.1831
Railway Transport	0.0036	0.0037	0.0030	0.0041	0.0030
Other Transport	0.0079	0.0084	0.0082	0.0091	0.0099
Housing Service	0.1568	0.1659	0.1627	0.1695	0.1439
Health Service	0.0502	0.0513	0.0517	0.0546	0.0463

	34	35	36	37	38
Production backward linkage: Bangladesh	Cloth Milling	Handloom Cloth	Dyeing and Bleaching	Ready Made Garment	Knitting
Education Service	0.0286	0.0291	0.0302	0.0305	0.0262
Public Administration and Defense	0.0061	0.0060	0.0059	0.0081	0.0051
Bank Insurance and Real estate	0.0357	0.0371	0.0371	0.0450	0.0278
Professional Service	0.0044	0.0045	0.0044	0.0059	0.0039
Hotel and Restaurant	0.0322	0.0328	0.0332	0.0349	0.0290
Entertainment	0.0049	0.0050	0.0052	0.0052	0.0045
Communication	0.0267	0.0275	0.0272	0.0323	0.0273
Other Services	0.1410	0.2365	0.1466	0.1636	0.1376
Information Technology and ECom	0.0008	0.0009	0.0009	0.0010	0.0008
Activity Backward Linkages	3.6780	3.8641	3.8708	3.9683	3.2238

The impact on all production accounts as measured by the Gross Output Multiplier for two textile related activities in Pakistan (Yarn and Textile) are 3.146 units and 3.183 units respectively. Production backward linkages for textile activities in Pakistan are lower than the backward linkages found for textile activities in India and Bangladesh perhaps reflecting larger share of value-added in Pakistan textile activities in comparison to the textile activities in India and Bangladesh.

The composition of Gross Output BL for two textile activities and by the 34 sectors is presented in Table 12. The two textile activities in Pakistan show relatively strong integration with sectors such as Yarn (0.26-0.30), Trade (0.25-0.30), Transportation (0.18-0.20), Manufacturing (0.13-0.16), Other Services (0.15), and Energy (0.07). In addition to the above mentioned linked sectors, Yarn also reveals strong association with the Cotton (i.e. 0.35).

Table 12: Production backward linkage-Pakistan

	20	21
Production backward linkage: India	a_Yarn	a_Textile
Wheat I	0.02652	0.02371
Wheat N	0.00112	0.00100
Paddy I	0.00191	0.00173
Paddy B	0.00419	0.00366
Cotton	0.34802	0.08387
Cane	0.01201	0.01054
Other Crop	0.05927	0.04355
Horticulture	0.04991	0.04001
Cattle	0.15020	0.13376
Poultry	0.00986	0.00938
Forestry	0.00239	0.00278
Fish	0.00465	0.00433
Mining	0.01784	0.01784
Vegetable	0.02485	0.02210
Wheat F	0.04660	0.04138
Rice I	0.00287	0.00263
Rice B	0.00900	0.00781
Sugar	0.03397	0.02948
Other Food	0.01629	0.01826
Yarn	1.26229	0.30085
Textile	0.06622	1.32542
Leather	0.00345	0.00799
Wood	0.03023	0.02857
Chemical	0.04979	0.02204
Cement	0.00928	0.00928
Petroleum	0.03255	0.03190
Manufacturing	0.13105	0.16135
Energy	0.07028	0.07303

	20	21
Production backward linkage: India	a_Yarn	a_Textile
Construction	0.01082	0.01259
Trade	0.24699	0.30398
Transport	0.19796	0.18806
Housing	0.03702	0.04332
Private Service	0.15187	0.15415
Public Service	0.02481	0.02279
Activity Linkage	3.14606	3.18316

Factor Account: The generations of factor income, as measured by the GDP multiplier, for each of textile activities of these economies are reported in this section. The positive impact on factor income is due to the fact that in order to increase production more of all factors need to be engaged and hence further payments must be made for them. As expected since GDP multipliers consider factor component of production only (i.e. excludes the intermediate component of the production), the sizes of GDP multipliers (e.g. sizes of GDP multipliers ranged between 1.2 and 1.8) are substantially lower than the production multipliers (e.g. on average the production multipliers are greater than 3 in all these three economies) due to the non-inclusion of the intermediate component in production. More specifically, the range of GDP multipliers in India varies between 1.282 (Fiber Textile) and 1.712 (Cotton Textile). In the case of Bangladesh they ranged between 1.566 (Knitting) and 1.827 (RMG). Lowest GDP multiplier of 1.22 is reported for the two textile activities of Pakistan.

In India and Bangladesh textile activities, decomposition of total factor income between labor and capital factors reveals a pattern favouring labour factors compared to capital and land⁵. In the textiles activities of three economies, more factor income is accrued to labour factors than capital factor. This arises out of higher cumulative effect on labour income as compared to capital income. This means in the textile sectors of these two economies relatively more payments are made to the labour factors compared to capital factors.

Table 13: Factor backward linkage-India

	47	48	49	50	52	53
Factor backward linkage: India	Cotton textiles	Woolen textiles	Silk textiles	Art silk, synthetic fiber textiles	Carpet weaving	Readymade garments
Labour Agriculture Unskilled	0.2098	0.1287	0.0933	0.0842	0.1031	0.1210
Labour Agriculture Skilled	0.0651	0.0406	0.0301	0.0273	0.0333	0.0387
Labour Non-Agriculture Unskilled	0.2543	0.2355	0.2034	0.2001	0.2846	0.2819
Labour Non-Agriculture Skilled	0.3511	0.3326	0.3185	0.2886	0.4176	0.3983
Labour	0.8803	0.7374	0.6453	0.6002	0.8386	0.8399
Capital	0.6701	0.7325	0.6792	0.6274	0.6280	0.6577
LAND	0.1624	0.0712	0.0607	0.0540	0.0670	0.0828
Factor Backward	1.7128	1.5411	1.3852	1.2816	1.5336	1.5804
Memorandum Item						
Labour Factor (All Activities)	0.7525					
Capital Factor (All Activities)	0.7405					

⁵ Decomposition of factor income suggests that if the objectives were to promote growth along with more income for labor, then intervention in textile sectors should be preferred in India and Pakistan over other sectors.

Table 14: Factor backward linkage-Bangladesh

	34	35	36	37	38
Factor backward linkage: Bangladesh	Cloth Milling	Handloom Cloth	Dyeing and Bleaching	Ready Made Garment	Knitting
VA Labour Unskilled	0.4531	0.4881	0.4765	0.4690	0.4023
VA Labour Skilled	0.4711	0.4665	0.4699	0.4894	0.4142
Labour	0.9242	0.9545	0.9465	0.9584	0.8165
VA Capital	0.6870	0.6790	0.7579	0.7673	0.6616
VA Land	0.0951	0.0974	0.1000	0.1012	0.0882
Factor Backward	1.7063	1.7310	1.8044	1.8269	1.5663
Memorandum Item					
Labour Factor (All Activities)	0.8081				
Capital Factor (All Activities)	0.8603				

However, the scenario is different in Pakistan where, decomposition of total factor income between labor and capital factors reveals a pattern favouring capital and land factors compared to labour. This arises out of higher cumulative effect on capital income as compared to labour income. This implies that in the Pakistan textile sectors relatively more payments are made to the capital factors compared to labour factors.

Table 15: Factor backward linkage-Pakistan

	20	21
Factor backward linkage: Pakistan	Yarn	Textile
flab_Agri	0.01011	0.00378
flab_Manuf 1	0.00568	0.00244
flab_Manuf 2	0.02057	0.00707
flab_Manuf 3	0.00158	0.00125
flab_Self 1	0.00968	0.00360
flab_Self 2	0.02802	0.01072
flab_Self 3	0.00325	0.00247
flab_Agw	0.02764	0.01563
flab_SKU	0.19615	0.23100
flab_SKU	0.14516	0.17005
Labour	0.44784	0.44801
flan_LG1	0.00493	0.00180
flan_LG2	0.01387	0.00544
flan_LG3	0.00057	0.00050
flan_MD1	0.01096	0.00495
flan_MD2	0.04018	0.01501
flan_MD3	0.00261	0.00199
flan_SM1	0.01910	0.00773
flan_SM2	0.05689	0.02414
flan_SM3	0.00686	0.00523
flan_DR1	0.00005	0.00006
flan_DR2	0.00047	0.00051
flan_DR3	0.00093	0.00105
Land	0.15742	0.06841
f_Water	0.03079	0.01272
f_CapLivestock	0.05953	0.05323
f_CapAgri	0.02864	0.01261
f_CapFormal	0.37204	0.39002
f_CapInformal	0.19312	0.23255
Factor Linkage	1.28938	1.21755
Memorandum Item		
Labour Factor (All Activities)	0.5333	
Land Factor (All Activities)	0.2490	
Capital Factor (All Activities)	0.7005	

Households: The next impact is on household income through the interdependence of the system. The factorial income is then transferred to household. The estimates of Household income multiplier when compared with Value added (or factor) multipliers suggest that the full amount of factorial income is not being transferred to household. The discrepancy between these two income multipliers is because of “leakages” in the form of direct taxes and savings propensities. The range of Household income multipliers in the case of India vary between 1.249 (Fiber Textile) and 1.578 (Cotton Textile). Corresponding GDP multipliers were 1.282 (Fiber Textile) and 1.712 (Cotton Textile) envisaging leakages in the for direct tax and savings propensities. In Bangladesh, the range of Household income multipliers ranged between 1.611 (Knitting) and 1.721 (Cotton Textile). Relatively lower household income multipliers are found for Pakistan. In Pakistan, the household income multipliers ranged between 0.8174 (Textile) and 0.8927 (Yarn). The distribution of household income multipliers between the representative household groups in these three economies is also reported in table below revealing mixed patterns.

Table 16: Household income multiplier-India

	47	48	49	50	52	53
Household backward linkage: India	Cotton textiles	Woolen textiles	Silk textiles	Art silk, synthetic fiber textiles	Carpet weaving	Readymade garments
Rural non-agricultural self employed	0.1332	0.1360	0.1260	0.1167	0.1391	0.1397
Rural agricultural labour	0.2192	0.1353	0.0988	0.0892	0.1091	0.1276
Rural other labour	0.0430	0.0393	0.0348	0.0331	0.0457	0.0453
Rural agricultural self employed	0.4643	0.3649	0.3250	0.2994	0.3442	0.3698
Rural other households	0.1307	0.1380	0.1273	0.1180	0.1272	0.1311
Urban self employed	0.1919	0.1976	0.1821	0.1694	0.1965	0.1991
Urban salaried class	0.3005	0.2869	0.2683	0.2476	0.3466	0.3355
Urban casual labour	0.0482	0.0460	0.0405	0.0392	0.0527	0.0525
Urban other households	0.0471	0.0499	0.0459	0.0427	0.0462	0.0476
Household backward	1.5780	1.3938	1.2486	1.1554	1.4073	1.4481

Table 17: Household income multiplier-Bangladesh

	34	35	36	37	38
Household backward linkage: Bangladesh	Cloth Milling	Handloom Cloth	Dyeing and Bleaching	Ready Made Garment	Knitting
Landless	0.1054	0.1081	0.1110	0.1119	0.0958
Marginal	0.0965	0.0988	0.1021	0.1029	0.0883
Small	0.1818	0.1866	0.1916	0.1931	0.1657
Large	0.1140	0.1176	0.1196	0.1204	0.1036
Rural Non Farm Poor	0.1397	0.1436	0.1465	0.1477	0.1265
RNFNP	0.3945	0.3969	0.4258	0.4304	0.3702
Low Education	0.1700	0.1791	0.1778	0.1772	0.1518
High Education	0.4097	0.4065	0.4254	0.4373	0.3732
Household Backward	1.6114	1.6372	1.6997	1.7210	1.4749

Table 18: Household income multiplier-Pakistan

	20	21
Household backward linkage: Pakistan	Yarn	Textile
h_LF1	0.01341	0.00582
h_LF2	0.03938	0.01972
h_LF3	0.00381	0.00260
h_MF1	0.02528	0.01292
h_MF2	0.07808	0.04510
h_MF3	0.01086	0.00872
h_SF1	0.02459	0.01494
h_SF2	0.13929	0.08930

	20	21
Household backward linkage: Pakistan	Yarn	Textile
h_SF3	0.03368	0.03156
h_OF1	0.01985	0.01131
h_OF2	0.01954	0.01318
h_OF3	0.00410	0.00360
h_AGW1	0.00647	0.00531
h_AGW2	0.02130	0.01842
h_AGW3	0.00243	0.00205
h_Non Farm Non P	0.10616	0.12631
h_Non Farm Poor	0.03473	0.04106
h_Urban Non Poor	0.25841	0.30472
h_Urban Poor	0.05136	0.06071
Household Linkage	0.89271	0.81735

Commodity/Expenditure: Commodity multipliers resemble the production multipliers since the origin the commodities are pre-dominantly domestic production. However, the sizes of commodity multipliers are lower than the production multipliers due to presence of ‘leakages’ in the form of indirect taxes, import duties and imported supply. The sizes and patterns of commodity multipliers in each of these three countries are reported in the tables below.

Table 19: Commodity backward linkages-India

	47	48	49	50	52	53
Commodity backward linkage: India	Cotton textiles	Woolen textiles	Silk textiles	Art silk, synthetic fiber textiles	Carpet weaving	Readymade garments
Paddy	0.0635	0.0494	0.0421	0.0387	0.0467	0.0499
Wheat	0.0411	0.0323	0.0275	0.0253	0.0305	0.0325
Jowar	0.0027	0.0021	0.0018	0.0017	0.0021	0.0022
Bajra	0.0027	0.0021	0.0018	0.0016	0.0020	0.0021
Maize	0.0044	0.0035	0.0030	0.0028	0.0033	0.0035
Gram	0.0066	0.0053	0.0044	0.0041	0.0050	0.0053
Pulses	0.0154	0.0125	0.0109	0.0101	0.0122	0.0129
Sugarcane	0.0172	0.0144	0.0128	0.0120	0.0142	0.0149
Groundnut	0.0032	0.0027	0.0022	0.0021	0.0025	0.0026
Coconut	0.0025	0.0021	0.0018	0.0017	0.0020	0.0021
Other oilseeds	0.0087	0.0073	0.0062	0.0057	0.0069	0.0072
Jute	0.0009	0.0043	0.0004	0.0006	0.0063	0.0008
Cotton	0.2597	0.0092	0.0191	0.0089	0.0128	0.0556
Tea	0.0009	0.0007	0.0007	0.0006	0.0007	0.0008
Coffee	0.0010	0.0009	0.0008	0.0007	0.0009	0.0009
Rubber	0.0021	0.0018	0.0016	0.0023	0.0026	0.0022
Tobacco	0.0009	0.0008	0.0007	0.0006	0.0008	0.0008
Fruits	0.0275	0.0234	0.0207	0.0193	0.0233	0.0243
Vegetables	0.0334	0.0285	0.0251	0.0234	0.0285	0.0296
Other crops	0.0484	0.0472	0.0299	0.0284	0.0332	0.0365
Milk and milk products	0.0594	0.0511	0.0456	0.0422	0.0511	0.0530
Animal services(agricultural)	0.0236	0.0063	0.0057	0.0047	0.0063	0.0090
Poultry & Eggs	0.0079	0.0066	0.0058	0.0054	0.0065	0.0068
Other liv.st. produ. & Gobar Gas	0.0147	0.0897	0.0140	0.0106	0.0142	0.0129
Forestry and logging	0.0142	0.0115	0.0103	0.0121	0.0116	0.0131
Fishing	0.0139	0.0120	0.0107	0.0099	0.0120	0.0125
Coal and lignite	0.0175	0.0163	0.0131	0.0179	0.0118	0.0123
Natural gas	0.0070	0.0052	0.0042	0.0068	0.0046	0.0058
Crude petroleum	0.1045	0.0835	0.0720	0.0919	0.0713	0.0792
Iron ore	0.0004	0.0006	0.0003	0.0003	0.0005	0.0005
Manganese ore	0.0001	0.0001	0.0000	0.0001	0.0001	0.0001
Bauxite	0.0003	0.0003	0.0002	0.0002	0.0003	0.0003
Copper ore	0.0002	0.0003	0.0002	0.0002	0.0003	0.0003
Other metallic minerals	0.0002	0.0003	0.0002	0.0003	0.0003	0.0003
Lime stone	0.0003	0.0002	0.0005	0.0004	0.0002	0.0003
Mica	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other non metallic minerals	0.0051	0.0038	0.0045	0.0043	0.0036	0.0049

	47	48	49	50	52	53
Commodity backward linkage: India	Cotton textiles	Woolen textiles	Silk textiles	Art silk, synthetic fiber textiles	Carpet weaving	Readymade garments
Sugar	0.0122	0.0101	0.0091	0.0087	0.0100	0.0106
Khandsari, boora	0.0045	0.0038	0.0034	0.0032	0.0038	0.0039
Hydrogenated oil(vanaspati)	0.0028	0.0023	0.0020	0.0019	0.0023	0.0024
Edible oils other than vanaspati	0.0215	0.0180	0.0150	0.0138	0.0165	0.0175
Tea and coffee processing	0.0031	0.0027	0.0024	0.0022	0.0027	0.0028
Miscellaneous food products	0.0660	0.0554	0.0496	0.0465	0.0552	0.0579
Beverages	0.0198	0.0168	0.0159	0.0147	0.0168	0.0175
Tobacco products	0.0100	0.0085	0.0075	0.0069	0.0085	0.0088
Khadi, cotton textiles (handlooms)	0.0020	0.0089	0.0240	0.0074	0.0149	0.0673
Cotton textiles	0.1344	0.0395	0.0680	0.0313	0.0547	0.2378
Woolen textiles	0.0024	0.1484	0.0019	0.0032	0.0444	0.0034
Silk textiles	0.0010	0.0027	0.0400	0.0023	0.0023	0.0073
Art silk, synthetic fiber textiles	0.0457	0.0891	0.0891	0.2075	0.1013	0.0930
Jute, hemp, mesta textiles	0.0025	0.0199	0.0018	0.0024	0.0276	0.0030
Carpet weaving	0.0003	0.0070	0.0003	0.0002	0.0005	0.0003
Readymade garments	0.0073	0.0747	0.0050	0.0067	0.0435	0.0334
Miscellaneous textile products	0.0152	0.0196	0.0128	0.0239	0.0506	0.0458
Furniture and fixtures-wooden	0.0012	0.0010	0.0010	0.0009	0.0010	0.0012
Wood and wood products	0.0061	0.0061	0.0063	0.0098	0.0079	0.0107
Paper, paper prods. & newsprint	0.0161	0.0155	0.0182	0.0424	0.0186	0.0219
Printing and publishing	0.0094	0.0080	0.0079	0.0077	0.0076	0.0086
Leather footwear	0.0033	0.0027	0.0025	0.0026	0.0028	0.0029
Leather and leather products	0.0025	0.0025	0.0020	0.0021	0.0044	0.0057
Rubber products	0.0143	0.0110	0.0085	0.0094	0.0158	0.0117
Plastic products	0.0184	0.0209	0.0250	0.0596	0.0234	0.0275
Petroleum products	0.1720	0.1374	0.1185	0.1511	0.1173	0.1303
Coal tar products	0.0024	0.0021	0.0022	0.0022	0.0019	0.0025
Inorganic heavy chemicals	0.0261	0.0179	0.0334	0.0690	0.0218	0.0211
Organic heavy chemicals	0.0183	0.0168	0.2051	0.1123	0.0209	0.0244
Fertilizers	0.0361	0.0175	0.0146	0.0131	0.0161	0.0194
Pesticides	0.0109	0.0036	0.0050	0.0045	0.0035	0.0048
Paints, varnishes and lacquers	0.0105	0.0079	0.0071	0.0177	0.0071	0.0072
Drugs and medicines	0.0107	0.0094	0.0084	0.0077	0.0094	0.0095
Soaps, cosmetics & glycerin	0.0183	0.0155	0.0135	0.0129	0.0152	0.0183
Synthetic fibers, resin	0.0206	0.0265	0.0313	0.2286	0.0362	0.0485
Other chemicals	0.0217	0.0195	0.0209	0.0523	0.0208	0.0431
Structural clay products	0.0021	0.0017	0.0015	0.0015	0.0016	0.0023
Cement	0.0029	0.0023	0.0021	0.0021	0.0021	0.0031
Other non-metallic mineral prods.	0.0043	0.0035	0.0032	0.0037	0.0034	0.0045
Iron, steel and ferro alloys	0.0159	0.0254	0.0105	0.0120	0.0194	0.0187
Iron and steel casting & forging	0.0038	0.0080	0.0025	0.0031	0.0058	0.0049
Iron and steel foundries	0.0047	0.0045	0.0034	0.0034	0.0040	0.0051
Non-ferrous basic metals	0.0125	0.0188	0.0096	0.0109	0.0152	0.0146
Hand tools, hardware	0.0036	0.0033	0.0022	0.0024	0.0028	0.0029
Miscellaneous metal products	0.0105	0.0123	0.0079	0.0083	0.0120	0.0125
Tractors and agri. implements	0.0010	0.0006	0.0005	0.0005	0.0006	0.0007
Industrial machinery(F & T)	0.0140	0.0765	0.0045	0.0104	0.0315	0.0294
Industrial machinery(others)	0.0020	0.0021	0.0022	0.0034	0.0022	0.0021
Machine tools	0.0025	0.0050	0.0016	0.0023	0.0328	0.0078
Other non-electrical machinery	0.0160	0.0140	0.0097	0.0104	0.0128	0.0126
Electrical industrial Machinery	0.0054	0.0060	0.0035	0.0041	0.0043	0.0043
Electrical wires & cables	0.0033	0.0027	0.0023	0.0023	0.0025	0.0030
Batteries	0.0045	0.0035	0.0029	0.0028	0.0032	0.0035
Electrical appliances	0.0065	0.0056	0.0050	0.0046	0.0056	0.0058
Communication equipments	0.0065	0.0063	0.0057	0.0049	0.0063	0.0068
Other electrical Machinery	0.0049	0.0048	0.0036	0.0041	0.0048	0.0043
Electronic equipments(incl.TV)	0.0143	0.0134	0.0126	0.0112	0.0139	0.0134
Ships and boats	0.0010	0.0008	0.0008	0.0008	0.0008	0.0009
Rail equipments	0.0023	0.0021	0.0018	0.0019	0.0019	0.0019
Motor vehicles	0.0117	0.0090	0.0076	0.0074	0.0082	0.0090
Motor cycles and scooters	0.0057	0.0051	0.0047	0.0042	0.0051	0.0053
Bicycles, cycle-rickshaw	0.0006	0.0006	0.0006	0.0005	0.0006	0.0006
Other transport equipments	0.0002	0.0002	0.0002	0.0001	0.0002	0.0002
Watches and clocks	0.0007	0.0006	0.0005	0.0005	0.0006	0.0006
Medical, precision & optical instrument	0.0005	0.0004	0.0006	0.0004	0.0010	0.0005
Jems & jewelry	0.0031	0.0026	0.0053	0.0022	0.0034	0.0029

	47	48	49	50	52	53
Commodity backward linkage: India	Cotton textiles	Woolen textiles	Silk textiles	Art silk, synthetic fiber textiles	Carpet weaving	Readymade garments
Aircraft & spacecraft	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000
Miscellaneous manufacturing	0.0248	0.0186	0.0223	0.0195	0.0669	0.0279
Construction	0.0639	0.0503	0.0464	0.0452	0.0467	0.0683
Electricity	0.1301	0.0922	0.0802	0.1018	0.0619	0.0747
Water supply	0.0019	0.0012	0.0012	0.0012	0.0011	0.0013
Railway transport services	0.0223	0.0205	0.0168	0.0186	0.0179	0.0182
Land tpt including via pipeline	0.3197	0.2292	0.1728	0.1791	0.1970	0.2224
Water transport	0.0062	0.0053	0.0046	0.0049	0.0049	0.0052
Air transport	0.0033	0.0030	0.0024	0.0022	0.0027	0.0039
Supporting and aux. tpt activities	0.0266	0.0184	0.0124	0.0147	0.0143	0.0168
Storage and warehousing	0.0020	0.0021	0.0017	0.0021	0.0018	0.0023
Communication	0.0350	0.0347	0.0306	0.0248	0.0312	0.0390
Trade	0.3028	0.3255	0.2717	0.3261	0.2832	0.3516
Hotels and restaurants	0.0625	0.0537	0.0495	0.0452	0.0537	0.0561
Banking	0.0962	0.1079	0.1377	0.0938	0.1114	0.1016
Insurance	0.0358	0.0236	0.0620	0.0301	0.0301	0.0348
Ownership of dwellings	0.0658	0.0618	0.0566	0.0525	0.0644	0.0651
Education and research	0.0358	0.0331	0.0301	0.0277	0.0332	0.0341
Medical and health	0.0406	0.0348	0.0310	0.0285	0.0347	0.0360
Business services	0.0206	0.0204	0.0200	0.0392	0.0177	0.0174
Computer & related activities	0.0052	0.0168	0.0304	0.0087	0.0061	0.0133
Legal services	0.0023	0.0035	0.0078	0.0020	0.0035	0.0041
Real estate activities	0.0014	0.0012	0.0011	0.0011	0.0013	0.0013
Renting of machinery & equipment	0.0007	0.0019	0.0026	0.0007	0.0010	0.0006
O.com, social & personal services	0.0570	0.0199	0.0181	0.0171	0.0216	0.0354
Other services	0.0071	0.0151	0.0205	0.0085	0.0272	0.0087
Public administration	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Commodity Backward	3.1188	2.8445	2.5295	2.8080	2.5825	2.9536

Table 20: Commodity backward linkages-Bangladesh

	34	35	36	37	38
Commodity backward linkage: Bangladesh	Cloth Milling	Handloom Cloth	Dyeing and Bleaching	Ready Made Garment	Knitting
Paddy Cultivation	0.1925	0.1961	0.2039	0.2060	0.1767
Wheat Cultivation	0.0157	0.0161	0.0166	0.0168	0.0144
Other Grain Cultivation	0.0080	0.0082	0.0084	0.0086	0.0073
Jute Cultivation	0.0005	0.0046	0.0005	0.0006	0.0005
Sugarcane Cultivation	0.0061	0.0062	0.0064	0.0065	0.0056
Potato Cultivation	0.0204	0.0208	0.0216	0.0218	0.0187
Vegetable Cultivation	0.0285	0.0290	0.0302	0.0305	0.0262
Pulses Cultivation	0.0203	0.0207	0.0215	0.0217	0.0186
Oilseed Cultivation	0.0087	0.0088	0.0092	0.0093	0.0079
Fruit Cultivation	0.0183	0.0186	0.0194	0.0196	0.0168
Cotton Cultivation	0.0754	0.0194	0.0196	0.0170	0.1673
Tobacco Cultivation	0.0009	0.0009	0.0009	0.0009	0.0008
Tea Cultivation	0.0019	0.0020	0.0020	0.0021	0.0018
Spice Cultivation	0.0072	0.0074	0.0076	0.0078	0.0066
Other Crop Cultivation	0.0099	0.0100	0.0104	0.0106	0.0090
Livestock Rearing	0.0610	0.0620	0.0644	0.0652	0.0559
Poultry Rearing	0.0430	0.0437	0.0449	0.0463	0.0391
Shrimp Farming	0.0171	0.0174	0.0180	0.0184	0.0157
Fishing	0.1121	0.1140	0.1186	0.1200	0.1029
Forestry	0.0350	0.0346	0.0358	0.0360	0.0306
Rice Milling	0.2433	0.2479	0.2578	0.2604	0.2234
Grain Milling	0.0356	0.0364	0.0376	0.0380	0.0326
Fish Process	0.0030	0.0030	0.0031	0.0032	0.0027
Oil Industry	0.0488	0.0496	0.0516	0.0522	0.0447
Sweetener Industry	0.0208	0.0211	0.0220	0.0223	0.0191
Tea Product	0.0021	0.0021	0.0022	0.0022	0.0019
Salt Refining	0.0019	0.0019	0.0020	0.0020	0.0017

	34	35	36	37	38
Commodity backward linkage: Bangladesh	Cloth Milling	Handloom Cloth	Dyeing and Bleaching	Ready Made Garment	Knitting
Food Process	0.0801	0.0813	0.0847	0.0857	0.0735
Tanning and Finishing	0.0034	0.0035	0.0036	0.0037	0.0031
Leather Industry	0.0064	0.0065	0.0067	0.0068	0.0058
Baling	0.0000	0.0000	0.0000	0.0001	0.0000
Jute Fabrication	0.0000	0.0000	0.0000	0.0000	0.0000
Yarn Industry	0.0438	0.1190	0.0157	0.0194	0.1018
Cloth Milling	0.2999	0.0925	0.3765	0.3040	0.0217
Handloom Cloth	0.0453	0.0462	0.0478	0.0483	0.0414
Dyeing and Bleaching	0.0083	0.1913	0.1917	0.0090	0.0076
RMG	0.0117	0.0119	0.0123	0.0450	0.0107
Knitting	0.0123	0.0125	0.0130	0.0131	0.0172
Toiletries M	0.0026	0.0035	0.0028	0.0029	0.0025
Cigarette Industry	0.0245	0.0250	0.0259	0.0262	0.0225
Bidi Industry	0.0061	0.0062	0.0064	0.0065	0.0056
Saw and Plane	0.0051	0.0053	0.0054	0.0055	0.0047
Furniture Industry	0.0086	0.0088	0.0090	0.0092	0.0078
Paper Industry	0.0095	0.0098	0.0091	0.0104	0.0084
Printing and Publishing	0.0013	0.0015	0.0013	0.0014	0.0012
Pharmaceuticals M	0.0238	0.0243	0.0252	0.0255	0.0219
Fertilizer Industry	0.0073	0.0075	0.0077	0.0078	0.0067
Basic Chemical	0.0198	0.0499	0.0519	0.0225	0.0197
Petroleum R	0.0783	0.0814	0.0771	0.0917	0.0803
Earth ware Industry	0.0040	0.0041	0.0042	0.0043	0.0037
Chemical Industry	0.0068	0.0069	0.0071	0.0072	0.0062
Glass Industry	0.0028	0.0028	0.0029	0.0030	0.0025
Clay Industry	0.0001	0.0002	0.0001	0.0002	0.0001
Cement M	0.0006	0.0008	0.0006	0.0008	0.0006
Basic Metal M	0.0077	0.0079	0.0085	0.0098	0.0067
Metal M	0.0232	0.0223	0.0266	0.0312	0.0194
Machinery and Equipments	0.0222	0.0233	0.0228	0.0274	0.0191
Transport Equipments	0.0148	0.0150	0.0144	0.0161	0.0131
Miscellaneous Industry	0.0496	0.0507	0.0518	0.0544	0.0453
Urban Building	0.0020	0.0026	0.0021	0.0024	0.0020
Rural Building	0.0017	0.0023	0.0018	0.0020	0.0017
Power Plant Building	0.0000	0.0000	0.0000	0.0000	0.0000
Rural Road Building	0.0000	0.0000	0.0000	0.0000	0.0000
Port Road Railway Building	0.0007	0.0007	0.0006	0.0008	0.0006
Canal Dyke Other Buildings	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity and Water Generation	0.0207	0.0209	0.0227	0.0240	0.0183
Gas Extraction and Distribution	0.0041	0.0044	0.0050	0.0045	0.0038
Mining and Quarrying	0.0065	0.0077	0.0136	0.0071	0.0058
Wholesale Trade	0.1641	0.1663	0.1305	0.1875	0.1346
Retail Trade	0.2934	0.2977	0.2331	0.3352	0.2406
Air Transport	0.0029	0.0032	0.0030	0.0035	0.0027
Water Transport	0.0668	0.0677	0.0535	0.0762	0.0549
Land Transport	0.2195	0.2226	0.1830	0.2483	0.1831
Railway Transport	0.0036	0.0037	0.0030	0.0041	0.0030
Other Transport	0.0079	0.0084	0.0082	0.0091	0.0099
Housing Service	0.1568	0.1659	0.1627	0.1695	0.1439
Health Service	0.0502	0.0513	0.0517	0.0546	0.0463
Education Service	0.0286	0.0291	0.0302	0.0305	0.0262
Public Administration and Defense	0.0066	0.0066	0.0064	0.0088	0.0056
Bank Insurance and Real estate	0.0395	0.0410	0.0410	0.0497	0.0308
Professional Service	0.0071	0.0073	0.0071	0.0095	0.0063
Hotel and Restaurant	0.0322	0.0328	0.0332	0.0349	0.0290
Entertainment	0.0049	0.0050	0.0052	0.0052	0.0045
Communication	0.0270	0.0278	0.0275	0.0327	0.0276
Other Services	0.1410	0.2365	0.1466	0.1636	0.1376
Information Technology and ECom	0.0009	0.0009	0.0009	0.0011	0.0008
Commodity Backward	3.1568	3.3367	3.3216	3.4099	2.7487

Table 21: Commodity backward linkages-Pakistan

	20	21
Commodity backward linkage: Pakistan	Yarn	Textile
Wheat	0.02809	0.02511
Paddy I	0.00192	0.00173
Paddy B	0.00419	0.00366
Cotton	0.34823	0.08392
Cane	0.01202	0.01055
Other Crop	0.06139	0.04511
Horticulture	0.05156	0.04134
Cattle	0.15084	0.13433
Poultry	0.00986	0.00938
Forestry	0.00239	0.00278
Fish	0.00465	0.00433
Mining	0.03875	0.03874
Vegetable	0.03137	0.02791
Wheat F	0.04661	0.04139
Rice I	0.00287	0.00263
Rice B	0.00900	0.00781
Sugar	0.03836	0.03329
Other Food	0.02639	0.02959
Yarn	0.29501	0.33838
Textile	0.06699	0.32923
Leather	0.00360	0.00834
Wood	0.03340	0.03157
Chemical	0.12034	0.05327
Cement	0.01163	0.01162
Petroleum	0.08607	0.08435
Manufacturing	0.23950	0.29486
Energy	0.07726	0.08028
Construction	0.01084	0.01262
Trade	0.24699	0.30398
Transport	0.19869	0.18875
Housing	0.03703	0.04334
Private Service	0.19845	0.20144
Public Service	0.02481	0.02279
Commodity Linkage	2.51909	2.54843

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