

V. Costs in Three Example Industries

The previous chapter analysed data on transactions costs and the costs of non-traded inputs in small economies and concluded with our best estimates of the cost disadvantages of smallness relative to the median country (not, let us stress, relative to no transactions costs at all). The natural next step is to ask whether these excess costs really matter: the excesses are plainly quite large proportionally, but the question is whether they pertain to large enough components of costs to have a significant effect on competitiveness or residual income. This chapter addresses this issue by calculating the excess cost of smallness in three example industries – electronic assembly, clothing and tourism. Along with agriculture, which we could not analyse, these are the industries most closely associated with developing countries' export efforts as they have liberalised their international trade over the last two decades. In effect we are asking: given their cost disadvantages, can small developing countries export effectively?

The sections below discuss the structure of production costs in the three example industries, how to translate the cost disadvantage factors into a form suitable for marrying with the cost structure data, and the consequences of small size for competitiveness and income under various assumptions. As in previous chapters we caution that we are dealing with broad tendencies applied to mythical and representative economies, not precise predictions for specific countries.

V. Costs in Three Example Industries

1. The Input-Output Data

Source and Aggregation

The traditional sources of industrial statistics (e.g., the UNIDO and UNCTAD databases, EUROSTAT, OECD economic surveys, Economist Intelligence Unit reports) do not contain detailed information on cost structures. They provide good information on output, the volume of exports, price indices and, sometimes, tariff rates in specific industries, but not on input costs and the share of inputs that is imported. More specialised databases contain time-series only for developed countries (for example, the NBER-CES Manufacturing Industry Database provides industry-level data for USA). Web-based sources and published research articles are not very useful either, since statistical data published in various industry reports and economic surveys are not homogeneous enough with regard to time periods, regions or industry definitions, and cover only a limited range of countries.

The principal source of our data, therefore, is the Global Trade Analysis Project (GTAP) database compiled at Purdue University (<http://www.agecon.purdue.edu/gtap/index.htm>). Version 5 of the GTAP database combines detailed individual country and regional input-output tables with trade and protection data on a common basis. They report the factor inputs and intersectoral linkages for 57 industries within each of 66 regions. See Annex to

this chapter for a full list of the countries included in this stage of analysis. All the monetary values are in \$US millions and the base year for Version 5 is 1997.

All the required statistical information and aggregation routines are contained in the data file GTAPAgg.dat. We aggregated the original 57-industry series into broader sectoral categories that are more manageable for our purposes.¹ Since production technologies and key inputs differ across our three sample industries (electronic assembly, wearing apparel and tourism), we prepared new data for each industry recognising approximately a dozen intermediate input categories. In all cases we kept GTAP's regions (except for the catch-all 'rest of the world') and its original primary factors unchanged. After a preliminary analysis of the raw data on national cost structures, the original sectors were aggregated into the following broader categories:

Table 5.1 Aggregations for Industrial Inputs

(A) For Electronic Equipment:

No	Aggregated Sector	Description
1	Electronic Equipment	Electronic Equipment (office, accounting and computing machinery, radio, television and communication equipment and apparatus)
2	Machinery	Motor vehicles and parts, other transport equipment, other machinery and equipment, other manufactures
3	Metals and Minerals	Minerals, mineral products, ferrous and other metals, metal products (excl. machinery and equipment)
4	Chemical Products	Chemical, rubber, plastic products
5	Energy	Petroleum, coal products, electricity and gas (distribution)
6	Trade	Trade: all retail sales; wholesale trade and commission trade; hotels and restaurants; repairs of motor vehicles and personal and household goods
7	Transport	Sea transport, air transport, other transport
8	Communication	Post and telecommunications
9	Financial and Business Services	Insurance, other financial intermediation, other business services
10	Other Goods	Food products (paddy rice, processed rice, wheat, other grains, vegetables, fruit, nuts, oil seeds, sugar and sugar products, plant-based fibres, other crops, vegetable oils and fats, cattle, meat and meat products, other animal products, raw milk, dairy products, other food products), wool, silk-worm cocoons, forestry, fishing, coal, oil, gas, beverages and tobacco products, textiles, wearing apparel, leather products, wood products, paper products, publishing
11	Other Services	Water, construction, public administration, defence, other government services, dwellings, recreation and other services

(B) For Wearing Apparel:

¹ The inputs were aggregated both to reduce the dimensionality of the problem and, more importantly, to avoid very small entries and remove some of the noise generated by incorrect classification of intermediates.

No	Aggregated Sector	Description
1	Textiles	Textiles and man-made fibres
2	Wearing apparel	Clothing, dressing and dyeing of fur
3	Leather products	Leather products
4	Energy	Petroleum, coal products, electricity and gas (distribution)
5	Machinery and Equipment	Motor vehicles and parts, other transport equipment, other machinery and equipment, other manufactures
6	Chemical Products	Chemical, rubber, plastic products
7	Trade	Trade: all retail sales; wholesale trade and commission trade; hotels and restaurants; repairs of motor vehicles and personal and household goods
8	Transport	Sea transport, air transport, other transport
9	Communication	Post and telecommunications
10	Financial and Business Services	Insurance, other financial intermediation, other business services
11	Other Goods	Food products (paddy rice, processed rice, wheat, other grains, vegetables, fruit, nuts, oil seeds, sugar and sugar products, plant-based fibres, other crops, vegetable oils and fats, cattle, meat and meat products, other animal products, raw milk, dairy products, other food products), wool, silk-worm cocoons, forestry, fishing, coal, oil, gas, beverages and tobacco products, wood products, paper products, publishing, minerals and mineral products, metals and metal products
12	Other Services	Water, construction, public administration, defence, other government services, dwellings, recreation and other services

(C) For Recreation and Other Services (proxy for tourism):

No	Aggregated Sector	Description
1	Recreation and other services	Recreational, cultural and sporting activities, other service activities; private households with employed persons (servants)
2	Food	Paddy rice, processed rice, wheat, other grains, vegetables, fruit, nuts, oil seeds, sugar and sugar products, plant-based fibres, other crops, vegetable oils and fats, cattle, meat and meat products, other animal products, raw milk, dairy products, other food products, fishing
3	Beverages and tobacco	Beverages and tobacco products
4	Energy	Petroleum, coal products, electricity and gas (distribution)
5	Trade	Trade: all retail sales; wholesale trade and commission trade; hotels and restaurants; repairs of motor vehicles and personal and household goods
6	Transport	Sea transport, air transport, other transport
7	Communication	Post and telecommunications
8	Paper Products and publishing	Paper and paper products, publishing
9	Machinery and Equipment	Motor vehicles and parts, other transport equipment, other machinery and equipment, other manufactures
10	Chemical Products	Chemical, rubber, plastic products
11	Financial and Business Services	Insurance, other financial intermediation, other business services
12	Other Goods	Wool, silk-worm cocoons, forestry, coal, oil, gas, textiles, wearing apparel, leather products, wood products, minerals and mineral products, metals and metal products
13	Other Services	Water, construction, public administration, defence, other government services, dwellings, recreation and other services

The final cost structure tables contain columns for three primary factors (skilled and unskilled labour, and capital²) and for each of the broad categories of intermediate inputs. The latter account for between 44% (for recreation) to 68% (for electronics and wearing apparel industries) of total production cost.

Three Industries in Brief

In this sub-section we explore briefly the cost data from GTAP. The most useful sorting criterion seemed to be by GDP pc and this underlies our discussion below.³ Having so sorted the 65 countries (using 1997 data), we explored differences in cost structures by income per head and summarise them below for two sets of countries: low income and high- and middle-income (see Annex for details).

Table 5.2 reports the relative importance and vital statistics of the three sample industries in the GTAP samples of countries. Clearly, electronics and apparel (clothing) are very open even in these larger countries. Where these sectors are present in our smaller countries, they will generally be more open still, although even small countries protect local clothing firms from imports – e.g. Barbados, with tariffs of upto 117% on T-shirts (WTO TPR Report, 2002). The recreation sector is recorded as relatively closed in GTAP (with an export to output ratio of approximately 5%) but this is misleading for us. First, much of the sector's dependence on foreign demand is reflected in consumers' expenditure by foreign visitors rather than directly as exports; second, the tourism/hotels sector is probably more open than recreation as a whole.

Tables 5.3 to 5.5 summarise the cost breakdown in each of the three industries for low and higher income groups. The full set of data is reported in the Annex to this chapter. In all cases it is evident that there is not very much difference between the median and the mean values of each share, but that, particularly for low-income countries, there is quite a wide spread in the reported shares. Given this uncertainty about the costs' estimates (and also about the cost disadvantage ratios from chapter IV) it seems that we will need to experiment with several vectors of shares.

Electronics: It may seem surprising that this sector has higher labour shares in richer countries, but we guess that this is mainly a reflection of the different set of activities undertaken in different countries, with higher income countries having a much higher share of manufacturing proper as opposed to assembly. The higher share of electronic inputs might suggest otherwise, but recall that this includes equipment as well as components. Also, of course, given relatively low substitutability between parts and

² GTAP also carries columns for land and natural resource inputs, but these are all zeros for our industries, so we suppress them.

³ By the very nature of GTAP, a global modelling exercise, it does not focus on very small economies, so we felt that sorting countries by size was not likely to be very informative.

Table 5.2 Output, shares in GDP and export ratios for three industries

	GDP (\$ ml.)	ELECTRONICS			WEARING APPAREL			RECREATION		
		Total output (\$ ml.)	Share in GDP (%)	Share of export in output (%)	Total output (\$ ml.)	Share in GDP (%)	Share of export in output (%)	Total output (\$ ml.)	share in GDP (%)	Share of export in output (%)
Average for low income countries	155,947	6,499	4.17	33.79	5,120	3.28	40.51	7,622	4.89	6.36
Average for high income countries	870,237	49,369	5.67	56.30	11,538	1.33	38.54	76,016	8.74	5.07
Rest of the world	273,674	5,986	2.19	21.06	7,909	2.89	41.21	11,750	4.27	4.53
Total	28,981,784	1,543,032	5.32	45.43	507,569	1.75	26.87	2,285,425	7.89	4.95

labour, the lower wages in poor countries would reduce the labour share. Where low-income countries require higher inputs is in capital, non-electrical machinery, trade costs and transportation. The last two probably reflect the higher trading costs of poor economies – trade, because inventories are larger and co-ordination costs higher, and transport because of the higher costs noted in chapter IV.⁴ The lower part of the table reports the share of each intermediate flow that is imported although these data are subject to considerable uncertainty. Clearly for machinery and electronics it is very high even for higher income countries, and for small economies it is likely to be higher still. We do not use these data directly, but they give a feeling for how important small countries' excess intermediate trading costs are.

The middle row of each table reports our “central estimate” of cost structure around which we base our subsequent calculations of the competitiveness penalty of smallness. These are “best guesses” based mainly on the mean and median cost shares with a small adjustment made where we believe that small country technology will be different (in volume terms). Thus we keep skilled input levels a little below the average and transportation a little above. The GTAP input-output tables are valued at producer prices – i.e. including local inefficiencies and scarcities. However, they mainly refer to large and medium-sized economies, so we take the valuation basis to reflect the prices of factors of production and inputs in the median country. Hence the cost shares in the tables are precisely those required to weight together the cost disadvantage factors relative to the median that we derived in chapter IV.

Clothing: the pattern of primary factor inputs is similar here to that for electronics, although with lower skills inputs. Similarly, the principal material inputs, textiles and, for high income countries, other clothing, also get shares of around 4% although with lower shares of them being imported. “Trade” is again important and transportation surprisingly (suspiciously?) unimportant.

Recreation: shows a different pattern of inputs, and, of course, is doubtless somewhat distorted by the absence from the cost structure of land inputs. Low-income countries are relatively labour intensive even in cost-share terms and no single set of material inputs dominates the structure. This vector is not very satisfactory and in further investigations of the advantages and disadvantages of smallness in the tourist trade, more precise costs information would be very desirable.⁵

⁴ The representation of transport costs on imports and exports in input-output tables is an uncertain business, and almost certainly the transport entry understates the disadvantages of poor economies in their international trade. Strictly an import should be allocated to its appropriate column as an input at f.o.b. values, with the transport component separated out into the transport column. We suspect that this happens rather infrequently, however, and that many transport costs will be attributed either to the overseas party or to the value of the goods imported.

⁵ In fact we devoted a lot of effort to locating representative cost structures for tourism in the economics, business and tourist trade literatures, but to no avail.

Table 5.3 Cost structure of firms – Electronic equipment - % in Total Cost

	Primary Factors			Intermediate Inputs											
	Unskilled Labour	Skilled Labour	Capital	Electronic Equipment	Machinery	Metal Minerals	Chemical	Energy	Trade	Transport	Communication	Financial Business Services	Other Goods	Other Services	Total intermediate use
Inputs as % of Total Cost															
Low-income countries															
Mean	10.27	2.56	17.00	16.04	19.62	6.72	3.46	1.10	9.42	2.41	0.60	5.31	3.61	1.88	70.17
Median	8.32	2.17	12.12	11.99	19.53	5.73	3.15	0.90	6.76	2.43	0.49	3.90	1.78	1.05	74.93
Standard devn	8.11	2.13	13.44	10.96	11.86	4.39	1.95	0.83	10.20	1.78	0.57	4.79	5.13	2.78	16.58
Higher-income countries															
Mean	13.02	8.19	10.28	25.14	12.82	6.84	4.23	0.56	5.87	1.65	0.51	6.01	1.54	3.35	68.51
Median	12.18	8.00	10.17	24.56	8.46	6.65	4.23	0.43	5.77	1.48	0.41	5.62	1.53	2.77	68.80
Standard devn	5.10	3.39	4.24	12.03	11.17	4.04	1.85	0.52	2.84	1.01	0.34	2.85	0.64	3.13	8.97
Central Estimates for Small Countries															
	12.5	4.0	14.0	22.0	15.5	6.5	4.0	1.0	7.5	2.5	0.5	5.0	2.5	2.5	59.0
% of Intermediates that is Imported															
Low-income countries															
Mean				79.80	73.95	48.40	47.21	10.52	5.31	11.56	6.45	22.17	32.00	3.03	54.37
Median				91.31	80.29	47.29	40.45	4.76	2.11	7.51	1.19	12.95	26.04	1.81	55.75
Standard devn				20.24	24.19	23.37	26.31	15.03	10.97	11.74	19.03	25.65	23.63	4.19	18.51
Higher-income countries															
Mean				67.53	58.14	41.17	40.65	10.44	6.81	17.72	3.75	21.63	24.51	4.51	46.46
Median				68.77	59.35	38.64	35.53	2.22	2.84	14.23	1.05	16.13	24.25	2.12	44.43
Standard devn				18.28	22.57	20.56	20.88	19.67	9.93	13.89	5.83	21.35	13.42	6.07	18.45

5.4 Cost structure of firms – Wearing apparel – in % Total Cost

	Primary Factors			Intermediate Inputs												Total intermedi ate use
	Unskilled Labour	Skilled Labour	Capital	Textiles	Wearing apparel	Leather Products	Energy	Machin. Equip.	Chemical	Trade	Transp ort	Communi cation	Financial Business Services	Other Goods	Other Services	
Inputs as % of Total Cost																
Low-income countries																
Mean	11.85	1.75	18.29	37.73	3.60	1.67	1.20	1.66	2.42	8.32	1.56	0.34	3.55	4.20	1.87	68.11
Median	10.98	1.66	16.03	34.19	2.30	0.65	1.01	1.43	1.66	5.98	1.24	0.18	3.01	2.60	1.16	68.39
Standard devn	5.60	0.86	13.55	18.02	3.95	2.99	0.88	1.45	2.30	7.66	1.43	0.47	4.08	5.57	3.02	12.55
Higher-income countries																
Mean	18.85	4.36	7.92	28.02	10.42	1.00	1.55	1.95	5.66	5.54	1.58	0.53	6.01	3.32	3.29	68.88
Median	19.02	3.92	8.22	28.48	7.49	0.51	0.81	1.60	3.68	5.08	1.46	0.44	5.08	3.37	2.45	67.21
Standard devn	4.76	1.44	3.60	13.23	8.84	1.55	2.07	1.62	5.39	2.24	0.77	0.39	3.12	1.88	3.69	7.46
Central Estimates for Small Countries																
	15.0	2.5	13.0	37.5	4.0	1.3	1.3	1.8	3.3	7.0	2.0	0.5	4.5	4.0	2.5	69.5
% of Intermediates that is Imported																
Low-income countries																
Mean				34.43	31.39	45.52	7.15	48.46	42.18	2.36	14.40	4.29	15.10	25.22	2.31	27.06
Median				30.43	16.70	46.50	2.71	54.94	35.06	0.39	6.24	1.08	7.87	18.84	0.52	23.16
Standard devn				25.77	29.50	31.00	10.72	33.24	27.15	4.91	18.18	13.56	19.77	23.29	4.30	20.90
Higher-income countries																
Mean				57.64	43.69	54.59	13.64	49.63	54.12	6.85	19.39	3.92	16.32	37.11	3.34	42.16
Median				59.96	47.24	58.44	6.78	45.45	51.74	1.70	16.95	1.80	13.03	37.73	2.37	41.80
Standard devn				25.56	24.68	22.89	20.96	27.18	26.61	11.57	14.65	4.90	17.25	25.71	3.57	19.91

5.5 Cost structure of firms – Recreation and other services - % in Total Cost

	Primary Factors			Intermediate Inputs													
	Unskilled Labour	Skilled Labour	Capital	Recreation	Food Beverage Tobacco	Energy	Trade	Transport	Communication	Paper Publishing	Machin.. Equip.	Chemical	Financial Business Services	Other Goods	Other Services	Total intermediate use	
Inputs as % of Total Cost																	
Low-income countries																	
Mean	18.12	13.57	19.14	4.79	1.36	0.85	3.09	9.22	2.12	1.06	3.01	6.27	3.29	5.89	3.93	4.29	49.16
Median	13.42	10.22	19.44	4.76	0.55	0.11	2.44	7.63	1.69	1.00	2.43	3.89	2.89	5.69	3.50	1.87	49.54
Standard devn	13.04	9.23	10.89	3.63	1.61	1.66	2.45	7.61	1.90	0.95	2.59	7.17	2.48	4.17	2.69	8.64	19.14
Higher-income countries																	
Mean	16.33	15.78	20.88	7.08	2.99	1.03	1.85	7.66	1.84	1.61	3.15	2.69	2.08	9.41	1.46	4.15	47.01
Median	15.26	17.28	17.27	6.74	0.92	0.14	1.60	3.06	1.42	1.59	2.92	1.88	1.87	9.92	1.06	2.21	45.87
Standard devn	6.50	5.72	12.92	3.86	5.33	1.80	1.08	8.10	1.46	0.74	2.57	2.49	1.06	4.26	1.03	4.45	14.99
Central Estimates for Small Countries																	
	17.0	13.0	19.5	6.0	2.0	1.0	2.5	8.5	2.5	1.5	3.0	5.0	3.0	8.0	3.0	4.5	53.0
% of Intermediates that is Imported																	
Low-income countries																	
Mean				37.40	9.56	13.20	18.50	12.87	39.43	9.02	25.63	50.57	33.42	17.73	21.17	29.95	32.20
Median				28.35	6.02	4.15	10.56	5.28	33.21	4.30	21.10	56.03	29.26	8.33	17.91	13.80	28.60
Standard devn				34.18	11.90	23.07	23.25	21.61	30.72	15.72	20.61	26.22	24.69	23.57	19.54	30.75	21.36
Higher-income countries																	
Mean				15.03	28.33	21.14	16.34	5.17	33.66	4.36	18.06	56.96	40.79	10.50	40.43	25.94	19.20
Median				12.94	13.58	5.49	12.05	3.60	31.25	1.91	14.64	61.91	33.66	5.82	39.02	18.57	16.55
Standard devn				11.92	31.46	28.49	20.68	6.08	23.13	5.41	14.73	27.05	28.04	13.09	22.19	26.74	11.12

V. Costs in Three Example Industries

2. The Cost Disadvantage Factors

We think about the cost disadvantage factors in terms of two components. First, we need to distil the information in the summary table IV.91 into a single figure for each input. In general we use the averages in that table and further weight them together using crude a priori weights. Whenever a cost disadvantage is not statistically significant in Chapter IV, we assume the value to be equal to zero here, and use that value in the average. We took averages of outbound and inbound transport costs separately for exports and imports respectively (weighting airfreight one-third and sea-freight two-thirds). For skilled labour we used the cost disadvantage for skilled labour above, and for 'Unskilled Labour' the weighted average of our original results for unskilled and semi-skilled (one-third for semi-skilled and two-thirds for unskilled). This fits reasonably well with the GTAP definitions of skills. Finally, for the cost of utilities we consider the averages only for the marginal cost component, ignoring the connection fee (which means we over-state the costs of smallness) and the costs of disruption (which means we understate them).

Second, we need to determine what proportion of the cost of each input is exposed to the disadvantage factors. We distinguish five different treatments:

- (1) Internationally traded intermediates are assumed to be available at the price of the median country plus the excess transport costs identified in chapter IV. We weight air and sea-freight one-third and two-thirds respectively and assume that 8% of the gross value of these goods is accounted for by transport. Thus for the smallest countries, for example, inputs of textiles into clothing account for 37.5% of cost, and face a premium of 152% on 8% of their value. The resulting excess cost amounts to 4.5% of the value of the clothing output. We apply the same disadvantage factors to the full value of small economies' exports of electronics and clothing.
- (2) Inputs of labour bear their own cost disadvantage factors and we assume that the same factors apply to inputs of essentially non-tradable services. (We make no allowances for other inefficiencies deriving from small size in these sectors.) For the tradable component of services categories we assume that foreign competition imposes some discipline (or displacement), and hence we halve the labour disadvantage factors when applying them to each service in aggregate. We make no further allowances for the labour availability disadvantages identified in chapter IV.
- (3) For capital our measured cost disadvantage factors are not very appropriate. We assume conservatively that capital costs are 15%, 10%, and 5% above median values for our three example small economies. These excesses essentially reflect investors' ignorance of small economies and the greater variability that the latter, almost inevitably, face.
- (4) For utilities we use the cost disadvantage factors from chapter IV directly. As we noted above, we ignore both the connection fees and the excess disruptions that small economies face.

(5) Finally, for exports of tourism we assume that visitors have to pay the excess personal travel costs identified in section IV.5 above and that these account for 25% of the costs of a visit. Hence for recreation we have an exposure factor of 25% and a cost disadvantage factor of 116% for the smallest economies.

Tables 5.6 to 5.8 summarise the cost disadvantage information that we use in our subsequent calculations. They refer to our central estimates of (a) the cost shares of each input (as from tables 5.3-5.6), (b) the assumed exposure to the disadvantage factors, and (c) the summary disadvantage factors for each input for each of our three exemplar small countries.

Table 5.6 Cost structure of firms - Electronics - Central Estimates for Small Countries

	Central Estimate %	Share subject to inflation	Cost Disadvantage Factors (proportion)			Comment
			Micro	V. Small	Small	
Unskilled Labour	12.5	1	47.5	25.1	5.3	(UnSkilled & SemiSkilled)
Skilled Labour	4	1	38.0	20.3	4.3	(Skilled)
Capital	14	1	15.0	10.0	5.0	
6 ElectronicEq	22	0.08	152.1	51.5	7.1	(Av. Import - Transport)
7 Machinery	15.5	0.08	152.1	51.5	7.1	(Av. Import - Transport)
8 MetMinerals	6.5	0.08	152.1	51.5	7.1	(Av. Import - Transport)
9 Chemical	4	0.08	152.1	51.5	7.1	(Av. Import - Transport)
10 Energy	1	1	73.4	37.7	7.7	(Electricity and Fuel)
11 Trade	7.5	1	22.2	11.7	2.5	(labour*0.5)
12 Transport	2.5	1	158.3	49.2	5.7	(Airfreight and Seafreight)
13 Communication	0.5	1	98.5	47.2	9.0	(Telephone)
14 FinBusServ	5	0.5	22.2	11.7	2.5	(labour*0.5)
15 OtherGoods	2.5	0.08	152.1	51.5	7.1	(Av. Import - Transport)
16 OtherServices	2.5	0.5	22.2	11.7	2.5	(labour*0.5)
export transport factor		0.08	164.6	46.8	4.2	(Av. Export - Transport)

Table 5.7 Cost structure of firms - Clothing - Central Estimates for Small Countries

	Central Estimate %	Share subject to inflation	Cost Disadvantage Factors (proportion)			Comments
			Micro	V. Small	Small	
Unskilled Labour	15	1	47.5	25.1	5.3	(UnSkilled & SemiSkilled)
Skilled Labour	2.5	1	38.0	20.3	4.3	(Skilled)
Capital	13	1	15.0	10.0	5.0	
6 Textiles	37.5	0.08	152.1	51.5	7.1	(Av. Import - Transport)
7 WearingApp	4	0.08	152.1	51.5	7.1	(Av. Import - Transport)
8 LeatherProd	1.25	0.08	152.1	51.5	7.1	(Av. Import - Transport)
9 Energy	1.25	1	73.4	37.7	7.7	(Electricity and Fuel)
10 MachEquip	1.75	0.08	152.1	51.5	7.1	(Av. Import - Transport)
11 ChemRubPlast	3.25	0.08	152.1	51.5	7.1	(Av. Import - Transport)
12 Trade	7	1	22.2	11.7	2.5	(labour*0.5)
13 Transport	2	1	158.3	49.2	5.7	(Airfreight and Seafreight)
14 Communication	0.5	1	98.5	47.2	9.0	(Telephone)
15 FinBusServ	4.5	0.5	22.2	11.7	2.5	(labour*0.5)
16 OtherGoods	4	0.08	152.1	51.5	7.1	(Av. Import - Transport)
17 OtherServices	2.5	0.5	22.2	11.7	2.5	(labour*0.5)
export transport factor		0.08	164.6	46.8	4.2	(Av. Export - Transport)

Table 5.8 Cost structure of firms - Recreation - Central Estimates for Small Countries

	Central Estimate %	Share subject to inflation	Cost Disadvantage Factors (proportion)			Comments
			Micro	V. Small	Small	
Unskilled Labour	17	1	47.5	25.1	5.3	(UnSkilled & SemiSkilled)
Skilled Labour	13.5	1	38.0	20.3	4.3	(Skilled)
Capital	19.5	1	15.0	10.0	5.0	
6 Recreation	6	0.5	22.2	11.7	2.5	(labour*0.5)
7 Food	2	0.08	152.1	51.5	7.1	(Av. Import - Transport)
8 BeverTobacco	1	0.08	152.1	51.5	7.1	(Av. Import - Transport)
9 Energy	2.5	1	73.4	37.7	7.7	(Electricity and Fuel)
10 Trade	8.5	1	22.2	11.7	2.5	(labour*0.5)
11 Transport	2	1	158.3	49.2	5.7	(Airfreight and Seafreight)
12 Communication	1.5	1	98.5	47.2	9.0	(Telephone)
13 PaperPublish	3	0.08	152.1	51.5	7.1	(Av. Import - Transport)
14 MachEquip	5	0.08	152.1	51.5	7.1	(Av. Import - Transport)
15 ChemRubPlast	3	0.08	152.1	51.5	7.1	(Av. Import - Transport)
16 FinBusServ	8	0.5	22.2	11.7	2.5	(labour*0.5)
17 OtherGoods	3	0.08	152.1	51.5	7.1	(Av. Import - Transport)

18 OtherServices	4.5	0.5	22.2	11.7	2.5(labour*0.5)
personal transportation factor		0.25	115.7	56.8	11.0(Air Travel Cost)

V. Costs in Three Example Industries

3. Defining Cost Inflation Factors and Income Penalties

We will summarise the competitive disadvantages of small economies in two ways. First “cost inflation factors” will aggregate the individual cost disadvantage factors for each input to estimate by how much small countries’ costs exceed those of the median country.

Second, as we explained in section II.1, we are also interested how much such cost inflation cuts value added and incomes in small countries if they are obliged to sell their outputs at world prices. The notional experiment is to assume that a target small country and the median country each sells a unit of an export commodity on the world market and to ask how much smaller the former’s resulting income flow is than the latter’s. The extent of the proportional income penalty depends on which inputs we assume are the recipients of residual income, i.e. which inputs and factors have to absorb the revenue short-fall. We consider several alternatives. In each case we ask by what percentage income would be lower in the small country than in the median country assuming that the reported cost disadvantage factors applied unavoidably to one set of inputs and that the remaining inputs bore the whole burden of these excess costs in terms of lower returns. That is, for these latter inputs we ignore their own reported cost disadvantage factors and ask how much their returns must be squeezed if the small country is to cut its total costs to median country levels.

In the notation of equation (1’) above (p.), our small country generates a residual income of

$$\tilde{V}_i = p_i(1 - t_i) - \sum_{j \in T} a_{ij} p_j(1 + t_j) \quad (1')$$

where i, j count over products, p are local prices, t are transaction costs, a_j are input-output co-efficients, and where T is the set of inputs whose excess costs are assumed to be unavoidable. The median country, which by definition faces no cost disadvantage factors, generates residual income of

$$V^*_i = p_i - \sum_{j \in T} a_{ij} p_j$$

We can calculate the percentage deviations of \tilde{V}_i from V^*_i , viz.

$$(\tilde{V}_i - V^*_i)/V^*_i = (-t_i - \sum_{j \in T} a_{ij} t_j)/(1 - \sum a_{ij}) \quad (2)$$

where, by choice of units and at no loss of generality, median country prices have been set to unity.

Table 5.9 defines five concepts of the income penalty. The five concepts of income penalty reflect different assumptions about what is squeezable to make small countries' exports competitive. As we move down the table we enlarge the set of inputs with unavoidable cost disadvantages and correspondingly shrink the set which has to accommodate the excess costs if exports are to be competitive. If all domestically supplied factors, utilities and services (i.e. everything except those goods that are directly traded internationally) can be squeezed to absorb the excess transactions costs of smallness, the relatively small cost disadvantages on intermediate inputs are spread over relatively large flows of income (revenue), and so the proportionate penalty is relatively small.

Table 5. 9 Income losses from Smallness: Five Concepts

Concept	Inputs receiving residual income and assumed to have no cost disadvantage	Inputs assumed to have unavoidable cost disadvantages (set T)
1	all domestic supplies – primary factors, services and non-traded intermediates	internationally traded intermediate inputs
2	primary factors and services	traded intermediate inputs and utilities
3	primary factors	all intermediate inputs including services
4	capital	all intermediate inputs and labour
5	labour	all intermediates and capital

Concept 2 accepts that utilities' costs in small countries are not **reducible**. Hence it implies larger disadvantages loaded onto a smaller base than does concept 1. Concept 3 follows the effective protection literature and takes all intermediates' prices as fixed (by trade or the limits of small-scale technology) and takes value added (primary factors of production) as the residual claimants. Concepts 4 and 5 are arguably the most significant. An individual investor in a small economy will consider the "excess costs" of workers as given, and that she herself is the residual claimant on income. (This is the traditional role of capitalists/entrepreneurs in market economies). If, as the results below suggest, the excess costs of labour and inputs are such that there would be no income left for capital at all, there would be no investment.

Concept 5 asks essentially a public policy question. If small economies cannot force down the prices of intermediate inputs and if they have to pay a premium to borrow on international capital markets (for example, to compensate for their greater vulnerability or investors' lack of knowledge about them), how much income can they generate for the local population qua workers? The answer below for very small economies turns out to be "very little". Quite clearly losses could be large enough to make life unsustainable.

Of course, at present small economies manifestly do not suffer these huge income penalties. The reason is presumably that they variously have preferences on their exports, alternative flows of income (remittances, official transfers), benefactors who will accept below market rates of return on their capital, etc. All that our exercise is showing is that *if* they were exposed to the full force of the market, life would be very tough indeed.

V. Costs in Three Example Industries

4. Cost Inflation and Income Penalties: The Estimates

Central Estimates

We now turn to the results presented in table 5.10 in some detail. The first row presents the core results of our study. Subject to inevitably wide margins of error, it is clear that micro economies face very large competitive challenges indeed and that these are not particularly different across different industries. Thus for the manufacturing sectors our central estimates suggest that micro-economies have cost inflation factor of 36%, and that for tourism the factor is 58%. The last is driven substantially by our high cost disadvantage estimates for personal travel (and the high share of such travel in overall packages), but even without that problem tourism in micro economies would be some 29% more expensive than in an equivalent median-sized economy.

Table 5.10 Central Case Cost Inflations and Income Penalties

	Electronic Assembly			Clothing			Hotels and Tourism		
	micro	v small	small	micro	v small	small	micro	v small	small
cost inflation factor	36.5	14.3	2.7	36.4	14.4	2.7	57.5	28.6	6.2
income penalty % of median country's income flow									
all domestic supplies	-39.0	-11.8	-1.3	-40.3	-12.2	-1.3	-36.3	-17.4	-3.3
factors and services	-42.8	-13.4	-1.6	-44.9	-14.2	-1.7	-46.4	-22.4	-4.3
value added	-88.5	-29.5	-86.5	-28.9	-3.8	-3.6	-72.0	-34.1	-6.5
capital	-246.1	-265.0	-100.6	-15.7	-99.2	-15.4	-202.3	-98.6	-19.3
labour	-176.3	-63.0	-11.3	-161.8	-57.7	-10.3	-116.7	-56.7	-12.4

For very small economies – with a population of 200 thousand, that of Vanuatu – the cost inflation factors are a significant 14% and 29% for manufacturing and tourism respectively. For small economies, on the other hand – 4 million (Singapore) – the cost inflations are a mere 3% -6%, well within the range of estimation error and small enough to be overcome by good management.

The remainder of table 5.10 puts these cost inflation factors into perspective by examining what we refer to as ‘income penalties’. These report the extent to which particular elements of the cost structure would have to accept *below* median prices or returns if the target economies were to supply exports at median-country prices. Consider electronics in a micro-economy. If every element of cost were “squeezable”, except for internationally traded intermediates and export freight costs, they would all have to accept 39% lower returns than in the median country. If we next assume that utilities’

prices cannot be squeezed either, the remaining elements (factors and service suppliers) would need to take a 43% cut.⁶

The big step occurs if we take services as unavoidably more expensive in small countries. Now the primary factors of production in electronics would earn 89% less than in the median country – that is only 12% of what median factors owners earn. Specialising the burden further to fall only on labour or capital, the other receiving its excess returns indicated by our cost disadvantage estimates, generates income penalties exceeding 100%. That is, if all inputs except capital received the predicted excess prices (returns), capital owners would make losses larger than the gains the median-country capitalists received. If all inputs except labour received the excess prices/costs, there would be nothing to pay the labour with and prices would still exceed median-country levels!

The last two statistics are devastating. No-one is going to invest capital in a sector that pays negative returns, and while we may have exaggerated the losses, it is difficult to believe that we have the sign wrong. Similarly, suppose that, for public policy purposes, micro-economy governments decided to create an electronics industry. If they had to pay the estimated excess costs for inputs, there would be nothing left over to pay the workers. That is, taking our excess costs as given, micro-economies just could not support an electronics industry. Worse: neither could they support clothing or tourism unless they had specific advantages (to which we return below).

Interpreting table 5.10 requires some care. One might be tempted by the following argument, but one would be wrong. One might say that an electronics firm contemplating an investment would make the calculation in the previous paragraph and, seeing the excess cost of local labour, decide not to invest. This would drive local wages down making labour inputs cheaper and also reducing the price of local services – a general equilibrium effect in economic parlance. If capital also came from local residents willing to forego the premia we have assumed for capital, we might think that the economy would settle somewhere between rows 3 and 4 of the table. Only intermediates, utilities and some part of services would be unavoidably expensive, the remaining inputs – labour, capital and the rest of services – taking the penalty together. There is nothing wrong with this argument: general equilibrium does work in the real world. But for precisely this reason this interpretation does not apply to table 5.10. All our observations on costs come from real economies which have already experienced the general equilibration postulated. The excess wages of, say, garage mechanics in very small economies are the excesses observed *given* that electronics firms and clothing firms have not generally entered them. That is, subject to all the caveats about measurement and estimation, we are observing real economies more or less in equilibrium, and the losses implied by rows (5) and (6) of table 5.10 are the appropriate ones for making business decisions⁷.

⁶ As we move down the column the figures increase because we are both adding further cost disadvantages to the numerator of equation (2) and removing flows from the denominator, so that the penalties have to be borne on a smaller and smaller base.

⁷ The exception to this is if the current preferences and income flows that small economies receive are such as to add an element of rent to the wage. As these current benefits are eroded, labour costs could fall below

The remainder of table 5.10 is straight-forward with only relatively small differences evident between industries. With its higher labour content, tourism suggests smaller income penalties to labour than do the manufacturing sectors, at least for micro economies. The income penalties for very small economies are still quite large enough in rows (5) and (6) to suggest serious concerns about the viability of investment and employment in these economies. Those for the small economies are also detectable but, as we commented previously, well within the margins of error and idiosyncratic factors. There is little here to suggest that economies the size of Singapore have insurmountable problems.

As noted above, we face considerable uncertainty over both the cost shares and the cost disadvantage factors and so feel the need to offer a range of alternatives. We consider first the possibility that we have inappropriate cost structures for our three industries – viz. that the relative weights of the various inputs are wrong.

Table 5.11 recalculates the cost inflation factors and income penalties for value-added changing each of several weights in turn. The experiments increase the shares of one element of cost by half and rescale all the rest downwards to leave the shares summing to 100%. (Thus the size of the shock depends on the initial importance of the cost element.) For reasons of economy, we do not present all the income penalties in these experiments, but they are easily imagined from the cost inflation factors and value added penalties.

Table 5.11 Cost Inflation and Income Penalties with Alternative Weightings

	Electronic Assembly			Clothing			Hotels and Tourism		
	micro	v small	small	micro	v small	small	micro	v small	small
Cost Inflation Factors									
central case	36.5	14.3	2.7	36.4	14.4	2.7	57.5	28.6	6.2
after 50% increase in weight of									
Intermediates	33.2	12.4	2.2	32.5	12.1	2.1	57.5	28.6	6.2
Utilities	37.0	14.6	2.7	36.9	14.6	2.7	58.7	29.1	6.3
Services	36.0	14.2	2.7	35.9	14.2	2.7	55.8	27.7	6.0
All Primary Factors	38.3	15.9	3.3	38.5	16.0	3.3	59.6	30.5	6.9
Income Penalties for Value added									
central case	-88.5	-29.5	-3.8	-86.5	-28.9	-3.8	-72.0	-34.1	-6.5
after 50% increase in weight of									
Intermediates	-124.1	-40.5	-5.1	-132.1	-43.0	-5.4	-72.0	-34.1	-6.5
Utilities	-90.9	-30.6	-4.0	-89.2	-30.2	-4.0	-76.2	-36.2	-6.9
Services	-97.9	-33.5	-4.5	-95.1	-32.5	-4.4	-79.4	-37.9	-7.3
All Primary Factors	-52.4	-17.1	-2.2	-51.3	-16.8	-2.1	-44.0	-21.2	-4.1

Increasing the weight attached to the principal intermediate inputs reduces the cost inflation factors for the manufacturing sectors because, relatively speaking, intermediates

the values we have recorded. Given that much of the wage excess for small countries reflects costs of living, however, and that crude wage data do not make any allowance for the vulnerabilities of living in small economies, we suspect that there are relatively small rent elements.

are available at only a small disadvantage.⁸ The transportation cost disadvantages is high (although less on imports than on exports), but it pertains to only 8% of the cost of inputs. We cannot conclude that increasing the weight would make investment more attractive, however, for although the cost disadvantage falls, it has to be borne on a smaller base of value added. Hence the percentage income penalty increases on value added, and also on labour and capital separately. This case is potentially quite significant, for we would expect very small economies to be more intensive in their use of imported intermediate components than the larger economies behind GTAP's cost shares.

Increasing the weights for utilities has very little effect just because they have such small input shares, even in hotels and tourism. Similarly, increasing the weight of services is just a scaled-down version of the intermediates story with reduced cost disadvantages but increasing income penalties. Finally, if we increased the primary factors share we have the opposite. The cost inflation factors would all increase because primaries are relatively more disadvantageous than produced inputs, but the extra weight increases the base for the income penalty calculations and so reduces the percentage penalty. To recap the argument: the higher share of primary factors increases the weighted average of all cost disadvantages because the labour cost factors are relatively high. However, in calculating the income penalties we ignore the estimated cost disadvantage factors of the residual claimants and express those applying to the other inputs relative to the residual claimants' share of total costs. Raising the weight of primary factors increases the share of valued added and reduces that of intermediate inputs; thus it applies a smaller cost disadvantage as in the central estimates to a larger base.

The second element of sensitivity testing that we need concerns the cost disadvantage factors. As noted above, the estimates in table 5.10 vary linearly with the estimates of the costs of smallness. Thus if, for example, we have over-estimated all of them by a factor of two, the estimates should be halved. This would still leave material competitiveness problems for the very small economies and very serious ones for the micro economies. Moreover, we do not think over-estimation by such a factor is likely. We have been fairly conservative in our specification of the cost disadvantage equations and have certainly not sought forms to maximise the estimated cost disadvantage; in estimating the cost disadvantage we have admitted a fairly significant downward bias at the lowest levels of population; we have ignored all the qualitative disadvantages found in the data; and in carrying results forward from chapter IV to chapter V we have suppressed some disadvantages that we suspect actually exist such as on inbound air-transportation.

Much more likely is that we have mis-estimated certain individual cost disadvantage factors. To test this table 5.12 recalculates the summary statistics following an increase of one half in the central estimate cost disadvantages of four sets of inputs in turn. In parallel with the weighting exercises just discussed, altering the utilities' factors has little effect – they are just not major inputs. An increase in the cost disadvantage on transportation, however, is important, for, as constructed, it affects the cost of all material intermediate

⁸ We define 'principal' intermediates as essentially the flows associated with components: electrical and other machinery and parts for electronics and cloth and other clothing parts for clothing. We do not conduct the test for hotels and tourism since there are no obvious principal material inputs.

inputs and the cost of delivering exports abroad. Increasing the factor by 50% adds 12 percentage points to manufacturing costs and 17 to tourism costs. (We alter the personal travel disadvantage factor in parallel). The income penalty consequences in these cases are qualitatively straight-forward: the higher input and trading cost increase the income penalties by about one-third in all three cases.

Table 5.12 Cost Inflation and Income Penalties with Alternative Costs

	Electronic Assembly			Clothing			Hotels and Tourism		
	micro	v small	small	micro	v small	small	micro	v small	small
Cost Inflation Factors									
central case	36.5	14.3	2.7	36.4	14.4	2.7	57.5	28.6	6.2
after 50% increase in weight of									
Utilities	37.2	14.6	2.8	37.1	14.7	2.8	59.2	29.4	6.3
Transportation	48.2	17.9	3.2	47.7	17.8	3.2	74.6	36.5	7.7
Labour	41.5	17.0	3.2	41.6	17.1	3.3	66.1	33.1	7.1
Capital	37.6	15.0	3.0	37.4	15.0	3.0	59.0	29.5	6.7
Income Penalties for Value added									
central case	-88.5	-29.5	-3.8	-86.5	-28.9	-3.8	-72.0	-34.1	-6.5
after 50% increase in weight of									
Utilities	-90.5	-30.5	-4.0	-88.8	-30.0	-4.0	-74.9	-35.5	-6.8
Transportation	-126.6	-41.1	-5.4	-123.6	-40.1	-5.3	-101.7	-47.9	-9.1
Labour	-92.6	-31.6	-4.3	-90.3	-30.9	-4.2	-75.5	-35.9	-6.9
Capital	-88.5	-29.5	-3.8	-86.5	-28.9	-3.8	-72.0	-34.1	-6.5

Increasing the cost disadvantage factors for labour has similar effects on the cost inflation factors for manufacturing and larger effects on that for the more labour-intensive hotels and tourism. It has little effect on the income penalties, however, for these ignore the cost disadvantages pertaining to labour except via their more modest effects on the cost of services inputs. Capital cost disadvantages have similar but more muted implications.

The final table of alternatives concerns the exposure factors that we have assumed to link the cost disadvantage factors and the input shares. It presents two exercises. First, we ask what would happen if all the cost disadvantages applied except that on the trading of exports. Equation (2) shows how important that factor is – it enters the income penalties with a share of one ($-t_i$). Table 5.13 confirms this and shows how very important it is – especially for hotels and tourism where we assumed that personal travel accounted for 25% of the gross cost of the service. Given its significance, further exploration of this aspect of small country costs would be useful.

Table 5.13 Cost Inflation and Income Penalties for Alternative Assumptions

	Electronic Assembly			Clothing			Hotels and Tourism		
	micro v small	small		micro	v small	small	micro	v small	small
Cost Inflation Factors									
central case	36.5	14.3	2.7	36.4	14.4	2.7	57.5	28.6	6.2
export transport factor = 0	23.4	10.6	2.4	23.2	10.6	2.4	28.6	14.4	3.4
services as 25% of labour	35.3	13.7	2.6	35.2	13.8	2.6	55.6	27.5	6
Income Penalties for Value added									
central case	-88.5	-29.5	-3.8	-86.5	-28.9	-3.8	-72.0	-34.1	-6.5
export transport factor = 0	-45.3	-17.2	-2.7	-43.3	-16.6	-2.6	-21.7	-9.4	-1.7
services as 25% of labour	-84.4	-27.3	-3.4	-82.6	-26.8	-3.3	-68.6	-32.3	-6.1

The second exercise reduces the exposure of the services sector to small economies' labour cost disadvantages from 50% to 25%. This is a particularly difficult factor to estimate because price comparisons are virtually impossible for services, so additional sensitivity testing seems warranted. In fact, however, given the relatively low weight of services in production costs, our overall conclusions are not much changed.

Table 5.11 to 5.13 provide the building blocks for an interested reader to construct estimates of her own. Roughly speaking, they may be combined linearly and, as noted above, parallel variations in the whole set of cost disadvantage factors will be reflected precisely linearly in the results. For ease of exposition, we have mostly explored increases in costs and weights, but this does not imply that we think we are more likely to have under-estimated costs than over-estimated them. Subject to inevitably larger margins of error we think our central estimates are correct. They imply huge competitive challenges for very small economies.

ANNEX TO CHAPTER V: GTAP DEFINITIONS

A list of the factors within GTAP

- 1 Land
- 2 Unskilled Labour
- 3 Skilled Labour
- 4 Capital
- 5 Natural Resources

A list of the nations within each GTAP region (ordered by the size of GDP per capita):

No.	Code	Description	No.	Code	Description
Low income countries					
1	moz	Mozambique	15	col	Colombia
2	tza	Tanzania	16	tha	Thailand
3	mwi	Malawi	17	per	Peru
4	vnm	Vietnam	18	tur	Turkey
5	uga	Uganda	19	bwa	Botswana
6	bgd	Bangladesh	20	pol	Poland
7	ind	India	21	ven	Venezuela
8	zmb	Zambia	22	hun	Hungary
9	zwe	Zimbabwe	23	mex	Mexico
10	chn	China	24	mal	Malaysia
11	lka	Sri Lanka	25	bra	Brazil
12	idn	Indonesia, East Timor	26	chl	Chile
13	phl	Philippines	27	ury	Uruguay
14	mar	Morocco, Western Sahara	28	arg	Argentina
29	xsm	Rest of South America: Guyana, Paraguay, Surinam			
30	xf	Rest of Southern Africa: Angola, Mauritius			
31	xap	Rest of Andean Pact: Bolivia, Ecuador			
32	csa	Rest of South Asia: Bhutan, Maldives, Nepal Pakistan			
33	xcm	Central America and the Caribbean: Antigua & Barbuda, Aruba, Bahamas, Barbados, Belize, British Virgin Islands, Cayman Islands, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Montserrat, Netherlands Antilles, Nicaragua, Panama, Saint Christopher and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, Turks and Caicos Isl.			
34	xce	Rest of Central of Central Eastern European Associates: Bulgaria, Czech Republic, Romania, Slovakia, Slovenia			
35	xsc	Rest of South African Customs Union: Lesotho, Namibia, South Africa, Swaziland			
36	xss	Rest of Sub-Saharan Africa: Benin, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Cote d'Ivoire, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Madagascar, Mali, Mauritania, Mayotte, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, Sudan, Togo, Zaire			
37	xnf	Rest of North Africa: Algeria, Egypt, Libya, Tunisia			
38	xme	Rest of Middle East: Bahrain, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, United Arab Emirates, Yemen, Yemen Democratic			
39	xsu	Former Soviet Union: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, Uzbekistan			

Middle and high income countries

40	twn	Taiwan
41	kor	Korea
42	prt	Portugal
43	grc	Greece
44	esp	Spain
45	nzl	New Zealand
46	irl	Ireland
47	ita	Italy
48	can	Canada
49	aus	Australia, Heard & McDonald Islands, Norfolk Island
50	sgp	Singapore
51	hkg	Hong Kong
52	gbr	United Kingdom, Channel Islands, Isle of Man
53	bel	Belgium
54	fin	Finland
55	nld	Netherlands
56	fra	France
57	lux	Luxembourg
58	aut	Austria
59	deu	Germany
60	swe	Sweden
61	usa	United States of America, American Samoa, Guam, Northern Mariana Islands, Puerto Rico, United States Virgin Islands
62	dnk	Denmark
63	jpn	Japan
64	che	Switzerland
65	xef	Rest of EFTA: Iceland, Liechtenstein, Norway, Svalbard and Jan Mayen Isl.
66	xrw	Rest of World: Afghanistan, Albania, Andorra, Bermuda, Bosnia and Herzegovina, British Indian Ocean Territories, Brunei, Burma, Cambodia, Christmas Island, Cocos (Keeling) Islands, Cook Islands, Croatia, Cyprus, Falkland Islands, Faroe Islands, Fiji, French Polynesia, Gibraltar, Greenland, Johnston Island, Kiribati, Laos, Macao, Macedonia, Malta, Marshall Islands, FS Micronesia, Mongolia, Nauru, New Caledonia, Niue, North Korea, Pacific Islands, Palau, Papua New Guinea, Pitcairn Islands, Saint Helena, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, Wake Island, Wallis and Futura Isl., Western Samoa, Yugoslavia, French Guiana, Guadeloupe, Vatican Holy See, Martinique, Monaco, Reunion, Saint Pierre and Miquelon San Marino

Table 5.x Cost structure of firms - Electronic equipment - % in Total Cost

Cost structure of firms	Electronic equipment - % in Total Cost																Total intermediate use	Total
	2 UnSkLab	3 SkLab	4 Capital	6 ElectronicEq	7 Machinery	8 MetMinerals	9 Chemical	10 Energy	11 Trade	12 Transport	13 Communicatn	14 FinBusServ	15 OtherGoods	16 OtherServices				
1 Mozambique	14.75	3.05	0.97	25.96	20.83	5.52	1.69	3.18	10.23	4.99	1.19	5.05	0.19	2.31	81.19	100.00		
2 Tanzania	2.22	0.46	18.23	28.71	17.93	3.03	0.00	2.26	12.07	1.57	0.39	6.24	5.46	1.44	79.09	100.00		
3 Malawi	4.74	0.98	11.95	32.21	16.04	4.29	4.21	0.72	13.11	3.52	0.22	2.82	2.79	2.37	82.33	100.00		
4 Vietnam	7.24	1.46	4.80	30.89	2.31	24.92	6.78	3.19	11.21	2.42	0.21	2.29	2.01	0.25	86.50	100.00		
5 Uganda	4.52	0.93	26.32	5.95	19.16	0.71	4.69	1.02	7.51	5.14	0.49	3.90	18.06	1.58	68.22	100.00		
6 Bangladesh	4.41	0.96	25.01	1.19	6.34	10.05	2.93	0.30	41.01	3.10	0.70	2.31	0.60	1.05	69.62	100.00		
7 India	8.32	1.78	12.44	10.04	33.66	6.04	2.93	2.04	5.21	3.42	2.44	8.72	1.47	1.44	77.45	100.00		
8 Zambia	17.36	3.58	25.88	11.13	7.81	2.56	1.31	0.40	17.01	9.09	2.43	0.98	0.25	0.18	53.18	100.00		
9 Zimbabwe	15.38	3.17	31.93	15.23	9.99	5.90	0.78	2.68	6.71	3.64	0.96	0.86	2.40	0.32	49.52	100.00		
10 China	7.33	1.50	10.81	45.91	9.45	7.75	8.31	0.23	4.01	0.84	0.28	0.96	1.58	0.98	80.36	100.00		
11 SriLanka	5.73	1.21	13.14	20.25	36.68	1.66	3.23	1.25	11.11	4.39	0.00	0.94	0.25	0.11	79.92	100.00		
12 Indonesia	18.50	5.81	27.08	17.61	13.12	4.27	3.68	0.39	5.81	1.84	0.07	0.92	0.45	0.39	48.60	100.00		
13 Philippines	1.92	0.57	2.10	46.38	23.74	2.45	1.59	1.22	1.47	0.48	0.00	16.78	1.25	0.05	95.42	100.00		
14 Morocco	9.68	2.17	5.73	6.19	18.32	8.29	4.85	0.61	8.61	2.80	0.85	15.06	3.08	13.73	82.42	100.00		
15 Colombia	9.31	2.30	6.41	1.99	4.30	10.13	6.93	0.91	49.81	1.24	0.29	3.08	2.79	0.46	81.98	100.00		
16 Thailand	1.93	0.49	59.51	24.53	0.56	4.61	2.09	1.22	2.01	0.62	0.10	1.15	0.76	0.40	38.07	100.00		
17 Peru	3.61	0.97	58.83	8.00	12.62	8.54	1.74	0.55	0.71	0.23	0.16	1.89	1.56	0.55	36.59	100.00		
18 Turkey	7.08	1.78	15.14	11.22	37.47	5.73	3.19	1.40	8.71	2.95	0.21	3.29	1.13	0.71	76.00	100.00		
19 Botswana	14.12	3.46	8.51	3.14	4.97	5.02	1.40	0.37	24.01	0.87	0.50	3.63	23.62	6.38	73.90	100.00		
20 Poland	9.61	2.68	12.18	27.20	21.95	3.97	2.37	0.88	2.21	2.46	1.25	10.79	1.08	1.37	75.53	100.00		
21 Venezuela	12.94	3.78	12.12	7.07	23.47	9.97	6.89	0.91	2.91	0.98	0.37	5.42	12.25	0.85	71.17	100.00		
22 Hungary	3.30	0.92	10.04	16.79	34.20	12.36	4.12	0.66	4.01	1.74	0.83	6.15	2.96	1.90	85.74	100.00		
23 Mexico	7.65	2.17	16.12	19.96	24.10	4.77	3.25	0.90	10.81	4.10	0.17	2.51	3.11	0.41	74.06	100.00		
24 Malaysia	4.04	0.99	8.91	35.49	24.35	2.28	3.15	1.08	9.11	2.83	0.11	5.02	1.78	0.83	86.06	100.00		
25 Brazil	13.71	2.25	9.11	15.06	33.22	5.22	2.83	0.38	5.01	1.66	0.62	7.47	1.63	1.78	74.93	100.00		
26 Chile	13.38	3.73	8.99	7.31	22.08	9.22	4.90	2.97	10.91	4.08	0.54	6.30	3.74	1.83	73.90	100.00		
27 Uruguay	17.84	5.51	31.13	11.86	1.30	8.74	6.00	1.24	4.11	1.34	0.51	5.85	1.48	3.03	45.53	100.00		
28 Argentina	13.86	5.13	10.31	18.76	33.00	5.30	3.79	0.27	0.00	0.00	0.56	6.44	1.23	1.34	70.70	100.00		
29 xSouthAmeric	7.93	1.86	11.33	15.96	20.16	10.66	7.39	0.40	2.71	0.60	0.22	2.51	17.21	1.02	78.88	100.00		
30 xSouthernAfr	12.63	2.60	30.77	15.62	8.63	7.77	1.42	0.28	9.91	4.67	1.15	1.51	2.43	0.61	54.00	100.00		
31 xAndeanPact	2.80	0.75	42.11	11.99	18.20	15.59	2.87	1.47	0.51	0.17	0.12	1.38	1.62	0.40	54.34	100.00		
32 xSouthAsia	5.65	1.22	9.54	8.09	51.26	4.27	2.60	0.27	4.41	2.48	1.74	6.18	1.20	1.01	83.59	100.00		
33 xCaribbean	8.96	2.17	18.84	9.59	28.03	9.53	4.74	1.30	3.91	0.82	0.37	4.16	6.42	1.14	70.04	100.00		
34 xCEUA	11.68	3.26	6.12	13.03	37.60	4.29	2.48	0.87	5.21	2.16	0.40	7.34	3.27	2.28	78.95	100.00		
35 xSACU	50.44	12.37	23.63	9.50	0.72	0.25	0.22	0.01	1.91	0.33	0.06	0.35	0.08	0.11	13.56	100.00		
36 xSSA	6.25	1.29	13.54	7.59	20.92	7.20	2.73	1.96	27.51	3.08	0.90	3.80	1.73	1.49	78.92	100.00		
37 xNorthAfric	7.82	1.97	5.05	5.20	19.11	7.35	4.13	0.60	7.61	2.50	0.73	23.57	2.58	1.79	85.17	100.00		
38 xMiddleEast	14.57	3.83	11.51	11.61	19.53	8.10	3.87	0.69	6.21	2.50	0.56	11.28	2.84	2.83	70.10	100.00		
39 xUSSR	17.22	4.83	6.92	11.34	28.08	3.77	2.98	1.76	6.91	2.43	0.56	8.12	2.50	2.56	71.03	100.00		
Average for low income countries	10.21	2.56	17.00	16.04	19.62	6.72	3.46	1.10	9.41	2.41	0.60	5.31	3.61	1.88	70.11	100.00		
40 Taiwan	8.47	4.02	11.87	43.97	3.77	6.08	7.10	0.89	5.51	1.37	0.22	5.00	0.94	0.70	75.64	100.00		
41 Korea	6.62	2.44	7.68	25.87	34.47	2.34	2.64	0.43	3.21	1.34	0.37	5.52	1.03	6.04	83.26	100.00		
42 Portugal	9.07	5.56	7.17	23.46	15.42	13.92	6.66	0.63	6.81	0.54	0.38	7.11	1.00	2.25	78.20	100.00		
43 Greece	18.63	11.42	14.70	13.06	10.76	11.65	5.06	0.28	5.47	0.42	0.28	5.72	0.76	1.77	55.25	100.00		
44 Spain	17.17	10.53	15.17	8.09	14.57	11.51	5.75	0.71	3.97	1.52	0.44	5.31	1.09	4.17	57.13	100.00		
45 NewZealand	12.31	5.40	10.17	9.42	21.05	4.55	3.18	0.29	9.91	3.83	0.73	11.07	3.87	4.14	72.12	100.00		
46 Ireland	7.83	4.80	17.33	48.29	3.21	3.09	3.01	0.43	2.31	0.77	0.51	4.38	1.26	2.70	70.04	100.00		
47 Italy	11.31	6.93	13.11	18.32	3.75	14.37	6.45	0.74	7.31	4.23	0.77	9.80	1.57	1.27	68.65	100.00		
48 Canada	9.54	5.60	5.31	22.04	40.12	3.34	1.27	0.24	4.41	1.61	0.22	3.96	1.54	0.75	79.55	100.00		
49 Australia	9.28	5.93	19.63	26.95	9.66	4.30	4.67	0.30	11.71	1.18	0.53	3.25	1.61	0.92	65.16	100.00		
50 Singapore	3.47	1.73	3.15	51.58	26.28	1.73	1.82	0.33	3.51	1.55	0.13	2.84	1.35	0.53	91.65	100.00		
51 HongKong	7.56	6.21	10.18	32.05	25.52	2.26	1.49	0.13	8.31	2.73	0.13	1.74	1.18	0.44	76.04	100.00		
52 UK	12.41	7.60	11.05	26.96	11.94	3.81	3.63	0.39	7.21	0.82	0.49	9.55	2.92	1.18	68.95	100.00		
53 Belgium	20.52	12.58	6.65	25.49	5.57	8.60	4.99	0.44	2.31	2.05	0.27	3.67	1.72	5.09	60.25	100.00		
54 Finland	7.32	4.48	14.15	51.37	7.27	2.03	1.05	0.25	1.21	1.23	0.22	6.51	1.53	1.36	74.05	100.00		
55 Netherlands	13.71	8.40	8.52	23.24	6.31	12.94	3.31	0.36	9.11	0.32	0.61	9.20	1.06	2.84	69.36	100.00		
56 France	17.07	10.46	13.75	12.23	1.71	13.25	7.77	0.44	2.71	3.98	0.73	12.35	0.93	2.58	58.72	100.00		
57 Luxembourg	19.37	11.87	6.46	25.43	5.56	8.63	4.83	2.91	2.31	2.05	0.26	3.71	1.71	4.91	62.30	100.00		
58 Austria	17.85	10.94	9.29	23.70	2.41	9.32	6.70	0.92	6.21	1.08	0.75	8.24	1.44	1.11	61.91	100.00		
59 Germany	22.71	13.92	0.96	14.25	5.67	7.40	5.68	0.27	7.11	1.90	0.44	1.86	1.75	16.03	62.41	100.00		
60 Sweden	20.61	12.63	12.29	20.12	5.33	7.28	5.37	0.22	3.81	1.56	0.85	4.12	1.57	4.24	54.46	100.00		
61 USA	14.09	12.90	12.33	28.40	2.22	5.74	2.30	0.64	8.61	1.07	0.38	6.05	1.15	4.13	60.69	100.00		
62 Denmark	18.96	11.62	8.46	25.82	10.30	7.90	4.01	0.46	3.31	0.77	0.23	2.12	1.67	4.32	60.96	100.00		
63 Japan	12.04	7.44	13.35	29.30	1.24	7.21	4.44	1.07	5.91	1.93	0.26	6.64	1.56	7.57	67.16	100.00		
64 Switzerland	10.31	8.75	7.20	12.28	30.19	2.24	3.44	0.32	9.51	1.44	1.44	7.92	1.88	2.97	73.73	100.00		
65 RestofEFTA	10.35	8.78	7.35	11.84	29.06	2.36	3.21	0.57	9.71	1.57	1.48	8.59	2.06	3.02	73.52	100.00		
Average for middle and high income countries	13.01	8.19	10.21	25.14	12.82	6.84	4.23	0.56	5.81	1.65	0.51	6.01	1.54	3.35	68.51	100.00		
66 RestOfWorld	14.05	3.18	17.81	19.29	17.95	4.71	2.77	0.33	4.01	2.58	1.05	9.44	1.18	1.58	64.92	100.00		
Total	12.26	7.74	11.61	27.96	8.39	6.61	4.16	0.70	6.11	1.73	0.37	6.01	1.47	4.80	68.39	100.00		

Table 5.y Cost structure of firms - Wearing apparel - % in Total Cost

Cost structure of firms - Wearing apparel - % in Total Cost	2 UnSkLab	3 SkLab	4 Capital	6 Textiles	7 WearingApp	8 LeatherProd	9 Energy	10 MachEquip	11 ChemRubPlast	12 Trade	13 Transport	14 Communicatn	15 FinBusServ	16 OtherGoods	17 OtherServices	Total intermediate use	Total
1 Mozambique	17.77	2.47	28.22	12.82	1.63	0.14	3.11	1.85	0.42	21.06	2.11	0.51	3.93	2.83	1.13	51.54	100.00
2 Tanzania	4.82	0.67	9.57	0.04	6.97	0.01	2.53	4.34	6.45	23.23	2.04	0.51	20.72	0.00	18.10	84.94	100.00
3 Malawi	12.15	1.69	22.76	5.56	1.00	0.05	0.39	3.23	2.44	33.69	1.12	0.02	2.20	13.28	0.42	63.40	100.00
4 Vietnam	4.35	0.60	1.87	66.98	4.68	0.52	3.54	1.47	4.08	4.04	3.33	0.32	1.14	2.62	0.47	93.18	100.00
5 Uganda	10.20	1.42	44.08	20.02	0.74	0.01	0.93	0.58	0.30	8.43	3.76	0.20	1.11	0.72	7.51	44.31	100.00
6 Bangladesh	7.40	1.03	8.69	71.67	0.72	0.04	0.94	0.99	0.40	3.27	1.51	0.18	0.15	2.03	0.97	82.88	100.00
7 India	11.71	1.63	19.41	25.92	9.78	0.06	1.10	1.32	6.83	6.97	2.69	0.39	6.87	3.57	1.76	67.25	100.00
8 Zambia	10.08	1.40	16.46	20.76	4.64	0.36	0.39	2.41	0.44	16.40	8.59	2.33	3.35	10.76	1.64	72.06	100.00
9 Zimbabwe	8.18	1.14	3.65	82.60	0.09	0.03	0.72	0.06	0.13	1.35	0.73	0.20	0.07	1.01	0.05	87.03	100.00
10 China	16.65	2.29	11.47	55.75	1.41	0.44	0.32	1.61	1.60	4.36	0.66	0.40	0.74	1.24	1.06	69.59	100.00
11 SriLanka	9.57	1.33	25.47	51.97	3.47	1.26	0.59	0.00	1.20	2.71	1.37	0.00	0.72	0.27	0.07	63.63	100.00
12 Indonesia	12.40	1.74	18.61	29.08	17.41	2.00	2.46	0.63	5.68	4.70	0.65	0.06	1.67	2.21	0.72	67.26	100.00
13 Philippines	14.81	2.21	9.74	61.65	0.64	0.00	3.06	1.59	0.41	3.89	0.54	0.01	0.78	0.51	0.15	73.24	100.00
14 Morocco	17.70	2.53	12.35	31.58	6.68	1.52	1.51	0.11	0.34	4.44	0.62	0.02	0.41	19.40	0.79	67.42	100.00
15 Colombia	13.34	1.94	9.70	29.04	0.55	0.08	1.36	1.08	4.42	30.71	0.62	0.22	3.70	2.85	0.39	75.02	100.00
16 Thailand	5.29	0.78	25.54	46.50	1.92	0.02	1.01	3.98	2.01	8.22	1.10	0.10	1.87	0.78	0.87	68.39	100.00
17 Peru	1.50	0.22	64.68	27.16	0.00	1.24	0.16	0.80	0.88	0.16	0.02	0.06	1.12	1.54	0.45	33.60	100.00
18 Turkey	5.45	0.82	17.62	44.54	0.01	9.41	2.55	0.53	0.59	12.38	1.92	0.08	1.70	1.71	0.69	76.10	100.00
19 Botswana	11.91	1.80	2.36	71.32	0.00	0.00	1.56	0.97	0.44	5.98	0.34	0.29	1.36	0.51	1.19	83.94	100.00
20 Poland	20.42	3.10	10.54	30.42	14.12	3.53	0.70	1.33	0.93	1.35	0.73	1.37	8.61	1.77	1.09	65.94	100.00
21 Venezuela	10.98	1.71	8.87	37.84	0.23	0.27	1.78	5.20	3.94	18.40	2.72	0.18	3.55	3.09	1.25	78.44	100.00
22 Hungary	26.76	4.07	16.03	9.88	2.30	2.72	1.25	1.76	4.36	3.61	1.24	1.61	3.80	19.29	1.31	53.14	100.00
23 Mexico	8.80	1.39	28.76	29.00	0.47	0.65	1.30	0.25	10.99	11.76	1.75	0.09	1.78	2.39	0.63	61.05	100.00
24 Malaysia	13.90	2.10	16.03	42.63	2.41	0.81	1.65	1.92	2.01	8.08	1.22	0.09	3.31	2.95	0.91	67.97	100.00
25 Brazil	11.84	1.94	29.16	42.47	0.07	0.93	0.30	2.43	1.49	4.00	0.59	0.10	2.14	1.37	1.16	57.05	100.00
26 Chile	9.51	1.47	11.72	32.20	1.43	1.06	2.65	1.17	2.74	7.46	1.37	0.88	17.36	2.60	6.39	77.30	100.00
27 Uruguay	10.36	1.66	24.01	29.60	2.39	15.42	0.34	0.34	0.35	6.18	2.35	0.17	3.42	0.83	2.57	63.97	100.00
28 Argentina	16.07	2.81	16.45	51.51	2.41	2.16	0.34	0.25	1.66	0.01	0.00	0.17	3.26	1.68	1.21	64.66	100.00
29 SouthAmerica	9.48	1.37	16.55	30.47	1.44	7.96	0.39	7.09	2.57	10.57	1.97	0.15	3.01	5.25	1.73	72.60	100.00
30 SouthernAfr	6.76	0.94	9.03	48.38	2.40	0.19	0.32	1.43	2.55	10.93	2.13	0.53	6.14	4.28	4.00	83.28	100.00
31 AndeanPact	1.61	0.24	64.13	27.16	0.00	1.24	0.28	0.92	1.05	0.16	0.02	0.06	1.13	1.56	0.45	34.03	100.00
32 SouthAsia	9.82	1.36	16.89	37.06	7.73	0.05	1.01	1.70	5.51	5.87	2.37	0.33	4.92	3.87	1.51	71.92	100.00
33 Caribbean	7.24	1.06	23.23	41.68	4.98	2.34	1.25	2.59	2.32	5.23	0.98	0.16	3.10	2.63	1.22	68.47	100.00
34 CEEA	18.28	2.78	9.60	39.93	5.94	1.12	0.67	2.34	3.88	6.22	1.28	0.15	3.85	2.26	1.70	69.34	100.00
35 SACU	21.55	3.25	10.39	39.90	5.89	0.01	0.74	1.73	1.30	3.81	1.12	0.51	5.56	2.98	1.28	64.81	100.00
36 SSA	9.73	1.35	11.38	56.54	1.54	0.16	1.10	1.40	1.01	7.13	2.01	0.32	1.79	3.02	1.52	77.53	100.00
37 NorthAfric	19.29	2.88	14.47	21.63	6.66	1.71	0.67	0.13	0.38	5.07	0.72	0.02	0.47	25.00	0.90	63.36	100.00
38 MiddleEast	13.36	2.01	14.85	34.13	7.90	4.14	0.72	1.51	2.14	5.85	1.24	0.21	3.96	6.11	1.87	69.77	100.00
39 USSR	21.06	3.20	8.95	34.19	7.78	1.31	1.10	1.65	3.97	6.97	1.19	0.16	3.60	3.18	1.67	66.78	100.00
Average for low income countries	11.85	1.75	18.25	37.73	3.60	1.67	1.20	1.66	2.42	8.32	1.56	0.34	3.55	4.20	1.87	68.11	100.00
40 Taiwan	19.81	3.33	5.20	44.50	3.09	0.20	1.77	1.93	4.25	7.42	1.51	0.36	4.45	1.64	0.54	71.65	100.00
41 Korea	17.20	3.33	11.61	36.80	0.29	7.69	1.40	2.36	2.21	3.81	1.37	0.29	6.96	1.52	3.17	67.86	100.00
42 Portugal	15.56	3.37	7.34	18.38	13.12	0.25	3.88	2.23	6.19	9.10	1.69	0.38	11.61	3.54	3.35	73.72	100.00
43 Greece	24.43	5.29	11.52	12.66	11.58	0.17	1.64	1.62	4.89	7.61	1.34	0.30	9.71	4.50	2.76	58.76	100.00
44 Spain	25.51	5.52	11.60	13.01	8.66	1.07	2.24	2.80	10.70	4.25	2.58	0.65	4.82	3.63	2.95	57.37	100.00
45 NewZealand	19.82	3.92	9.20	19.73	16.53	2.99	0.54	1.01	3.58	7.40	1.54	0.19	4.38	6.44	2.73	67.07	100.00
46 Ireland	19.61	4.25	2.82	23.01	23.57	0.06	2.79	1.58	3.77	4.54	0.81	0.56	1.69	6.25	4.70	73.32	100.00
47 Italy	14.04	3.04	16.70	24.07	14.76	1.07	0.81	0.78	5.68	6.28	2.05	0.77	6.83	2.18	0.94	66.22	100.00
48 Canada	24.69	4.74	9.89	34.23	6.27	2.47	0.50	1.10	0.76	5.21	0.91	0.16	3.95	3.81	1.31	60.68	100.00
49 Australia	16.07	6.06	12.26	49.74	0.62	0.52	0.71	0.39	0.97	3.43	1.41	0.72	3.63	1.96	1.51	65.60	100.00
50 Singapore	10.82	2.41	5.38	53.32	12.27	0.06	0.71	2.08	2.78	2.95	1.11	0.10	3.47	1.56	1.00	81.40	100.00
51 HongKong	18.42	6.47	10.56	40.33	6.55	0.02	0.17	1.74	1.62	8.62	1.33	0.09	1.95	1.36	0.77	64.55	100.00
52 UK	29.29	6.34	10.75	29.72	2.87	0.27	0.48	0.38	2.72	3.43	1.47	0.50	8.17	2.79	0.81	53.61	100.00
53 Belgium	14.59	3.16	4.85	0.28	31.83	0.06	2.39	1.10	21.36	4.52	2.85	0.24	2.61	7.38	2.76	77.39	100.00
54 Finland	21.02	4.55	10.58	32.73	2.87	1.22	0.80	2.92	2.30	0.86	3.03	0.56	10.56	4.64	1.37	63.85	100.00
55 Netherlands	12.17	2.64	5.17	22.84	25.47	0.66	0.35	2.37	11.69	3.47	0.25	0.50	5.23	3.20	3.99	80.02	100.00
56 France	22.49	4.87	9.10	35.91	0.63	1.40	0.52	1.27	3.35	1.84	1.37	0.19	11.78	4.52	0.76	63.55	100.00
57 Luxembourg	12.87	2.79	4.40	0.27	29.43	0.06	10.87	1.03	19.38	4.15	2.63	0.22	2.44	6.97	2.49	79.94	100.00
58 Austria	12.30	2.66	4.22	46.52	5.90	0.20	1.34	0.96	6.65	6.31	0.45	0.72	7.48	3.55	0.73	80.82	100.00
59 Germany	17.51	3.79	6.26	27.24	8.70	0.83	0.49	1.93	2.03	8.05	1.64	1.43	1.77	1.60	1.77	72.44	100.00
60 Sweden	14.47	3.13	4.57	16.62	1.53	2.31	1.17	9.02	14.22	6.62	2.91	1.43	4.94	3.84	13.21	77.82	100.00
61 USA	21.04	5.80	5.82	26.90	19.01	0.51	1.07	1.42	2.07	4.95	1.46	0.19	7.84	0.63	1.30	67.35	100.00
62 Denmark	16.12	3.49	9.64	35.99	8.06	0.66	0.32	3.66	6.04	4.64	1.81	0.26	2.71	4.18	2.41	70.75	100.00
63 Japan	21.74	3.93	11.18	22.41	6.93	0.18	2.35	2.62	5.68	7.07	2.40	0.56	8.45	2.49	2.03	63.16	100.00
64 Switzerland	24.49	7.27	2.60	29.76	5.75	0.58	0.38	1.45	1.26	8.81	0.53	1.24	9.24	1.05	5.59	65.64	100.00
65 RestofEFTA	24.01	7.13	2.60	31.46	4.70	0.48	0.61	1.00	1.11	8.74	0.57	1.25	9.71	1.05	5.59	66.26	100.00
Average for middle and high income countries	18.85	4.36	7.91	28.02	10.42	1.00	1.55	1.95	5.66	5.54	1.58	0.53	6.01	3.32	3.29	68.88	100.00
66 RestOfWorld	19.84	2.86	16.11	29.41	10.75	2.14	0.75	1.23	1.76	3.36	1.04	0.92	6.71	1.88	1.25	61.19	100.00
Total	17.39	3.57	12.81	33.06	8.49	1.09	1.11	1.63	3.44	5.78	1.44	0.39	5.21	2.53	2.08	66.24	100.00

Table 5.z Cost structure of firms - Recreation and other services- % in Total Cost

Cost structure of firms - Recreation and other services - % in Total Cost	2 UnSkLab	3 SkLab	4 Capital	6 Recreation	7 Food	8 BeverTobacco	9 Energy	10 Trade	11 Transport	12 Communicatn	13 PaperPublish	14 MachEquip	15 ChemRubPlast	16 FinBusServ	17 OtherGoods	18 OtherServices	T. intern. use	Total
1 Mozambique	21.90	14.97	13.41	2.65	0.27	0.01	6.18	5.44	6.33	1.32	1.88	5.07	3.04	8.20	0.99	8.35	49.72	100.00
2 Tanzania	11.59	7.92	1.18	3.35	0.01	0.03	2.95	1.63	2.30	0.44	0.37	1.89	1.89	12.17	1.80	52.14	79.31	100.00
3 Malawi	35.05	23.95	13.41	8.46	0.02	0.01	8.21	2.34	0.33	0.44	1.09	0.37	3.93	0.39	0.62	1.38	27.59	100.00
4 Vietnam	36.07	24.86	6.56	0.26	2.21	0.03	2.44	0.51	0.39	0.32	2.53	11.34	5.58	4.67	1.52	0.71	32.52	100.00
5 Uganda	25.16	17.27	29.05	5.71	0.80	2.32	7.31	3.97	1.72	0.27	0.25	1.22	0.81	0.35	1.30	2.49	28.53	100.00
6 Bangladesh	32.90	24.22	0.61	1.14	1.23	0.17	0.36	19.68	7.99	0.51	2.36	1.26	1.16	0.17	2.82	3.42	42.27	100.00
7 India	8.99	6.56	20.62	1.34	3.81	0.05	3.97	4.78	2.36	0.43	1.49	9.77	4.77	19.72	10.68	0.67	63.83	100.00
8 Zambia	36.23	24.76	11.61	3.20	0.02	0.01	6.17	2.12	1.59	0.30	2.53	1.93	0.00	1.86	2.27	5.34	27.40	100.00
9 Zimbabwe	13.83	9.45	35.93	1.01	1.05	1.06	12.33	2.59	2.73	0.38	0.63	2.58	0.04	7.99	4.74	3.72	40.78	100.00
10 China	11.18	7.71	9.12	5.06	1.31	1.89	0.91	6.67	3.51	2.45	10.89	26.01	1.92	1.92	4.25	5.20	71.99	100.00
11 SriLanka	41.52	29.21	16.83	0.94	0.04	0.01	0.91	0.96	0.93	0.05	1.28	1.12	1.50	0.43	0.39	1.28	12.44	100.00
12 Indonesia	20.35	9.57	30.17	6.65	0.04	0.05	1.65	9.28	0.88	1.28	3.54	1.92	0.90	10.15	0.30	3.29	39.91	100.00
13 Philippines	9.66	10.22	16.51	6.06	3.30	0.19	2.15	13.65	1.69	1.17	4.30	2.15	9.31	12.51	6.13	1.00	63.61	100.00
14 Morocco	7.76	5.62	9.10	3.25	0.03	0.01	2.84	26.88	2.19	0.88	10.81	3.55	2.14	4.17	3.42	17.37	77.52	100.00
15 Colombia	53.62	42.82	0.01	1.01	0.02	0.01	0.00	2.30	0.13	0.00	0.00	0.00	0.00	0.01	0.00	0.05	3.55	100.00
16 Thailand	3.88	3.03	21.15	3.15	3.91	0.39	4.97	14.49	0.84	0.82	4.73	16.28	7.12	4.20	10.44	0.60	71.94	100.00
17 Peru	9.83	8.86	32.36	4.76	0.42	0.40	0.59	4.56	0.31	1.31	2.43	22.41	2.51	6.48	2.42	0.35	48.94	100.00
18 Turkey	6.93	5.12	13.40	13.31	0.59	0.02	5.22	22.11	4.00	0.57	1.54	6.43	10.27	2.85	5.63	1.98	74.54	100.00
19 Botswana	20.22	14.34	36.85	1.15	0.54	0.07	2.96	2.90	1.98	1.03	1.02	4.65	0.23	6.41	4.27	1.38	28.60	100.00
20 Poland	8.46	7.50	34.50	9.05	0.19	0.09	2.17	5.54	1.88	3.32	2.45	3.93	2.50	8.23	6.90	3.29	49.54	100.00
21 Venezuela	5.85	5.19	40.93	5.55	0.08	0.51	5.49	15.66	1.62	1.15	1.95	0.89	5.40	5.69	3.95	0.09	48.03	100.00
22 Hungary	9.52	8.44	20.78	4.88	1.27	0.78	4.01	7.63	2.49	5.30	3.27	2.66	1.89	14.26	5.32	7.49	61.25	100.00
23 Mexico	9.48	7.54	34.57	6.95	0.04	0.01	0.97	10.50	0.67	1.83	1.68	3.16	6.85	9.31	6.33	0.12	48.40	100.00
24 Malaysia	4.30	2.99	20.81	4.78	0.21	0.04	2.10	28.43	2.30	0.96	4.89	13.56	6.59	4.00	1.15	7.91	71.91	100.00
25 Brazil	10.66	11.97	27.86	5.01	4.95	2.33	1.10	11.69	0.88	1.29	4.45	5.07	3.26	6.72	2.32	0.46	49.51	100.00
26 Chile	14.78	12.10	26.41	6.84	1.32	0.08	1.00	9.95	0.78	1.80	3.08	5.07	4.54	9.34	3.28	0.82	46.71	100.00
27 Uruguay	11.30	10.18	19.44	5.46	0.55	0.02	1.90	9.14	6.74	1.49	1.23	7.00	6.40	5.65	9.80	3.70	59.08	100.00
28 Argentina	18.34	17.07	31.41	3.77	4.48	1.98	1.39	0.02	0.02	1.00	2.07	3.59	4.13	5.14	4.49	1.11	33.18	100.00
29 xSouthAmeric	7.77	5.86	23.85	5.88	0.27	9.11	1.64	11.95	2.78	1.05	3.14	7.49	7.05	5.24	6.08	0.84	62.51	100.00
30 xSouthernAfr	21.65	14.80	20.74	20.18	0.41	0.44	3.36	2.31	1.15	0.34	1.61	1.87	1.79	3.97	3.15	2.24	42.82	100.00
31 xAndeanPact	8.40	7.57	25.54	4.08	0.33	0.32	2.64	3.66	0.27	1.01	2.50	32.67	2.74	5.15	2.82	0.28	58.48	100.00
32 xSouthAsia	18.11	13.33	12.13	1.85	2.83	0.11	2.98	12.31	4.75	0.47	2.17	6.89	4.03	7.11	8.82	2.12	56.43	100.00
33 xCaribbean	14.70	11.27	23.75	4.40	1.80	1.10	3.97	6.56	1.23	1.06	3.03	12.22	4.06	6.15	3.98	0.71	50.27	100.00
34 xCEUA	13.42	11.90	16.18	6.77	4.72	3.85	2.17	10.79	1.29	1.33	5.43	6.18	3.87	6.32	3.92	1.87	58.50	100.00
35 xSACU	57.99	41.14	0.03	0.75	0.02	0.01	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.02	0.84	100.00
36 xSSA	30.00	20.59	4.03	2.84	1.10	0.19	2.23	17.28	5.76	0.67	2.06	1.67	1.41	1.27	2.71	6.19	45.37	100.00
37 xNorthAfric	7.24	5.51	9.25	3.61	0.03	0.01	3.28	27.23	2.73	0.87	10.20	3.81	2.10	4.36	3.50	16.27	78.00	100.00
38 xMiddleEast	12.56	10.20	18.09	6.25	4.33	2.39	3.67	11.43	1.85	1.37	3.76	5.50	3.40	7.39	4.25	3.58	59.15	100.00
39 xUSSR	15.51	13.76	18.38	5.58	4.34	3.09	2.38	10.53	1.17	1.43	4.65	4.02	2.91	7.21	3.45	1.59	52.36	100.00
Average for low income countries	18.12	13.57	19.14	4.75	1.36	0.85	3.09	9.22	2.12	1.06	3.01	6.27	3.29	5.89	3.93	4.29	49.16	100.00
40 Taiwan	32.29	18.88	19.13	4.70	0.34	0.09	3.22	2.31	0.38	0.86	0.90	4.47	2.73	7.51	0.89	1.29	29.70	100.00
41 Korea	7.97	4.33	8.46	5.66	17.84	7.82	1.83	16.37	7.02	1.40	3.10	3.10	3.10	6.57	3.72	1.69	79.24	100.00
42 Portugal	9.78	11.30	18.16	10.88	2.49	0.73	1.77	8.30	2.11	1.49	4.66	0.92	3.25	17.76	0.76	5.63	60.75	100.00
43 Greece	9.93	11.47	18.42	11.15	0.58	0.64	1.18	8.52	2.09	1.48	4.54	0.63	3.03	18.17	0.67	7.53	60.19	100.00
44 Spain	12.07	13.95	43.15	2.94	0.05	0.01	0.93	2.26	1.31	2.21	4.13	1.67	0.40	11.00	0.24	3.69	30.83	100.00
45 NewZealand	8.81	7.38	14.44	8.65	1.03	4.46	0.41	21.22	2.91	2.12	6.82	3.06	3.02	11.08	2.96	1.66	69.37	100.00
46 Ireland	21.16	24.45	21.10	4.95	0.82	0.08	2.64	0.90	0.25	1.86	0.89	2.27	1.05	7.27	0.44	9.89	33.29	100.00
47 Italy	12.23	14.13	29.15	5.17	19.31	3.30	1.50	2.18	0.88	0.37	0.81	0.47	2.00	5.47	0.66	2.37	44.48	100.00
48 Canada	21.36	13.15	10.90	8.80	0.56	0.12	3.33	17.63	1.92	2.07	3.23	1.48	1.48	11.44	1.51	0.83	54.59	100.00
49 Australia	20.02	18.70	14.01	5.75	1.69	0.02	1.10	5.57	2.88	2.49	2.82	5.30	2.44	12.86	2.98	1.37	47.27	100.00
50 Singapore	8.64	5.81	9.23	14.25	1.62	0.16	0.70	20.14	4.57	2.58	3.10	7.43	3.50	14.80	2.33	1.18	76.33	100.00
51 HongKong	10.72	8.81	15.75	6.88	0.58	0.06	1.94	33.60	2.50	1.64	2.08	4.09	1.61	8.14	1.38	0.23	64.73	100.00
52 UK	20.71	23.93	15.71	8.85	1.01	0.34	1.04	1.35	1.75	1.19	1.06	1.30	1.75	9.65	1.99	9.09	39.65	100.00
53 Belgium	15.48	17.88	43.38	0.85	0.95	0.02	2.40	1.47	0.35	1.93	3.45	0.30	3.16	2.91	2.18	3.26	23.26	100.00
54 Finland	18.74	21.64	19.99	1.05	0.72	0.10	1.11	12.37	0.48	2.29	11.51	1.40	3.13	4.09	0.42	0.97	39.63	100.00
55 Netherlands	15.04	17.37	16.37	11.10	1.71	1.73	2.68	3.35	2.37	3.58	0.76	0.76	0.70	12.26	0.33	9.90	51.23	100.00
56 France	17.66	20.40	34.59	4.10	1.14	0.09	0.79	2.60	1.61	1.18	3.01	2.62	0.61	7.78	1.14	0.68	27.34	100.00
57 Luxembourg	14.88	17.19	42.89	0.85	1.03	0.47	0.02	3.75	1.47	0.36	1.90	0.30	3.13	2.90	2.68	3.20	25.04	100.00
58 Austria	21.33	24.64	10.68	6.60	9.76	2.01	2.57	1.75	0.73	2.17	1.46	2.10	1.67	8.31	1.04	3.18	43.35	100.00
59 Germany	9.21	10.64	41.81	17.18	0.89	0.20	0.90	2.37	1.37	0.82	3.33	2.70	1.61	4.79	0.86	1.33	38.35	100.00
60 Sweden	9.39	10.85	39.84	9.84	0.15	0.01	1.06	0.86	0.94	1.54	1.55	0.75	0.29	12.68	0.61	9.64	39.92	100.00
61 USA	12.91	21.79	12.78	7.38	12.73	3.22	3.31	5.14	1.22	0.55	0.80	0.69	0.79	14.15	0.48	2.05	52.51	100.00
62 Denmark	19.42	22.43	7.18	6.34	0.29	0.03	0.84	2.77	2.62	2.01	9.37	3.07	1.05	1.70	0.54	20.34	50.96	100.00
63 Japan	19.28	13.23	32.50	4.05	0.34	0.01	4.52	2.08	3.21	0.90	1.47	1.42	1.74	10.34	1.07	3.84	34.98	100.00
64 Switzerland	27.24	17.63	1.59	7.15	0.02	0.75	1.69	11.02	1.22	0.60	1.87	10.99	3.53	10.20	3.02	1.46	53.53	100.00
65 RestofEFTA	28.27	18.31	1.68	8.95	0.02	0.81	0.94	11.61	1.47	0.66	1.82	6.56	3.41	10.91	2.99	1.55	51.74	100.00
Average for middle and high income countries </																		

