



4.3 Structure of manufacturing

	Value added in manufacturing		Food, beverages, and tobacco		Textiles and clothing		Machinery and transport equipment		Chemicals		Other manufacturing ^a	
	\$ millions		% of total		% of total		% of total		% of total		% of total	
	1980	1997	1980	1997	1980	1997	1980	1997	1980	1997	1980	1997
Albania	..	..	..	..	..	..	..	..	..	..	..	..
Algeria	3,257	4,088	27	19	18	11	10	0	3	0	43	70
Angola	..	330	..	..	..	..	..	..	..	..	..	..
Argentina	22,685	53,382	19	..	13	..	19	..	9	..	41	..
Armenia	..	368	..	..	..	..	..	..	..	..	..	..
Australia	30,722	56,576	17	16	7	10	21	19	7	7	46	49
Austria	19,263	45,387	16	19	10	15	25	16	7	8	42	42
Azerbaijan	..	948	..	..	..	..	..	..	..	..	..	..
Bangladesh	3,101	7,106	24	29	43	47	4	..	16	9	14	15
Belarus	..	6,598	..	..	..	..	..	..	..	..	..	..
Belgium	25,773	44,567	17	18	8	15	24	24	11	7	40	37
Benin	112	180	59	..	14	..	..	..	6	..	21	..
Bolivia	..	1,354	28	35	11	5	4	1	3	3	54	55
Bosnia and Herzegovina	..	..	..	..	..	..	..	..	..	..	..	..
Botswana	60	242	..	..	..	..	..	..	..	..	..	..
Brazil	71,098	160,432	..	..	..	..	..	..	..	..	..	..
Bulgaria	..	1,685	..	20	..	10	..	5	..	..	..	65
Burkina Faso	261	456	59	62	19	14	3	..	1	2	17	22
Burundi	63	84	78	..	11	..	0	..	3	..	8	..
Cambodia	..	178	..	..	..	..	..	..	..	..	..	..
Cameroon	593	936	56	43	9	11	4	1	3	4	29	41
Canada	46,128	..	14	14	7	5	23	30	8	10	48	42
Central African Republic	54	87	49	..	22	..	8	..	11	..	10	..
Chad	..	190	..	..	..	..	..	..	..	..	..	..
Chile	5,911	11,319	27	28	9	6	6	5	8	12	51	50
China	81,836	343,120	10	15	18	12	22	25	11	12	38	36
Hong Kong, China	6,392	10,612	5	10	42	27	18	27	2	2	34	33
Colombia	6,933	14,266	30	30	16	11	9	8	10	17	35	35
Congo, Dem. Rep.	2,144	..	..	..	..	..	..	..	..	..	..	..
Congo, Rep.	128	141	35	..	16	..	5	..	..	..	44	..
Costa Rica	899	1,832	46	53	10	13	8	3	7	7	28	24
Côte d'Ivoire	1,304	1,868	35	32	15	18	10	15	..	..	40	35
Croatia	..	3,736	..	..	..	..	..	..	..	..	..	..
Cuba	..	..	55	..	7	..	1	..	..	..	37	..
Czech Republic	..	..	..	..	..	..	..	..	..	..	..	..
Denmark	11,411	29,628	24	20	5	3	25	26	10	14	37	36
Dominican Republic	1,015	2,560	66	..	6	..	1	..	6	..	21	..
Ecuador	2,072	4,221	34	26	13	6	7	4	9	7	38	56
Egypt, Arab Rep.	2,678	17,803	19	18	30	39	11	10	9	13	31	20
El Salvador	589	2,350	37	36	22	37	4	2	11	9	27	16
Eritrea	..	91	..	..	..	..	..	..	..	..	..	..
Estonia	..	695	..	..	..	..	..	..	..	..	..	..
Ethiopia	381	..	..	52	..	18	..	2	..	4	..	23
Finland	13,019	28,129	..	..	..	..	..	..	..	..	..	..
France	160,811	268,930	13	13	8	12	30	23	8	7	41	45
Gabon	195	235	24	24	4	2	9	1	4	1	58	73
Gambia, The	12	22	35	..	2	..	..	..	3	..	60	..
Georgia	..	801	..	..	..	..	..	..	..	..	..	..
Germany	..	493,058	..	..	..	..	..	..	..	..	..	..
Ghana	347	185	37	36	11	5	2	2	5	10	46	48
Greece	6,968	10,719	18	26	23	13	14	13	8	12	37	36
Guatemala	1,312	2,445	39	..	10	..	5	..	17	..	28	..
Guinea	..	162	..	..	..	..	..	..	..	..	..	..
Guinea-Bissau	..	30	..	..	..	..	..	..	..	..	..	..
Haiti	..	..	..	46	..	19	..	..	..	..	..	34
Honduras	344	733	51	60	9	8	2	0	5	7	34	26



Structure of manufacturing 4.3

	Value added in manufacturing		Food, beverages, and tobacco		Textiles and clothing		Machinery and transport equipment		Chemicals		Other manufacturing ^a	
	\$ millions		% of total		% of total		% of total		% of total		% of total	
	1980	1997	1980	1997	1980	1997	1980	1997	1980	1997	1980	1997
Hungary	..	9,698	11	20	11	7	28	24	11	9	38	40
India	27,061	64,552	9	12	21	14	25	25	14	17	30	32
Indonesia	10,133	57,805	32	19	14	19	13	18	11	9	30	35
Iran, Islamic Rep.	8,567	13,022	15	33	19	24	12	14	5	4	49	25
Iraq	..	..	..	29	..	16	..	6	..	2	..	48
Ireland	..	..	29	23	8	2	17	34	14	22	32	18
Israel	..	..	12	17	12	15	26	18	8	7	42	42
Italy	126,012	229,610	9	..	12	..	29	..	11	..	39	..
Jamaica	441	673	47	48	6	7	..	..	..	..	47	46
Japan	309,747	1,020,540	9	10	7	4	33	40	9	10	43	37
Jordan	447	835	23	32	7	6	1	4	7	16	62	42
Kazakhstan	..	..	..	..	..	..	..	..	..	..	..	..
Kenya	796	883	34	48	12	7	15	10	9	8	30	27
Korea, Dem. Rep.	..	..	..	..	..	..	..	..	..	..	..	..
Korea, Rep.	17,416	137,674	17	26	19	20	17	9	10	10	36	35
Kuwait	1,581	2,913	7	6	5	4	4	3	7	5	76	81
Kyrgyz Republic	..	292	..	..	..	..	..	..	..	..	..	..
Lao PDR	..	271	..	..	..	..	..	..	..	..	..	..
Latvia	..	1,093	..	39	..	12	..	15	..	6	..	29
Lebanon	..	2,319	..	..	..	..	..	..	..	..	..	..
Lesotho	21	141	73	..	7	..	..	..	4	..	16	..
Libya	682	..	31	43	10	12	..	2	16	7	43	36
Lithuania	..	1,760	..	..	..	..	..	..	..	..	..	..
Macedonia, FYR	..	..	..	32	..	18	..	15	..	11	..	24
Madagascar	..	365	34	..	45	..	3	..	6	..	13	..
Malawi	152	311	58	..	12	..	4	..	5	..	20	..
Malaysia	5,054	28,489	24	10	7	5	20	39	5	9	43	38
Mali	105	92	..	..	..	..	..	..	..	..	..	..
Mauritania	..	97	..	..	..	..	..	..	..	..	..	..
Mauritius	147	888	36	31	30	46	6	2	6	4	23	17
Mexico	45,939	69,728	..	25	..	3	..	22	..	20	..	30
Moldova	..	353	..	..	..	..	..	..	..	..	..	..
Mongolia	..	..	..	23	..	63	..	0	..	1	..	12
Morocco	3,167	5,900	..	..	..	..	..	..	..	..	..	..
Mozambique	..	357	..	..	..	..	..	..	..	..	..	..
Myanmar	..	..	..	..	..	..	..	..	..	..	..	..
Namibia	187	402	..	..	..	..	..	..	..	..	..	..
Nepal	78	435	..	35	..	34	..	3	..	6	..	23
Netherlands	30,866	70,407	19	24	4	2	27	25	11	14	38	34
New Zealand	4,950	..	26	26	11	12	17	15	6	5	40	42
Nicaragua	550	298	53	52	8	18	1	0	10	25	28	4
Niger	94	122	30	23	25	1	2	..	16	..	28	76
Nigeria	5,195	1,839	21	..	13	..	13	..	13	..	39	..
Norway	9,196	17,055	15	16	4	9	27	22	7	8	48	45
Oman	39	..	..	..	..	..	..	..	..	..	..	..
Pakistan	3,389	9,813	32	29	22	43	9	6	12	12	25	10
Panama	408	756	49	48	10	7	2	2	6	3	34	39
Papua New Guinea	242	452	40	..	1	..	16	..	3	..	41	..
Paraguay	733	1,408	38	56	12	16	1	1	3	5	46	21
Peru	4,176	14,613	25	..	13	..	13	..	10	..	40	..
Philippines	8,354	18,333	30	33	13	9	12	15	14	13	31	29
Poland	..	28,153	12	28	17	7	32	22	8	7	31	35
Portugal	..	26,510	13	14	22	17	16	15	7	5	42	49
Puerto Rico	5,306	..	..	15	..	5	..	12	..	50	..	18
Romania	..	9,791	..	..	..	..	..	..	..	..	..	..
Russian Federation	..	..	..	17	..	4	..	20	..	9	..	51



4.3 Structure of manufacturing

	Value added in manufacturing		Food, beverages, and tobacco		Textiles and clothing		Machinery and transport equipment		Chemicals		Other manufacturing ^a	
	\$ millions		% of total		% of total		% of total		% of total		% of total	
	1980	1997	1980	1997	1980	1997	1980	1997	1980	1997	1980	1997
Rwanda	178	230	..	..	..	..	..	..	..	..	..	..
Saudi Arabia	7,740	13,511	..	..	..	..	..	..	..	..	..	..
Senegal	316	671	50	44	19	3	4	2	8	30	20	20
Sierra Leone	54	54	51	..	5	..	..	..	..	..	44	..
Singapore	3,415	21,995	5	3	5	1	44	60	5	9	41	26
Slovak Republic	..	4,597	..	..	..	..	..	..	..	..	..	..
Slovenia	..	4,423	..	13	..	12	..	15	..	11	..	50
South Africa	16,381	26,880	12	16	9	7	21	19	9	10	48	48
Spain	..	103,623	..	..	..	..	..	..	..	..	..	..
Sri Lanka	668	2,235	32	27	14	23	6	18	6	19	42	13
Sudan	517	891	..	37	..	36	..	..	..	3	..	24
Sweden	26,293	..	10	8	3	1	33	37	7	11	47	43
Switzerland	..	..	..	10	..	3	..	30	..	..	..	57
Syrian Arab Republic	..	..	29	35	26	43	..	2	..	1	45	19
Tajikistan	..	..	..	..	..	..	..	..	..	..	..	..
Tanzania ^b	..	458	23	42	33	29	8	9	6	7	30	12
Thailand	6,960	46,502	55	55	8	5	9	8	7	8	21	24
Togo	89	126	47	34	13	28	..	..	8	6	32	31
Trinidad and Tobago	557	440	22	19	4	3	9	4	4	1	61	73
Tunisia	1,030	3,479	18	29	19	15	7	4	15	20	42	32
Turkey	9,333	30,971	18	13	15	16	14	21	10	12	42	38
Turkmenistan	..	825	..	..	..	..	..	..	..	..	..	..
Uganda	53	488	..	31	..	23	..	..	..	4	..	42
Ukraine	..	13,167	..	..	..	..	..	..	..	..	..	..
United Arab Emirates	1,130	..	12	..	2	..	2	..	7	..	77	..
United Kingdom	125,830	213,752	13	14	6	5	33	30	10	12	38	39
United States	589,100	1,392,500	11	11	6	4	34	37	10	11	40	37
Uruguay	2,627	3,613	28	44	17	14	10	5	7	11	38	26
Uzbekistan	..	2,613	..	..	..	..	..	..	..	..	..	..
Venezuela, RB	11,112	14,252	19	28	7	5	9	10	8	12	57	45
Vietnam	..	..	..	..	..	..	..	..	..	..	..	..
West Bank and Gaza	..	518	..	..	..	..	..	..	..	..	..	..
Yemen, Rep.	..	592	..	..	..	..	..	..	..	..	..	..
Yugoslavia, FR (Serb./Mont.)	..	..	..	29	..	9	..	16	..	11	..	34
Zambia	718	466	44	36	13	13	9	10	9	4	25	37
Zimbabwe	1,384	1,293	23	31	17	15	8	8	9	9	42	36
World	2,421,714 t	5,877,746 t										
Low income	154,170	516,601										
Excl. China & India	46,667	103,992										
Middle income	..	974,235										
Lower middle income	..	..								
Upper middle income	..	607,753										
Low & middle income	509,900	1,498,231										
East Asia & Pacific	137,607	644,796										
Europe & Central Asia	..	..								
Latin America & Carib.	..	383,146										
Middle East & N. Africa	29,396	73,382										
South Asia	34,841	85,513										
Sub-Saharan Africa	33,005	43,553										
High income	1,901,096	4,382,970										
Europe EMU	..	1,289,559										

a. Includes unallocated data. b. Data cover mainland Tanzania only.



Structure of manufacturing 4.3

About the data

The data on the distribution of manufacturing value added by industry are provided by the United Nations Industrial Development Organization (UNIDO). UNIDO obtains data on manufacturing value added from a variety of national and international sources, including the United Nations Statistics Division, the World Bank, the Organisation for Economic Co-operation and Development, and the International Monetary Fund. To improve comparability over time and across countries, UNIDO supplements these data with information from industrial censuses, statistics supplied by national and international organizations, unpublished data that it collects in the field, and estimates by the UNIDO Secretariat. Nevertheless, coverage may be less than complete, particularly for the informal sector. To the extent that direct information on inputs and outputs is not available, estimates may be used that may result in errors in industry totals. Moreover, countries use different reference periods (calendar or fiscal year) and valuation methods (basic, producer, or purchaser prices) to estimate value added. (See also *About the data* for table 4.2.)

The data on manufacturing value added in U.S. dollars are from the World Bank's national accounts files. These figures may differ from those used by UNIDO to calculate the shares of value added by industry. Thus estimates of value added in a particular industry group calculated by applying the shares to total value added will not match those from UNIDO sources.

The classification of manufacturing industries in the table accords with the United Nations International Standard Industrial Classification (ISIC) revision 2. First published in 1948, the ISIC has its roots in the work of the League of Nations Committee of Statistical Experts. The committee's efforts, interrupted by the second world war, were taken up by the United Nations Statistical Commission, which at its first session appointed a committee on industrial classification. The ISIC has been revised at approximately 20-year intervals. The last revision, ISIC revision 3, was completed in 1989. Revision 2 is still widely used for compiling cross-country data, however, and concordances matching ISIC categories to national systems of classification and to related systems such as the Standard International Trade Classification (SITC) are readily available.

In establishing a classification system, compilers must define both the types of activities to be described and the organizational units whose activities are to be reported. There are many possibilities, and the choices made affect how the resulting statistics can be interpreted and how useful they are in analyzing economic behavior. The ISIC emphasizes commonalities in the

production process and is explicitly not intended to measure outputs (for which there is a newly developed Central Product Classification); nevertheless, the ISIC views an activity as defined by "... a process resulting in a homogeneous set of products" (United Nations 1990b [ISIC, series M, no. 4, rev. 3], p. 9). Typically, firms use a multitude of processes to produce a final product. For example, an automobile manufacturer engages in forging, welding, and painting as well as advertising, accounting, and many other service activities. In some cases the processes may be carried out by different technical units within the larger enterprise, but collecting data at such a detailed level is not practical. Nor would it be useful to record production data at the very highest level of a large, multiplant, multiproduct firm. The ISIC has therefore adopted as the definition of an establishment "an enterprise or part of an enterprise which independently engages in one, or predominantly one, kind of economic activity at or from one location ... for which data are available" (United Nations 1990b, p. 25). By design, this definition matches the reporting unit required for the production accounts of the United Nations System of National Accounts.

Definitions

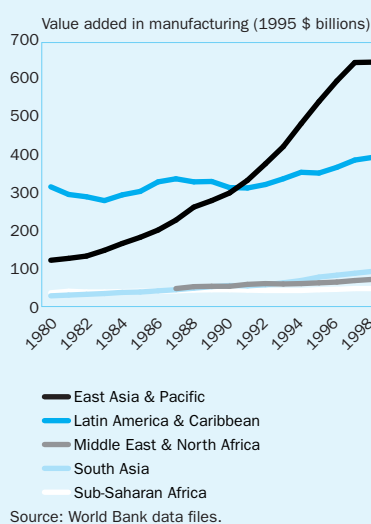
- **Value added in manufacturing** is the sum of gross output less the value of intermediate inputs used in production for industries classified in ISIC major division 3.
- **Food, beverages, and tobacco** comprise ISIC division 31.
- **Textiles and clothing** comprise ISIC division 32.
- **Machinery and transport equipment** comprise ISIC groups 382–84.
- **Chemicals** comprise ISIC groups 351 and 352.
- **Other manufacturing** includes wood and related products (ISIC division 33), paper and related products (ISIC division 34), petroleum and related products (ISIC groups 353–56), basic metals and mineral products (ISIC divisions 36 and 37), fabricated metal products and professional goods (ISIC groups 381 and 385), and other industries (ISIC group 390). When data for textiles and clothing, machinery and transport equipment, or chemicals are shown as not available, they are included in other manufacturing.

Data sources

The data on value added in manufacturing in U.S. dollars are from the World Bank's national accounts files. The data used to calculate shares of value added by industry are provided to the World Bank in electronic files by UNIDO. The most recent published source is UNIDO's *International Yearbook of Industrial Statistics 1999*. The ISIC system is described in the United Nations' *International Standard Industrial Classification of all Economic Activities, Third Revision* (1990b). The discussion of the ISIC draws on Jacob Ryten's paper "Fifty Years of ISIC: Historical Origins and Future Perspectives" (1998).

Figure 4.3

Manufacturing growth slowed in East Asia



As a financial crisis swept through East Asia, growth in manufacturing almost came to a halt in the region—for the first time in two decades.