

## NOTES AND MEMORANDA

### WORLD TRADE AND OUTPUT

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The attached table brings together data from a variety of official published sources to present a comprehensive measure of world output and its origin and destination in 1979. Conceptual inconsistencies and missing or incorrectly measured data prevent the attainment of complete accuracy but the orders of magnitude of these difficulties would seem to be sufficiently small to allow use of the table as a broad indicator of the size and distribution of production. (Likely the most serious problem relates to treatment of retained earnings of foreign subsidiaries which are variously included or excluded from individual countries' balance of payments statistics. Omissions related to services are also major; these are discussed below.) This note summarizes the sources and methodology of the compilation and indicates briefly the nature of the limitations of the data.

To take maximum advantage of available sources, output is measured on a source rather than ownership basis, that is when there is a choice GNP rather than GDP is used. All countries whose GNP in 1979 exceeded \$75 billion are shown separately and other countries are aggregated in a residual for each of the four country groups which are distinguished: the 24 members of the OECD, the 13 members of OPEC, 16 Centrally Planned Economies (the USSR, China, Poland, the German Democratic Republic, Czechoslovakia, Albania, Bulgaria, Cuba, Hungary, Kampuchea, Laos, Mongolia, North Korea, Romania, Yugoslavia, and Vietnam), and all remaining countries, labelled Non-oil Developing Countries (NODCs). Totals for the European Economic Community are shown as a memorandum item.

There are three primary types of sources; national accounts, balance of payments, and customs data. Although conceptual differences do not allow full integration of these numbers such differences are relatively minor in practice. No attempt has been made here to refine the data used to a common conceptual base. The figures were compiled in the following step-wise fashion. Figures for GNP were taken from the International Monetary Fund's monthly publication *International Finance Statistics* (IFS) and converted to U.S. dollars at the average annual exchange rate. Where data are not on a calendar year basis they were pro-rated. Earlier year figures were projected forward for Argentina, India, and Iran. Where only GDP figures are published these were used in place of GNP. Figures for countries not included in IFS (accounting for less than 25 percent of world output) were taken from the World Bank's *Atlas* (which is also the source of all population figures). In several cases the *Atlas* did not provide 1979 figures; in these instances data were extrapolated from the most recent year available.

Figures for total exports and imports of goods and services separately were taken from IFS, supplemented by the World Bank's *World Development Report* and the United Nations sources cited in the bibliography below. In a few instances 1979 figures were projected forward from earlier years. Figures on output domestically produced and sold were calculated as GNP less exports of goods and services (and are shown in parentheses for individual countries' own cells) to which were added imports of goods and services to generate the figures for total domestic demand.

Bilateral merchandise trade numbers are generally the export data reported in the IMF's *Direction of Trade* although these have been replaced by balance of payments when available from national sources. Where export data were not available the counterpart import figures were used. Data on bilateral service transactions were gathered from national and EEC sources. Individual country cells show goods and services separately: a dash or zero indicates a known amount of less than \$500 million. A blank for services indicates no information is available. The residual category for "Other OECD" countries was obtained by addition of the figures for the individual countries in the group; elsewhere the residual is obtained by subtraction of the figures for identified countries from the group total.

International service transactions are the only category of data which, even in principle, are incomplete. At the aggregate level no data are available for a number of developing countries. If these bear the same relation to merchandise exports as other countries in their group then exports of services should be \$2 billion higher for OPEC and \$15 billion higher for the NODCs, than the figures shown in the table. Data on service transactions for the CPEs are only fragmentary and generally relate to trade with OECD members which are the source of the figures. Bilateral data come entirely from the latter and for most EEC members are projected from 1978. Bilateral figures obtained from United Kingdom sources relate only to travel and government services.

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MATRIX OF WORLD TRADE  
(Billions of U.S.)

Sales to:	Sales by:							
	United States	Japan	Germany (F.R.)	France	United Kingdom	Italy	Canada	Spain
United States	(2,125)	18+ 6	8+ 6	6+ 9	11+11	4+ 6	36+14	3
Japan	26+ 6	(875)	4+ 1	1+ 0	3+ 0	1+ 0	2+ 0	-+0
Germany (F.R.)	11+ 9	2+ 1	(554)	21+ 3	11+ 4	13+ 1	1+ 0	3+1
France	5+ 9	1+ 0	18+ 4	(440)	8+ 1	11	1+ 0	3+1
United Kingdom	8+ 8	1+ 0	9+ 4	7	(272)	3	2+ 1	1+0
Italy	5+ 6	1+ 0	14+ 5	11	5	(231)	1+ 0	1+0
Canada	39+ 5	3+ 1	1+ 1	1+ 0	2+ 1	1+ 0	(157)	-
Spain	1	-+ 0	2+ 2	3+ 2	1+ 1	1+ 0	-	(166)
Netherlands	2+ 2	-+ 1	19+ 4	7	5	3	-+ 0	1+0
Australia	2	5+ 1	1+ 0	-+ 0	1+ 0	-+ 0	-	-
Belgium-Luxembourg	2+ 3	-+ 0	11+ 3	11	5	3	-+ 0	-+0
Sweden	2	-	3+ 1	1	3	1	-	-
Switzerland	2	1	6+ 6	2	2	2	-	1
Other OECD (EEC)	4	1+ 1	13+12	3+ 4	14+ 0	4+ 1	1	1
	33+26	6+ 7	73+22	58+13	42+10	35+ 4	5+ 3	9
OECD	109+45	35+22	110+44	75+27	73+25	48+12	43+16	14+2
Saudi Arabia	10	10	2	5	2	5	1	2
Iran	3	4	2	1	-	-	-	1
Other OPEC	31	18	10	9	4	8	2	3
OPEC	44	32+ 2	14+ 3	15+ 1	6	13	3	6
Brazil	3	1	1	1	1	1	-	-
India	1	1	-	-	1	-	-	-
Mexico	6	-	-	-	-	-	-	-
Argentina	1	-	-	-	-	1	-	-
Other LDCs	32	20	16	8	9	6	3	3
Non-oil LDCs	43+21*	22+ 9	17+ 8	9+ 3	11+ 3*	8	3+ 3†	3
USSR	1	2	4+ 0	2	2	2	-	-
China	1	3	1+ 0	-	-	-	-	-
Poland	-	-	1	1	-	-	-	-
German D.R.	-	-	1	-	-	-	-	-
Czechoslovakia	-	-	1	-	-	-	-	-
Other CPEs	-	-	2	-	1	2	-	1
CPEs	2+ 0	5+ 0	9+ 1	3+ 0	3+ 0	4+ 0	-	1
Total Imports Goods	212	99	151	96	94	72	53	24
Services	70	35	54	34	37	18	17	6
Total Domestic Demand	2,407	1,009	759	570	403	321	227	196

\*Including OPEC.

†Including OPEC and CPEs.

AND OUTPUT—1979  
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Netherlands	Australia	Belgium-Luxembourg	Sweden	Switzerland	Other OECD	(EEC)	OECD	Saudi Arabia	Iran	
7+ 3	4	5+ 2	2	4	5	42+ 38	112+ 59	5	1	9
2+ 0	3+1	1+ 0	1	1	3+ 1	13+ 4	48+ 16	4	1	8
16+ 3	1+1	13+ 2	5+1	9+2	21+ 5	79+ 14	126+ 31	2	1	7
5	-+0	10	1	4	6+ 4	51+ 13	70+ 28	1	-	7
7	2+1	5	3	5	18+ 1	36+ 12	66+ 22	2	-	6
3	-+0	2	1	3	5+ 2	35+ 8	52+ 17	2	-	6
1+ 0	-	1+ 0	-	-	1	6+ 2	47+ 9	-	-	1
1+ 1	-	-+ 1	-	-	1	9	12+ 7	-	-	2
(68)	-+0	10	1	1	4+ 2	46+ 13	54+ 19	1	-	2
-+ 0	(97)	-+ 0	-	-	2	3	12+ 1	-	-	1
9	-+0	(41)	1	2	3+ 2	41+ 12	49+ 18	-	-	2
1	-	1	(67)	1	8	14	22+ 1	-	-	1
1	-	1	1	(60)	3	13	18+ 6	1	-	1
3+ 4	1	2+ 3	6	2	6	41	60+ 25	1	-	2
42+10	4	43+11	14	24	52	314+ 72	442+106	9	3	28
56+19	12+3	52+18	21+1	31+2	61+17	436+106	753+219	20	6	51
3	1	2	1	-	2	18	45	(30)	-	1
1	-	-	-	-	1	5	14	-	(54)	-
6	-	2	1	1	1	39	97	1	-	-
10+ 1	1	4+ 1	2	1	4	62	156+ 8	1	-	1
1	-	-	-	-	1	5	10	-	-	1
-	-	-	-	-	-	2	5	-	-	1
-	-	-	-	-	-	1	8	-	-	-
1	-	-	-	-	-	3	4	-	-	-
6	2	4	1	4	6	46	111	3	1	6
8+ 1	2	4+ 1	1	4	7	57	138+ 47	3	1	8
1	-	1	1	1	4	11	22	-	-	-
-	-	-	-	-	-	2	6	-	-	1
-	-	-	-	-	1	3	5	-	-	-
-	-	-	-	-	-	2	3	-	-	-
-	-	-	-	-	1	2	3	-	-	-
1	-	-	1	-	1	5	12	1	1	2
2+0	-	1+ 0	2	1	7	25	51+ 1	1	1	3
60	16	54	27	29	95	555	1,082	25	8	65
22	7	22	10	6	34	195	372	24	10	34
150	120	117	104	95	403	2,415	6,882	79	72	234

MATRIX OF WORLD TRADE  
(Billions of U.S.)

Sales to:								
Sales by:								
	OPEC	Brazil	India	Mexico	Argentina	Other LDCs	Non-oil LDCs	USSR
United States	15	3	1	10	2	30	47+42*	4
Japan	13+3	1	1	1	-	29	32+6	2
Germany (F.R.)	10+4	1	1	1	1	16	20+5	4+1
France	8+3	1	-	-	-	14	15+4	2
United Kingdom	8	1	1	-	-	11	13+3*	1
Italy	8+0	-	-	-	-	16	16+1	1
Canada	1	-	-	-	-	3	3+3†	1
Spain	2	-	-	-	-	3	3	-
Netherlands	3+1	-	-	-	-	4	4+1	-
Australia	1	-	-	-	-	4	4	1
Belgium-Luxembourg	2+1	-	-	-	-	4	4+2	-
Sweden	1	-	-	-	-	2	2	-
Switzerland	2	-	-	-	-	4	4	-
Other OECD (EEC)	3	-	-	-	-	7	7	4
	40	3	3	2	2	51	61	9
OECD	77+12	10	5	14	6	22	157+67	19
Saudi Arabia	1	2	-	-	-	8	10	-
Iran	-	1	1	-	-	3	5	-
Other OPEC	1	3	2	-	-	19	24	-
OPEC	2	6	3	-	-	30	39	-
Brazil	1	(191)	-	-	1	2	3	-
India	1	-	(117)	-	-	1	1	1
Mexico	-	-	-	(105)	-	1	1	-
Argentina	-	1	-	-	(68)	2	3	-
Other LDCs	10	2	2	1	1	25	31	4
Non-oil LDCs	12	3	2	1	2	31	39	5
USSR	-	-	1	-	-	8	9	(1,017)
China	1	-	-	-	-	5	5	-
Poland	-	-	-	-	-	1	1	6
German D.R.	-	-	-	-	-	1	1	5
Czechoslovakia	-	-	-	-	-	1	1	5
Other CPEs	4	-	1	-	-	-	1	11
CPEs	5	-	2	-	-	16	18	27
Total Imports Goods	97	18	12	12	6	197	245	58
Services	64	11	2	9	5	57	84	-
Total Domestic Demand	385	220	131	126	79	645	1,201	1,075

\*Including OPEC.

†Including OPEC and CPEs.

AND OUTPUT—1979  
dollars)

China	Poland	German D.R.	Czechoslovakia	Other CPEs	CPEs	Total Exports—Goods	—Services	GNP	Population (millions)	GNP per capita (\$ thous.)	Exchange Rate
2	1	-	-	1	8+1	184	105	2,414	220	11.0	1
4	-	-	-	1	7+1	101	25	1,001	116	8.6	0.00456
2+0	1	2	1	6	15+1	167	44	763	61	12.6	0.5456
-	1	-	-	1	5+1	94	41	575	53	10.9	0.2350
-	1	-	-	1	3+0	86	47	405	56	7.2	2.122
-	-	-	-	3	4+0	71	23	325	57	5.7	0.00120
1	-	-	-	-	2	57	8	222	24	9.3	0.8537
-	-	-	-	1	1	18	12	196	37	5.3	0.0149
-	-	-	-	2	2+0	59	22	149	14	10.6	0.4985
1	-	-	-	-	2	19	3	119	14	8.8	1.118
-	-	-	-	1	1+1	49	25	115	10	11.1	0.03411
-	-	-	-	2	2	27	7	101	8	12.6	0.2333
-	-	-	-	2	2	27	12	99	6	16.5	0.6014
-	1	-	-	2	7	77	35	386	91	4.2	
3	3	1	2	12	30	546	209	2,419	259	9.3	
10	6	3	3	18	61+5	1,034	409	6,872	767	8.9	
-	-	-	-	-	-	58	8	96	8	13.3	0.2975
-	-	-	-	-	-	20	5	79	37	2.1	0.01419
-	-	-	-	3	3	131	13	284	281	1.0	
-	-	-	-	3	3	209	26	459	326	1.4	
-	-	-	-	1	1	15	3	209	123	1.7	0.03711
-	-	-	-	-	1	8	2	127	658	0.2	0.1231
-	-	-	-	-	-	9	7	121	68	1.8	0.04385
-	-	-	-	1	1	8	2	78	27	2.9	0.0008
2	1	-	1	-	8	171	45	607	916	0.7	
2	1	-	1	2	11	211	59	1,142	1,792	0.6	
-	6	7	5	15	33	65		1,082	263	4.1	1.526
(227)	-	-	-	2	2	14		241	965	0.2	0.643
-	(119)	1	1	2	10	16		135	35	3.9	0.3238
-	1	(93)	2	3	11	15		108	17	6.4	0.2874
-	1	2	(68)	1	9	13		81	15	5.3	0.1881
1	2	2	2	6	24	40	13	232	157	1.5	
1	10	12	10	29	89	163	14	1,879	1,452	1.3	
17	18	16	14	50	173	1,617					
-	-	-	-	5	10		508				
244	137	109	82	234	1,885			10,351	4,337	2.4	