

18.A

Macroeconomic Data

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18.A.1 Uses of Macroeconomic Data

Macroeconomic data are used at several stages in the global data base construction process. The primary use of macroeconomic data is in updating the input-output tables to a common base year, 1997 for the GTAP 5 data base. Data on gross domestic product (GDP) aggregates – private consumption, government consumption, and gross capital formation – are used in the FIT process (chapter 19) to update the values of these aggregates in the regional input-output tables.

Regional data on per capita GDP are used in the construction of input-output tables for composite regions, *i.e.* the aggregate regions for which input-output tables are generated based on the input-output tables of primary regions. Similarity in per capita GDP is used as a criterion in matching a member country in a composite region to one of the primary regions. A combination of primary region input-output tables are then used to generate an input-output table for a composite region.

Another use of macroeconomic data is in extending various data sets to the standard country coverage before aggregating the data to the set of GTAP regions. Starting with the GTAP 5 data base, an effort was made to collect international data sets for a standard set of 211 countries. This concept of a standard country set is discussed in chapter 8. Not all of the international data sets used in the data base construction process cover the entire set of 211 standard countries. Macroeconomic data, particularly GDP and/or GDP shares data, are used in extending the international data sets to 211 standard countries. This is true for the trade data (chapter 15), protection data (chapter 16),

energy data (chapter 17), the factor shares data (chapter 18.C), and the labor shares data (chapter 18.D). Aggregation to GTAP regions is then done using a mapping between standard countries to GTAP regions.

18.A.2 Data Sources and Processing

Since macroeconomic data, particularly GDP, are used in extending other data sets to the full set of 211 standard countries, GDP and population data are required for all the 211 standard countries. Our primary source for macroeconomic data is the Development Economics Analytical Data Base (DAD) maintained by the Development Economics Prospects Group of the World Bank. The DAD is a suitable source of macroeconomic data for GTAP since it covers a wide range of countries and reports data that has already been reconciled for statistical discrepancies. It is the underlying data base for the *Global Economic Prospects and the Developing Countries*, an annual publication of the World Bank.

From the DAD, we obtained data on GDP, GDP aggregates (private consumption, government consumption, gross domestic fixed investment, stocks, exports, imports), and population for 134 countries, covering the world's major economies. The GDP and GDP aggregates data are in thousands of 1997 US dollars. GDP and GDP aggregates data for Mozambique was obtained from the *1998 Statistical Yearbook for Mozambique*. For the 76 remaining countries, GDP and population data for 1997 or the closest earlier year available, were compiled from three other sources. These are the *World Development Report*, the *CIA World Factbook*, and the *International Financial Statistics*. The GDP estimates for the countries which were obtained from sources other than the DAD represents less than four percent of total global GDP¹.

For the 76 countries for which only GDP data are available, estimates of the GDP aggregates were generated. This was done by first mapping the 211 countries with 16 groups of geographic regions. The 16 geographic regions are given in Table 18.A.1. For each geographic region, the average share of each GDP aggregate to total GDP was calculated for the countries for which GDP aggregates data are available. Estimates of the GDP aggregates were then generated for the countries with no GDP aggregates data by multiplying GDP in each country with the average share of the GDP aggregate in the geographic region to which the country belongs. The estimates for each GDP aggregate are summed up for each region after estimates have been generated for the data gaps.

¹ The shares of total GDP in each individual GTAP region from sources other than the Development Economics Analytical Data Base are as follows: 100 percent for Vietnam, 0.03 percent for USA, 0.5 percent for France, 6.1 percent for Rest of Southern Asia, 21.5 percent for Central America and Caribbean, 0.4 percent for Rest of EFTA, 25.5 percent for Rest of Central European Associates, 100 percent for Former Soviet Union, 3.6 percent for Rest of the Middle East, 18.9 percent for Rest of North Africa, 1.4 percent for Rest of Sub-Saharan Africa, and 32.2 percent for the Rest of World.

Table 18.A.1 Geographic Regions

Region Code	Description	Region Code	Description
OZNZ	Australia and New Zealand	CAMR	Central America
OOCE	Other Oceania	SAMR	South America
EAAS	Eastern Asia	NAFR	Northern Africa
SEAS	South-eastern Asia	EAFR	Eastern Africa
SCAS	South-central Asia	WAFR	Western Africa
WEAS	Western Asia	SAFR	Southern Africa
NAMR	North America	OTEU	Other Europe
CARB	Caribbean	EUAS	EU, EFTA, and associates

Table 18.A.2 presents GDP, private consumption, gross capital formation (investment), and government consumption data expressed in 1997 US \$ million for the 66 GTAP regions. The total GDP values in the final data base (see chapter 2) do not coincide with the initial GDP estimates since estimates of total exports and total imports come from the trade data set (chapter 15). The values of the GDP aggregates, however, are preserved since these are targeted in adjusting the input-output table values in the FIT process (chapter 19).

Table 18.A.2 Macroeconomic Data (1997 US\$ million)

GTAP Region	Gross Domestic Product	Private Consumption	Gross Capital Formation	Government Consumption
AUS	406,782	240,439	86,191	67,339
NZL	65,151	41,338	12,954	9,899
CHN	901,981	414,093	309,995	104,350
HKG	173,610	103,586	61,069	14,745
JPN	4,203,783	2,532,618	1,222,391	412,528
KOR	442,543	237,333	154,885	49,288
TWN	283,287	172,052	59,415	41,048
IDN	215,726	133,054	61,078	14,763
MYS	97,880	44,044	41,914	10,905
PHL	82,157	59,729	20,111	10,592
SGP	96,319	39,107	35,617	9,036
THA	153,909	84,476	54,786	15,776
VNM	24,893	15,469	7,247	2,203
BGD	42,311	35,002	8,842	1,833
IND	420,748	258,450	96,297	46,787
LKA	15,089	10,913	3,676	1,563
XSA	70,896	53,098	12,007	8,337
CAN	626,270	370,406	118,288	124,446
USA	8,113,552	5,495,105	1,398,368	1,202,158
MEX	402,963	262,957	78,742	33,655
XCM	107,120	79,050	22,432	11,545
COL	95,747	64,848	16,138	15,647
PER	63,849	43,070	15,881	7,475
VEN	87,477	58,485	14,798	5,470
XAP	27,745	19,257	5,134	3,500
ARG	325,012	254,987	65,327	10,279
BRA	804,107	508,587	157,457	145,718
CHL	77,082	50,492	19,387	7,689
URY	19,971	14,748	2,392	2,728
XSM	11,093	7,990	2,535	1,305
AUT	206,098	115,852	49,376	39,197
BEL	247,946	153,784	44,777	35,001
DNK	169,364	86,348	27,478	42,909
FIN	121,484	63,420	20,202	25,048
FRA	1,401,994	834,168	238,531	269,443
DEU	2,107,688	1,205,838	417,298	407,688
GBR	1,313,016	847,541	219,639	241,148
GRC	118,620	87,057	24,585	16,536
IRL	74,951	37,970	13,627	10,253
ITA	1,145,370	718,485	190,770	186,960
LUX	11,050	6,854	1,996	1,560
NLD	360,712	215,073	73,026	49,949
PRT	102,131	65,164	25,600	18,883

contd

Table 18.A.2 Macroeconomic Data (1997 US\$ million) (Continued)

GTAP Region	Gross Domestic Product	Private Consumption	Gross Capital Formation	Government Consumption
ESP	532,044	329,737	109,480	85,957
SWE	227,898	120,957	31,180	58,886
CHE	247,733	149,267	48,600	37,467
XEF	161,540	77,844	36,860	32,585
HUN	45,725	28,459	10,086	4,620
POL	135,659	87,076	28,151	23,962
XCE	147,067	84,781	30,032	24,738
XSU	589,607	363,177	123,312	91,927
TUR	189,878	129,188	50,165	23,278
XME	548,297	274,229	113,441	131,420
MAR	33,514	23,012	6,935	6,005
XNF	174,514	113,888	37,746	21,847
BWA	5,343	1,442	1,338	1,239
XSC	134,637	82,846	24,352	29,199
MWI	2,519	2,148	248	319
MOZ	3,563	3,217	642	320
TZA	7,065	5,920	1,138	708
ZMB	3,932	3,123	514	443
ZWE	8,388	5,272	2,217	1,434
XSF	11,655	4,406	3,236	3,470
UGA	6,289	5,507	1,020	652
XSS	145,090	124,257	23,695	16,289
XRW	278,107	213,017	50,016	26,177